



64TH | ANNUAL 2023-2024 | REPORT

राष्ट्रीय प्रौद्योगिकी संस्थान दुर्गापुर
NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR

An Institute of National Importance under Ministry of Education, Government of India
Mahatma Gandhi Avenue, Durgapur- 713209, West Bengal, India

64th
ANNUAL REPORT
2023-24

(APRIL 01, 2023 – March 31, 2024)



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From Director's Desk

National Institute of Technology Durgapur, an Institute of National Importance fully funded by the Ministry of Education, Government of India, has traditionally been engaged in imparting quality technical education and pursuing active research in cutting edge areas. The students are also encouraged and supported to get initiated to research and innovation early. Curriculum is revised continually to facilitate flexible, multi-disciplinary learning and stimulate pursuance of their passion.

The revised curriculum and syllabus of all B. Tech, M. Tech. and MBA programs have been implemented.

The faculty and the students have 633 research articles published/accepted in top peer-reviewed journals in the last year. Fifty Nine (59) PhD degrees were awarded. Total 187 sponsored projects are being executed by

the faculty members with sponsored projects from DST, DBT, MEITY, DRDO, MoES, DAE, ICMR, UGC-UKIERI, MNRE, CSIR, ICSSR, etc. It is also a member institute of BRICS Network University Programme under the thematic area "Water Resources and Pollution Treatment". In its pursuit towards strengthening its common research and academic infrastructure and encourage multi-disciplinary research, it is setting up Utkarsha Bhavan through HEFA loan and established four new advanced centres of research.

The efforts by the Institute attaining excellence in academics, research and outreach has been recognised by the NIRF-2024, where it was ranked 44th in Engineering.

The Institute has also made its mark in its outreach activity through 102 Invited Lectures that were delivered

It is my pleasure to publish the 64th Annual Report 2023-24 of the Institute highlighting the progress made during the last financial year

”

by the faculty members of different departments of the Institute and through 17 online/off-line workshops/seminars that were organized by various departments of the Institute. 701 UG & PG students were placed through in-campus interviews in the session 2023-24.

I look forward to further strides of the institute to newer heights.

Prof. Arvind Choubey

Director

National Institute of Technology
Durgapur

Progress at a Glance (2023-2024)

- The faculty members of the Institute have publication 633 research articles/reviews in peer-reviewed journals, and also published 268 papers in proceedings of national and international conferences.
- Fifty Nine (59) PhD degrees were awarded by the Institute.
- The revised curriculum and syllabus of all B. Tech, M. Tech. and MBA programs have been implemented.
- Total 187 sponsored projects are being executed by the faculty members during the financial year.
- Faculty members acted as reviewers for 415 peer-reviewed journals.
- Total 102 Invited Lectures were delivered by the faculty members of the Institute and 17 online/off-line workshops/seminars were organized by various departments of the Institute.
- Thirteen (13) number of patents have been filed by the faculty members of different departments of the Institute.
- Total 701 UG & PG students were placed through in-campus interviews in the session 2023-24. Apart from that few students have opted for higher studies in various IITs and IISc. 136 companies, including most of the global players, visited the campus to recruit UG students while 63 companies recruited the M Tech, MBA, and M.Sc students.
- *Utkarsha Bhavan*, a 10-storyed research-academic building constructed with the HEFA loan is completed. It will be hosting four centres of advanced research and central research and common laboratory facilities.
- In the academic year 2023-24, the NSS team participated in awareness events like World Blood Donor Day, International Day against Drug abuse and Illicit Trafficking and Swachhta Hi Sewa. Alongside they also participated in Har Ghar Tiranga campaign, Partition Horrors Remembrance Day, Hindi Pakhwada and Meri Maati Mera Desh Amrit Kalah Yatra.
- All India Inter NIT Football & Power sports (Men) tournaments organized by NIT Durgapur during November 03-05, 2023. NIT Durgapur secured Champion position in this All India Inter NIT Football (Men) Tournament. Also secured one bronze medal in Body-Building at the All India Inter NIT Power Sports Tournaments Organized. Apart from that NIT Durgapur secured Runners –Up position in 5-a-side Football (Women) Tournament organized by NIT Rourkela.

1. Introduction



1.1 Vision

To impart quality technical education and focus on research and innovation to cater to the need of the country.



1.2 Mission

- » To impart quality technical and scientific education and produce engineers, technologists, scientists and citizens who will contribute meaningfully to the growth and development of the country and excel in various disciplines of knowledge.
 - » To create a research-oriented teaching-learning environment in the Institute with a focus on excellence and innovation.
 - » To embark upon an inclusive growth path committed to the uplift of the community.
 - » To have an increased global presence.
-



1.3 Historical Background

National Institute of Technology Durgapur was established as one of the 17 Regional Engineering Colleges in 1960 as a joint venture of the Government of India and the Government of West Bengal and was registered under the Register of Societies Act. With introduction of cutting-edge technology in the emerging areas, the Institute maintained its momentum with definite mission and vision,⁹ which enabled it to get the prestigious status of National Institute of Technology under full administrative and financial control of the Government of India with a “Deemed to be University” status with effect from July 03, 2003. The Institute has now been declared as an “Institute of National Importance” by the Govt. of India, vide NIT Act 2007 (29 of 2007) implemented on August 15, 2007.

It started with only four branches of engineering: Civil, Mechanical, Metallurgical and Electrical Engineering for undergraduate studies in 1960. Chemical Engineering

was started in 1964. At present, the Institute offers eight B. Tech. programmes and eighteen M. Tech. programmes. Apart from this, two-year MBA programme is also offered. The Institute also runs M. Sc. programmes in Applied Geology and Geo-Informatics, Physics, Chemistry, Life Sciences and Mathematics.



1.4 Location

NIT Durgapur is located in the heartland of industrial activities and the mineral-rich region of West Bengal, also known as ‘The Ruhr of India’. The city of Durgapur is well connected by rail with Kolkata, 158 km away, and is an important railway station on the main New Delhi-Kolkata route. It is a two and a half hours’ drive from Kolkata airport along Durgapur Expressway and NH2, and there is a military airport at Panagarh, only 20 km from Durgapur, in addition there is a Civil Airport, Kazi Nazrul Islam Airport Durgapur, only 15 km from the Institute. The place is only an hour’s drive from Tagore’s Santiniketan and has quite a few tourist spots nearby. The climate is moderate.



1.5 Campus

The Institute campus, spreading over 187 acres, is known for its serene environment. Buildings housing the departments and laboratories, residential blocks for faculty and staff, students’ hostels are far outnumbered by the trees in the campus which is self-reliant with facilities like roads, water supply, power distribution network, a market complex, banks and post office.

1.6 Notable Achievements

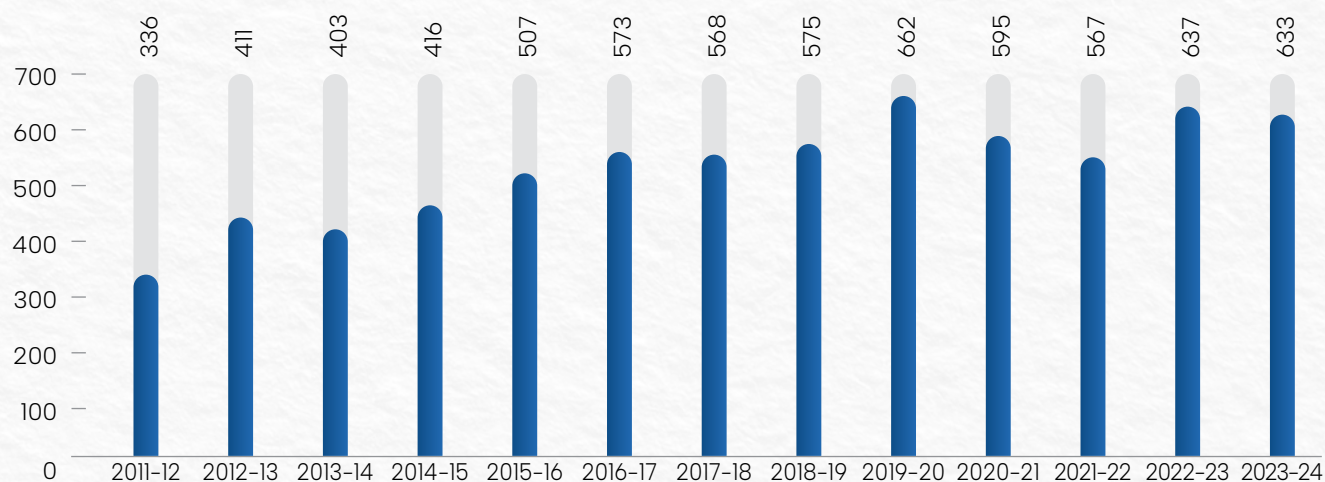


Fig. 1. Publication in journals in the last few years

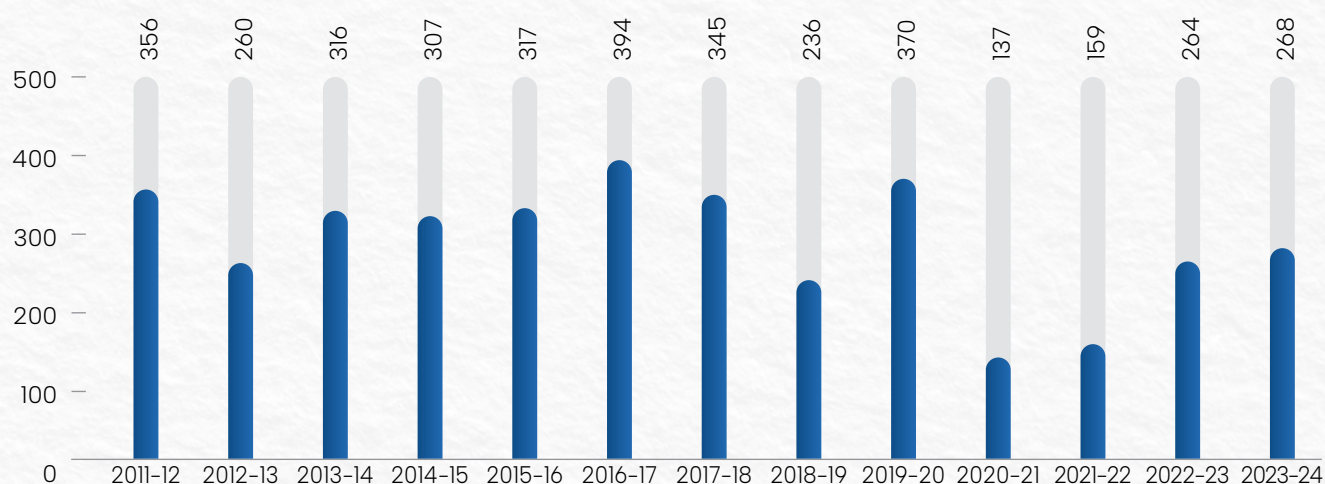


Fig. 2. Presentation in conferences/symposiums in the last few years

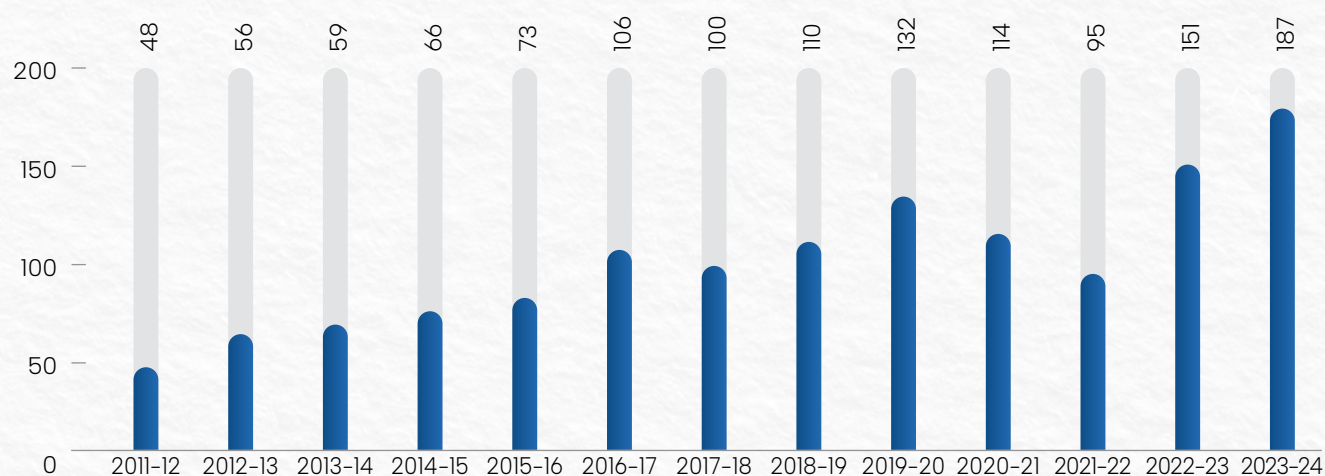


Fig. 3. Number of sponsored projects during the last

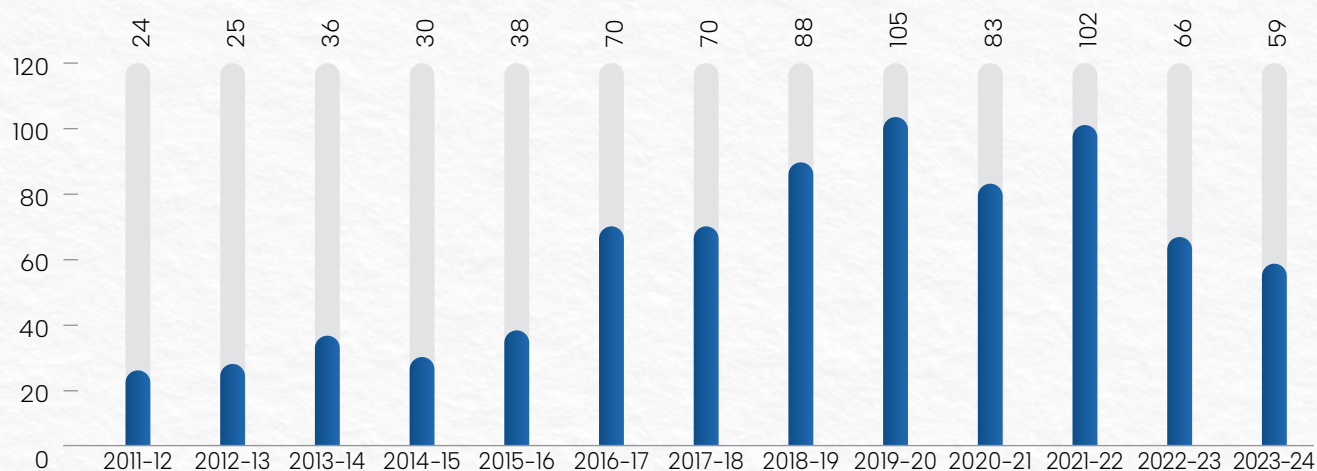


Fig. 4. Number of PhD degrees awarded during the last few years

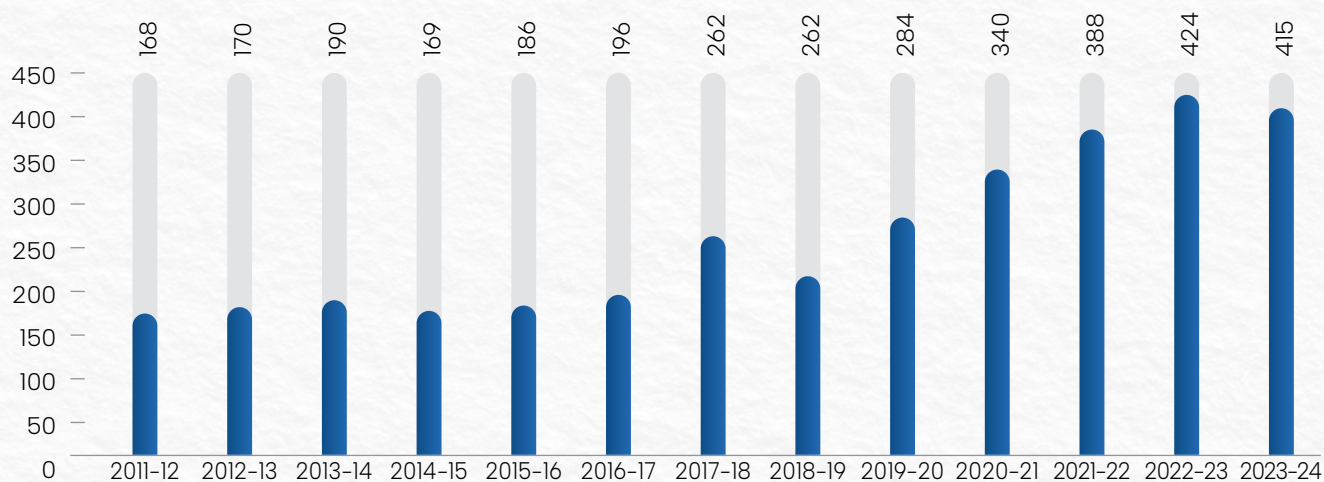


Fig. 5. Reviewers of journals/books during the last few years

1.7 International Activities

1.7.1 Alumni (Nodal Centre)

Centre for Alumni Affairs & International Relations (CAAIR) is the nodal centre in the National Institute of Technology Durgapur for liaison with REC/NIT Durgapur

alumni all across the globe, initiating research/academic collaboration with universities and organizations in India and abroad and other outreach activities.

1.7.2 Seminars/WorkShops organized

Sl. No.	From	To	Name of the course/Program	Sponsored / Self- Financed	Number of Participants
1.	16 th March 2024	18 th March 2024	Impact of Indian Knowledge System	NIT Durgapur & LokaPragya	132
2.	16 th February 2024	16 th February 2024	Educational Excursion	NIT Durgapur & KV, Chittaranjan	60
3.	9 th January 2024	9 th January 2024	Vigyan Jyoti Program	NIT Durgapur	60
4.	17 th October 2023	17 th October 2023	National Laboratory Visit	NIT Durgapur	65

1.8 List of National MoUs

Name of the Institute	Year	MoU signed with National Institutions/Organizations/ Industries and date of signing	Valid Upto
National Institute of Technology Durgapur	2023	Bureau of Indian Standard 04.08.2023	For a period of five years

1.9 Alumni

Dean Alumni Affairs & Outreach (AAO) and Student Alumni Interaction Cell (SAIC) are working for liaison with REC/NIT Durgapur alumni all across the globe, initiating research/academic collaboration with universities and organizations in India and abroad and other outreach activities. All-out efforts are given to get them involved in the all-round development and growth of the Institute. It supports

the Institute's mission by way of continually opening up opportunities that strengthens the mutually beneficial bond between the institute and its alumni. This promotes and encourage the alumni to disseminate professional knowledge through seminars and interaction with the students and faculty.

1.9.1 Distinguished Alumnus Award

Section	Name of the selected Alumni for Award	Batch/Discipline	Position /Contribution
Industry & Corporate	Mr. Subrata Bhattacharya	BE (MME) 1982 ME (1990)	Significant contribution in SAIL, JSL (Retired)Whole time Director on Board, Jindal Stainless Ltd.
Entrepreneurship Venture	Mr. Unmesh Mahajani	BE (Mechanical), 1982	Excellence in Entrepreneurial Venture: Aura Laserfab Private Limited, Pune
	Mr. Thomas Mookken	BE (Electrical), 1984	Excellence in Entrepreneurial Venture: NEOGEN LABS

1.9.2 Alumni Talks (1st April 2023 to 31st March 2024)

Date	Alumni Talks (online)
06.05.2023	Mr. Debajyoti Mondal (2006, CH), Founder of Talentrooper, Ex- Adani, Logistics, Business Development, Key Account Management Stake Holder Engagement
06.05.2023	Mr. Samrat Kabiraj (2007, ECE), Co-founder of Talentroopers, Ex-Exide Industries Ltd., Ex- Asian Paints Ltd.
20.05.2023	Mr. Shuvojit Nath (2017, CE), MS, Hydro Science and Engineering from TU Dresden Ph.D, Civil Engineering, IIT Bombay and Monash University Teaching Assistant, IIT Bombay.
10.06.2023	Mr. Saptarshi Dey (2019, IT), Software Engineer III at GOOGLE.
01.07.2023	Mr. Subhadeep Banduri (2016, CH), Refinery Economist Technical Specialist at Shell, Ex-Wipro Limited, Ex-Reliance Industries Limited.
08.07.2023	Mr. Mayank Dandwani (2022, ME), Software Engineer at GOOGLE.
23.09.2023	Chandrika Mukherjee (2019, CSE), MS CS Purdue University USA.
30.09.2023	Mr. Naushad Rahman (2011, ECE), Founder of Delta V analytics M.Sc., Mechatronics,National University of Singapore.
30.09.2023	Ms. Niha Agarwalla (2011, CH), Global data analyst at Boehringer Ingelheim, co-founder of Delta V analytics, M.Sc., Chemical Engineering, National University of Singapore.
02.12.2023	Mr. Kingshuk Manna (2015, MME), Senior Director at Tredence Inc.
23.12.2023	Mr. Pranoy Ray (2020, MME),PhD,Materials Informatics, GIT, USA.
26.12.2023	Ms. Sneha Chattopadhyay (2023, ME) SWE at JPMC London, UK..
13.01.2024	Mr. Kankan Dutta (2013, ME), Maintenance Manager at BPCL.
20.01.2024	Ms. Anamika Upadhyay (2020,ME), Material Planner at Alstom.
10.02.2024	Mr. Tarak Nath Nandi (2008, ME), Staff Scientist at the US Department of Energy Argonne National Laboratory.

1.9.3 Donation Received from Alumni during 2023–2024

Alumni 1996 batch donated approximately one lakh Treadmill in the Institute GYM under SAC.

1.10 New Initiatives

1.10.1 SMILE ERP

“National Institute of Technology Durgapur adopted the SMILE ERP system in the year 2019. The acronym SMILE stands for Software for Managing Institutes of Learning and Education that was developed by IIT Kharagpur and NIT Durgapur procured it through TEQIP-III under the direct funding of MoE. The available modules need customization

to adopt it for various verticals like Academics, Finance, HR and Administration. At first in priority basis Faculty Annual Report data module has been launched by the Honorable Director on 16th August 2022. Other modules would be customized, contingent to availability of suitable manpower for the ERP Cell.”

2. Administration

2.1 NIT Council (As per Statutes)

- » The Minister in charge of the Ministry or Department of the Central Government having administrative control of the technical education, ex officio–Chairman
- » The Secretary to the Government of India in charge of the Ministry or Department of the Central Government having administrative control of the technical education, ex officio– Vice–Chairman
- » The Chairperson of every Board, ex officio
- » The Director of every Institute, ex officio
- » The Chairman, University Grants Commission, ex officio
- » The Director General, Council of Scientific and Industrial Research, ex officio
- » Four Secretaries to the Government of India, to represent the Ministries or Departments of the Central Government dealing with biotechnology, atomic energy, information technology and space, ex officio
- » The Chairman, All India Council for Technical Education, ex officio
- » Not less than three, but not more than five persons to be nominated by the Visitor, at least one of whom shall be a woman, having special knowledge or practical experience in respect of education, industry, science or technology
- » Three members of Parliament, of whom two shall be chosen by the House of the People and one by the Council of States (Provided that the office of member of the Council shall not disqualify its holder for being chosen as or for being, a member of either House of Parliament)
- » Two Secretaries to the State Government, from amongst the Ministries or Departments of that Government dealing with technical education where the Institutes are located, ex officio
- » Financial Advisor, dealing with the Human Resource Development Ministry or Department of the Central Government, ex officio
- » One officer not below the rank of Joint Secretary to the Government of India in the Ministry or Department of Central Government having administrative control of the Technical Education, ex officio – Member–Secretary

2.2 BOG

Sl. No.	Nomination Under	Name and Designation of nominated Member	Serve as
1.	Section II Clause (a)	Prof. Arvind Choubey Chairperson, Board of Governors National Institute of Technology Durgapur, Durgapur-713209	Chairperson
2.	(b)	Prof. Arvind Choubey Director, National Institute of Technology Durgapur Durgapur-713209	Member
3.	(c)	Ms. Saumya Gupta Joint Secretary, Department of Higher Education, Ministry of Education, (Shiksha Mantralaya), Shastri Bhawan New Delhi	Member
4.	(c)	Shri Anil Kumar Director (Finance), Department of Higher Education Ministry of Education, (Shiksha Mantralaya), Shastri Bhawan New Delhi	Member
5.	(d)	Prof. Chiranjib Bhattacharya Pro-Vice Chancellor, Jadavpur University, Kolkata – 700 032	Member
6.	(d)	Prof. Amlan Chakraborty Professor & Director, A.K. Choudhury School of Information Technology, University of Calcutta, India, Kolkata – 700 009	Member

Sl. No.	Nomination Under	Name and Designation of nominated Member	Serve as
7.	(f)	Prof. Apurba Kumar Patra Professor, Department of Chemistry, National Institute of Technology Durgapur, Durgapur-713209	Member
8.	(f)	Dr. Jayati Dey Associate Professor, Department of Electrical Engineering National Institute of Technology Durgapur, Durgapur-713209	Member
9.	(g)	Prof. V.K. Tewari Director, Indian Institute of Technology, Kharagpur, Pin-721302, India	Member
10.	Section 18 Clause (2)	Prof. N. K. Roy Registrar (I/C), NIT Durgapur, Durgapur-713209	Secretary

2.3 Finance Committee

Sl. No.	Name and Designation	Chairperson/Convenor/ Secretary/Member
1.	Prof. Arvind Choubey Chairperson, Board of Governors National Institute of Technology Durgapur Durgapur-713209	Chairperson
2.	Prof. Arvind Choubey Director, National Institute of Technology Durgapur, Durgapur-713209	Member
3.	Ms. Saumya Gupta Joint Secretary, Department of Higher Education Ministry of Education, (Shiksha Mantralaya), Shastri Bhawan, New Delhi	Member
4.	Shri Anil Kumar Director (Finance), Department of Higher Education Ministry of Education, (Shiksha Mantralaya), Shastri Bhawan, New Delhi	Member
5.	Prof. Apurba Kumar Patra Professor, Department of Chemistry, National Institute of Technology Durgapur Durgapur-713209	Member
6.	Prof. N. K. Roy Registrar (I/C), National Institute of Technology Durgapur, Durgapur-713209	Member Secretary

2.4 Building and Works Committee

Sl. No.	Name of the Member	Server as
1.	Prof. Arvind Choubey Director, National Institute of Technology, Durgapur: 713209	Chairman
2.	Ms. Saumya Gupta Joint Secretary (NITs), Department of Higher Education, Ministry of Education Shastri Bhawan, New Delhi: 110015	Member
3.	Shri Anil Kumar Director (Finance), Department of Higher Education, Ministry of Education Shastri Bhawan, New Delhi: 110015	Member
4.	Prof. S. Bhattacharyya Department of Civil Engineering, Chairman (Construction) National Institute of Technology, Durgapur: 713209	Member

Sl. No.	Name of the Member	Server as
5.	Prof. A. K. Banik Department of Civil Engineering, Chairman (PMQCC) National Institute of Technology Durgapur: 713209	Member
6.	Shri C.P. Sharma (Nominee of CPWD, Civil Wing), Superintendent Engineer (Civil), NIT Durgapur	Member
7.	Mr. Israr Ahmed Executive Engineer, CPWD, NIT Durgapur Camp Office	Member
8.	Prof. N. K. Roy Registrar (I/C), National Institute of Technology, Durgapur: 713209	Member Secretary

2.5 List of Senate Members

Sl. No.	Name	Chairman / External Member / Member / Invited Member
1.	Prof. Arvind Choubey, Director	Chairman
2.	Prof. Siddhartha Sen, Professor, Electrical Engg. Dept., IIT Kharagpur	External Member
3.	Prof. Swagata Dasgupta, Professor, Dept. of Chemistry, IIT Kharagpur	External Member
4.	Prof. Ajitava Raychaudhuri, Professor, Dept. of Economics, Jadavpur University Kolkata	External Member
5.	Prof. S. Chattopadhyay	Member
6.	Prof. A. Dey	Member
7.	Prof. Dalia Dasgupta Mandal	Member
8.	Prof. Kaustav Aikat	Member
9.	Prof. Surabhi Chaudhuri	Member
10.	Prof. Sudit Sekhar Mukhopadhyay	Member
11.	Prof. Dipankar Sukul	Member
12.	Prof. Apurba Kr. Patra	Member
13.	Prof. Milan Maji	Member
14.	Prof. Rajnarayan Saha	Member
15.	Prof. Sankar Ch. Moi	Member
16.	Prof. P. Pal	Member
17.	Prof. K.C. Ghanta	Member
18.	Prof. Tamal Mandal	Member
19.	Prof. A.K. Sadhukhan	Member
20.	Prof. Gopinath Halder	Member
21.	Prof. K. Bhattacharya	Member
22.	Prof. A. Das	Member
23.	Prof. S. Saha	Member
24.	Prof. Soumya Bhattacharyya	Member
25.	Prof. Atul Krishna Banik	Member
26.	Prof. Amiya Kr Samanta	Member
27.	Prof. Tandra Pal	Member
28.	Prof. Suchismita Roy	Member
29.	Prof. Subrata Nandi	Member
30.	Prof. Debashis Nandi	Member
31.	Prof. Subhrabrata Choudhury	Member

Sl. No.	Name	Chairman / External Member / Member / Invited Member
32.	Prof. Tanmay De	Member
33.	Prof. Mousumi Roy	Member
34.	Prof. Gautam Bandyopadhyay	Member
35.	Prof. Avijan Dutta	Member
36.	Prof. A.K. Bhattacharjee	Member
37.	Prof. B. Maji	Member
38.	Prof. G.K. Mahanti	Member
39.	Prof. Sumit Kundu	Member
40.	Prof. Rowdra Ghatak	Member
41.	Prof. Ashis Kr. Mal,	Member
42.	Prof. Rajat Mahapatra	Member
43.	Prof. Subrata Banerjee	Member
44.	Prof. Parimal Acharjee	Member
45.	Prof. Tapas Kr. Saha	Member
46.	Prof. Sankar Narayan Mahato	Member
47.	Prof. Chiranjib Koley	Member
48.	Prof. S. S. Thakur	Member
49.	Prof. K. Adhikari	Member
50.	Prof. Samarjit Kar	Member
51.	Prof. Seema Sarkar (Mondal)	Member
52.	Prof. Indrajit Basak	Member
53.	Prof. B. Halder	Member
54.	Prof. Nilotpal Banerjee	Member
55.	Prof. Nirmal Baran Hui	Member
56.	Prof. Shibendu Shekhar Roy	Member
57.	Prof. Asit Baran Puri	Member
58.	Prof. Apurba Layek	Member
59.	Prof. K.S. Ghosh	Member
60.	Prof. Joydeep Maity	Member
61.	Prof. A. K. Meikap	Member
62.	Prof. Pathik Kumbhakar	Member
63.	Prof. Amit Kr. Chakraborty	Member
64.	Dr. Debjani Dutta, HOD, Dept. of Biotechnology	Invitd Member
65.	Dr. Jaya Sikder, HOD, Dept. of Chemical Engg.	Invitd Member
66.	Dr. Diptesh Das, HOD, Dept. of Civil Engg.	Invitd Member
67.	Dr. Kaushik Mandal, HOD, Dept. Management Studies	Invitd Member
68.	Dr. Durbadal Mandal, HOD, Dept. of Electronics and Communication Engg.	Invitd Member
69.	Dr. Arindam Modak , HOD, Dept. Humanities and Social Sciences	Invitd Member
70.	Dr. Lakshmi Kanta Dey, HOD, Dept. of Mathematics	Invitd Member
71.	Dr. Supriya Bera, HOD, Dept. of Metallurgical and Materials Engg.	Invitd Member
72.	Dr. Mrinal Kanti Mandal , HOD, Dept. of Physics	Invitd Member
73.	Dr. Bibhash Sen, HOC, Computer Centre	Invitd Member
74.	Prof. N.K.Roy, Professor, Dept. of Electrical Engg. & Registrar (I/C)	Invitd Member

2.6 Staff Details

2.6.1 List of Officers

Designation		Name
Registrar		Prof. N. K. Roy Professor, Dept. of Electrical Engg. & Registrar (I/C)
Joint Registrar		Shri Asit Kumar Dr. Uday Chandra Mukherjee Sri Dhruvajyati Ray
Deputy Registrar		Sri Ashutosh Das
Assistant Registrar		Sri Debasish Mondal Sri Amiya Kumar Sardar Sri Sayon Bhattacharjee Sri Ajit Kumar Bhagat Shri Arun Charles Minz
Executive Engineer		Sri Tanmay Halder
Library	Librarian	Vacant
	Deputy Librarian	Vacant
	Assistant Librarian	Vacant
Workshop Superintendent		Vacant
Registrar's Secretariat (Technical Officer)		Shri Santosh Kumar Saha Shri Hirendra Nath Samanta
Medical Unit-cum-Hospital	Senior Medical Officer	Dr. Banhi Kumar Sarkar
	Medical Officers	Dr. Sucharita Patra Dr. G. Prabhavabathi
SAS Officer		Sri Hillol Mukherjee

2.6.2 Sanctioned posts of officers and number in position

	Sanctioned	In position	Vacant	Remarks
Registrar	01	00	01	
Joint Registrar	Nil	03	00	Filled through DP
Dy. Registrar	04	01	00	
Asstt. Registrar	07	05	02	
Dy. Librarian	01	Nil	01	
Assistant Librarian	01	Nil	00	
Principal SAS Officer	00	Nil	00	
Sr. SAS Officer	01	Nil	01	
SAS Officer	01	Nil	01	
Principal Scientific/Technical Officer	02	Nil	02	
Sr. Scientific/Technical Officer	01	Nil	01	
Scientific/Technical Officer	03	02	01	
Superintendent Engineer	01	Nil	01	
Executive Engineer (Elect/Civil)	02	01	01	
Senior Medical Officer	01	01	00	
Medical Officer	02	02	00	
Security Officer	01	Nil	01	(Restructured as Assistant Registrar)
*Physical Training Inst.	Nil	00	00	

2.6.3 Number of Technical and Administrative staff members 2023-24

Sl. No.	Name	No.
1.	Sr. Tech. Asstt.	10
2.	Tech. Asstt. (SG-II)	16
3.	Tech. Asstt. (SG-I)	07
4.	Sr. Library Infor. Asstt (SG-II)	01
5.	Sr. Technician	01
6.	Technician (SG-II)	02
7.	Tech. Asstt.	03
8.	Superintendent	02
9.	Sr. Superintendent	03
10.	Superintendent (SG-II)	04
11.	Superintendent (SG-I)	01
12.	Staff Nurse (SG-II)	01
13.	Junior Assistant	01
14.	Sr. Assistant	05
15.	Assistant (SG-II)	10
16.	Assistant (SG-I)	05
17.	Attendant	01
18.	Sr. Attendant	08
19.	Attendant (SG-II)	09
20.	Attendant (SG-I)	04
21.	Physical Training Instructor	01 (PTI post is not a sanctioned post)
22.	Asstt. Engg. (SG-I)	01
23.	Pharmacist	01

2.6.4 New appointment of staff during the year 2023-24

Sl. No.	Name	Department	Designation	Date of Joining
1.	NIL	NIL	NIL	NIL

2.6.5 Retirement, Resignation, Death and Voluntary Retirement of Staff during the year

Sl. No	Name	Department/Section	Designation	Date of Retirement/Resignation
1.	Dr. Sankha Karmakar	Chemical Engg.	Assistant Professor Gr-II	Resigned on 28.04.2023 (A/N)
2.	Prof. Parthapratim Gupta	Chemical Engg.	Professor	30.06.2023 Retired
3.	Prof. Purnendu Ray	Civil Engg.	Professor	30.09.2023 Retired
4.	Dr. (Ms.) Shreya Karmakar	Earth & Environmental Studies	Assistant Professor Gr-II	Resigned from the post and released on 18.12.2023
5.	Dr. Sumit Mukhopadhyay	Mech. Engg.	Associate Professor	29.02.2024 Retired
6.	Prof. Showmen Saha	Civil Engg.	Professor	31.03.2024 Retired

2.6.6 Number of Faculty in position

Name of Department	Professor In position	Associate Prof In-position	Asstt. Prof. Grade-I In position	Asstt. Prof. Grade-II In position	Total In position
Biotechnology	06	05	06	00	17
Chemical Engg	06	04	02	04	16
Chemistry	05	05	01	03	14
Civil Engineering	07	05	02	06	20
Computer Science & Engineering	06	14	13	05	38
Electrical Engg	07	02	08	08	25
Electronics & Communication Engineering	07	05	03	05	20
Earth & Environmental Studies	01	00	01	01	03
Humanities & Social Science	00	03	02	02	07
Management Studies	03	05	00	03	11
Mathematics	02	05	03	00	10
Mechanical Engineering	07	04	09	11	31
Metallurgical & Materials Engg.	02	07	03	02	14
Physics	03	05	02	04	14
Grand Total	62	69	55	54	240

3. Academics

3.1 Education System:

The National Institute of Technology Durgapur is an Institute of National Importance with a reputation cutting across international boundaries. It runs four-year Bachelor of Technology programmes in Bio-Technology, Chemical Engineering, Civil Engineering, Computer Science & Engineering, Electronics & Communication Engineering, Electrical Engineering, Mechanical Engineering and Metallurgical & Materials Engineering.

The Institute runs five year B.Tech and M.Tech Dual Degree in Biotechnology and Chemical Engineering. And it also runs five year Integrated M.Sc programme in Chemistry.

The Institute offers four semester M. Tech. programme. Total number of M. Tech. programme offered in the year are sixteen. A two-year full time MBA, two-year full time M. Sc and two-year full time MSW programmes have been on the offer.

All the Programme offered in the academic year, as mentioned above are regular and fulltime in nature.

The Institute also offers PhD programme in fourteen disciplines.

Each academic year is spreading over the period from 1st July of the year to 30th June of the next year and is divided into two semesters of about eighteen weeks each.

3.2 Programs Offered:

3.2.1 B.Tech / Dual Degree / Integrated M.Sc Programme: Sanctioned intake

Discipline	OP	OP-PWD	EWS	EWS-PWD	SC	SC-PWD	ST	ST-PWD	OBN	OBN-PWD	TOTAL	TOTAL
BT	28	02	07	01	13	0	05	0	18	01	75	909
CH	28	02	08	0	11	0	06	0	18	02	75	
CE	32	0	08	0	11	02	06	0	19	02	80	
CS	73	03	18	01	25	02	13	01	49	02	187	
EE	38	02	10	0	14	02	06	01	26	01	100	
EC	36	02	10	0	14	01	06	01	26	01	97	
ME	72	04	17	01	27	02	13	01	48	02	187	
MM	28	02	07	01	11	0	05	01	19	01	75	
CH-DD	02	0	01	0	01	0	01	0	02	0	07	
BT-DD	02	0	01	0	01	0	01	0	02	0	07	
CY-INT	08	0	02	0	03	0	01	0	05	0	19	

The students from Andaman & Nicobar Islands were admitted in Supernumerary Quota as was decided by CSAB 2023.

In addition, some seats were filled up by foreign students as nominated by the Government of India under various schemes.

50% of the seats are reserved for candidates from West Bengal and remaining 50% seats are allotted to the candidates from other States based on the JEE Main results in B.Tech / Dual Degree / Integrated M.Sc Programme where 15%, 7.5%, 27% and 10 % of the total seats are reserved for SC candidates, ST candidates, OBC candidates and EWS candidates respectively with 5% of the seats are reserved for PwD candidates.

3.2.2 Post-Graduate Programmes – Sanctioned intake

Full-time programmes

The Institute offers 16 four-semester M. Tech. programmes, 5 four-semester M. Sc. Programmes, four semester MBA programme and four semester MSW programme.

M.Tech

Specialization / Program Name	OC	OC-PWD	EWS	EWS-PWD	SC	SC-PWD	ST	ST-PWD	OBN	OBN-PWD	Sanctioned Intake
Advanced Material Science & Technology	5	0	2	0	3	0	1	0	4	0	15
Biotechnology	7	1	1	0	3	0	1	0	5	0	18
Chemical Engineering	6	0	2	0	2	0	1	0	4	0	15
Energy Resources and Sustainable Environmental Engineering	6	0	2	0	2	0	1	0	4	0	15
Computer Science & Engineering	19	1	5	0	7	0	4	0	13	1	50
Environmental Science & Technology	7	1	2	0	3	0	2	0	5	0	20
Fluid Mechanics and Heat Transfer	7	1	1	0	2	0	2	0	5	0	18
Geotechnical Engineering	7	1	2	0	3	0	1	0	6	0	20
Machine Design	8	0	2	0	3	0	2	0	5	0	20
Metallurgy and Materials Technology	7	0	1	0	2	1	1	0	4	0	16
Next Generation Communication and Networks	8	0	2	0	3	0	1	0	5	1	20
Operations Research	7	1	2	0	2	1	2	0	5	0	20
Power Electronics & Machine Drives	8	0	2	0	3	0	2	0	4	1	20
Power Systems	7	1	2	0	3	0	1	0	6	0	20
Instrumentation and Control	6	0	2	0	2	0	1	0	4	0	15
Structural Engineering	10	1	3	0	4	0	2	1	7	0	28
Microelectronics and VLSI	12	0	2	1	4	1	2	0	8	0	30
Thermal Engineering	8	0	2	0	3	0	1	0	5	1	20
Total											380

Other Post-Graduate Programmes (Sanctioned Intake)**MBA**

Department	OP	OP-PwD	EWS	EWS-PwD	SC	SC-PwD	ST	ST-PwD	OBN	OBN-PwD	Total
MS	17	1	4	0	6	1	3	0	11	1	44

MSW

Department	OP	OP-PwD	EWS	EWS-PwD	SC	SC-PwD	ST	ST-PwD	OBN	OBN-PwD	Total
HSS (MSW)	6	0	1	1	2	0	1	0	4	0	15

M.Sc

Department	OP	OP-PwD	EWS	EWS-PwD	SC	SC-PwD	ST	ST-PwD	OBN	OBN-PwD	Total
CY	10	0	3	0	3	1	2	0	6	0	25
MA	9	1	2	0	4	0	1	0	7	1	25
PH	10	0	2	1	4	0	2	0	6	0	25
BT (LIFE SCIENCE)	6	1	2	0	3	0	1	0	5	0	18
BT (LIFE SCIENCE) DBT	4	0	1	0	1	0	1	0	3	0	10

Department	OP	OP-PwD	EWS	EWS-PwD	SC	SC-PwD	ST	ST-PwD	OBN	OBN-PwD	Total
EES (APPL GEO & GEOINFO)	9	1	2	0	3	0	2	0	5	1	23
Total	48	3	12	1	18	1	9	0	32	2	126

3.2.3 Eligibility

MTECH

In qualifying degree the candidates should have passed and secured at least 6.5 CGPA (on a 10-point scale) or 60% for OC/OB, whereas 6.0 CGPA (on a 10-point scale) or 55% in case of SC/ST/PwD candidates. The above mentioned CGPA/Percentage should be awarded by a recognized University/Institute.

M.Sc.

Three-year regular B. Sc. (Hons./ Pass) with minimum 55% marks / 6 CGPA in the relevant discipline. A relaxation of 5% marks or 0.5 CGPA is applicable for SC/ST candidates.

MBA

Graduates (minimum 10+2+3 format) in any discipline with minimum 55% marks in graduation are eligible with a relaxation of 5 % marks for SC/ST.

MSW

Graduates (minimum 10+2+3 format) in any discipline with minimum 55% marks in graduation are eligible with a relaxation of 5 % marks for SC/ST.

3.3 Admission Procedure

UG Programme:

As decided by the Government of India, Ministry of Education, the procedure for selection of candidates for admission to the Bachelor of Technology / Dual Degree / Integrated M.Sc programmes in National Institute of

Technology Durgapur and in other NITs is on the basis of AIR in JEE (Main) and the same is executed through counseling by Joint Seat Allocation Authority (JoSAA) / Central Seat Allocation Board (CSAB) under guidance from GOI, MOE.

PG Programme:

Sl. No.	Types of Student	Mode of Admission
1.	Full Time GATE (M. Tech.)	CCMT / Institute level test and viva-voce for vacant seats.
2.	Full Time Sponsored (M. Tech.)	B. Tech./eqv results, Institute level test and viva-voce
3.	M. Sc.	CCMN
4.	MBA	CAT score and Institute Level GD/PI
5.	MSW	Institute level entrance examination

3.4 Students

The students find the environment of the Institute conducive not only to exercise their intellectual capability but also to learn with living in cultural diversity and religious heterogeneity. In this era of open market economy, India is a part of global village unconfined to its territory. Our students are actively involved in the field of researching in higher academic institutes, and working in transnational companies that have already made their marks internationally. With a large number of students at under-graduate and post-graduate levels, the institute has

excelled not only in academics but also in every field one can think of. Foreign Students are admitted supernumerary as decided by the GOI, the Ministry of External Affairs and the Ministry of Education. The students have received many prizes and awards from various other institutes in multidisciplinary activities. The NIT Durgapur is proud of producing the trained-brains where most of them get employed by campus interview itself. Some of the alumni are in the higher positions in the organisational hierarchy of the corporate sectors in India, Europe and USA.

3.5 Programme-wise enrolment with gender and caste break-up

3.5.1 Enrolment in B.Tech programmes during 2022–2023 (Gender wise)

A. Enrolment of Indian students in odd semesters of B. Tech. courses during 2023–2024 Gender wise:

Semester	BT		ChE		CE		CSE		ECE		EE		ME		MME		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
B.Tech I	52	21	58	17	61	17	149	38	78	23	76	20	149	40	56	17	679	193
B.Tech III	50	14	57	14	61	22	158	41	75	23	76	22	141	38	58	16	676	190
B.Tech V	46	14	54	15	56	18	140	39	72	21	77	18	141	39	54	13	640	177
B.Tech VII	43	15	54	15	54	18	145	35	76	21	77	22	137	38	47	11	633	175
Total	191	64	223	61	232	75	592	153	301	88	306	82	568	155	215	57	2628	735

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

Semester	BT		ChE		CE		CSE		ECE		EE		ME		MME		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
B.Tech II	52	20	57	17	59	17	145	38	77	23	77	20	142	39	55	17	664	191
B.Tech IV	50	14	57	14	61	22	157	41	75	23	75	22	140	38	58	16	673	190
B.Tech VI	46	14	53	15	56	18	138	39	71	21	77	18	140	39	54	13	635	177
B.Tech VIII	43	15	54	15	54	18	145	35	76	21	77	22	137	38	47	11	633	175
Total	191	63	221	61	230	75	585	153	299	88	306	82	559	154	214	57	2605	733

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

3.5.2 Enrolment in B. Tech & M. Tech Dual Degree programmes during 2023–2024 (Gender wise)

Semester	BT		ChE		Total	
	M	F	M	F	M	F
Dual Degree I	5	2	4	3	9	5
Dual Degree III	2	3	4	3	6	6
Dual Degree V	2	1	4	3	6	4
Dual Degree VII	3	0	4	1	7	1
Dual Degree IX	3	1	4	1	7	2
Total	15	7	20	11	35	18

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

Semester	BT		ChE		Total	
	M	F	M	F	M	F
Dual Degree II	4	3	4	3	8	6
Dual Degree IV	2	3	4	2	6	5
Dual Degree VI	2	1	4	3	6	4
Dual Degree VIII	3	0	4	1	7	1
Dual Degree X	3	1	4	1	7	2
Total	14	8	20	10	34	18

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

3.5.3 Enrolment in Integrated M.Sc. programmes during 2023–2024 (Gender wise)

Semester	Chemistry		Total	
	M	F	M	F
INT M.Sc. I	10	3	10	3
INT M.Sc. III	13	5	13	5
INT M.Sc. V	10	4	10	4
INT M.Sc. VII	6	4	6	4
INT M.Sc. IX	3	3	3	3
Total	42	19	42	19

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

Semester	Chemistry		Total	
	M	F	M	F
INT M.Sc. II	9	3	9	3
INT M.Sc. IV	13	5	13	5
INT M.Sc. VI	10	4	10	4
INT M.Sc. VIII	6	4	6	4
INT M.Sc. X	3	3	3	3
Total	41	19	41	19

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

3.5.4 Enrolment of Foreign Students in B. Tech programme during 2023–2024 (Gender wise)

Semester	BT		ChE		CE		CSE		ECE		EE		ME		MME		TOTAL	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
B.Tech I	0	0	0	0	3	0	7	4	2	0	0	0	1	0	0	0	13	4
B.Tech III	1	0	0	1	2	2	11	4	2	1	1	2	3	2	1	0	21	12
B.Tech V	1	2	0	1	1	0	5	2	1	0	2	0	2	0	0	0	12	5
B.Tech VII	0	0	0	0	0	0	6	4	0	0	0	0	0	0	0	0	6	4
Total	2	2	0	2	6	2	29	14	5	1	3	2	6	2	1	0	52	25

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

Semester	BT		ChE		CE		CSE		ECE		EE		ME		MME		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
B.Tech II	0	0	0	0	3	0	7	4	1	0	0	0	1	0	0	0	12	4
B.Tech IV	1	0	0	1	2	2	11	4	2	1	1	2	3	2	1	0	21	12
B.Tech VI	1	2	0	1	1	0	5	2	1	0	2	0	2	0	0	0	12	5
B.Tech VIII	0	0	0	0	0	0	6	4	0	0	0	0	0	0	0	0	6	4
Total	2	2	0	2	6	2	29	14	4	1	3	2	6	2	1	0	51	25

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

3.5.5 Enrolment in B. Tech. Programme during 2023-2024 (Caste wise)

Dept.	B. Tech					B. Tech					B. Tech													
	I Semester					III Semester					V Semester					VII Semester								
	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT
BT	24	9	12	4	24	73	16	9	9	5	24	63	18	10	10	5	17	60	15	10	10	2	21	58
C&E	28	11	11	6	19	75	18	10	10	6	26	70	18	10	11	5	25	69	22	11	10	6	20	69
CE	22	14	13	6	23	78	24	10	14	6	25	79	21	11	11	6	25	74	16	12	13	6	25	72
CSE	45	39	27	15	61	187	51	36	28	14	55	184	55	34	23	14	53	179	56	31	24	13	56	180
ECE	34	16	16	7	28	101	27	15	14	7	32	95	35	11	13	6	28	93	32	16	15	7	27	97
EE	32	15	14	7	28	96	30	13	15	7	30	95	27	17	17	5	29	95	33	14	16	6	30	99
ME	60	26	29	14	60	189	51	24	27	13	59	174	56	26	28	13	57	180	50	28	26	14	57	175
MNE	23	10	10	6	24	73	24	10	11	6	22	73	23	10	9	6	19	67	17	10	9	5	17	58
Total	268	140	132	65	267	872	241	127	128	64	273	833	263	129	132	60	253	817	241	132	123	59	253	808

3.5.6 Enrolment in B.Tech & M. Tech Dual Degree Programmes during 2023-2024 (Caste wise)

Dept.	Dual Degree I Semester					Dual Degree III Semester					Dual Degree V Semester					Dual Degree VII Semester					Dual Degree IX Semester								
	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT					
BT	2	1	1	1	2	7	2	1	1	1	0	5	0	1	1	1	0	1	3	6	2	1	1	0	4				
ChE	2	1	1	1	2	7	1	1	1	1	3	7	1	1	1	1	3	7	2	1	0	2	5	10	2	1	0	2	5
Total	4	2	2	2	4	14	3	2	2	1	3	11	1	2	2	2	3	10	3	2	0	3	8	16	4	2	1	2	9

3.5.7 Enrolment in 5 year Integrated M.Sc Programmes during 2023-2024 (Caste wise)

Dept.	INT M.Sc. I Semester					INT M.Sc. III Semester					INT M.Sc. V Semester					INT M.Sc. VII Semester					INT M.Sc. IX Semester				
	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	
Chem	3	3	2	1	4	13	6	3	3	1	5	18	4	3	1	1	5	14	2	2	2	0	4	10	2
Total	3	3	2	1	4	13	6	3	3	1	5	18	4	3	1	1	5	14	2	2	2	0	4	10	2

3.5.8 Enrolment in B. Tech. Programme during 2023-2024 (Caste wise)

Dept.	B.Tech					B.Tech					B.Tech					B.Tech								
	II Semester					IV Semester					VI Semester					VIII Semester								
	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT
BT	24	9	11	4	24	72	16	9	9	5	24	63	18	10	10	5	17	60	15	10	10	2	21	58
ChE	27	11	11	6	19	74	18	10	10	6	26	70	18	10	11	5	24	68	22	11	10	6	20	69
CE	21	14	12	6	23	76	24	10	14	6	25	79	21	11	11	6	25	74	16	12	13	6	25	72

Dept.	B.Tech						B.TECH						B.TECH						B.TECH					
	II Semester						IV Semester						VI Semester						VIII Semester					
	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT
CSE	44	39	26	15	59	183	51	36	27	14	55	183	55	34	22	13	53	177	56	31	24	13	56	180
ECE	33	16	16	7	28	100	27	15	14	7	32	95	35	11	13	6	27	92	32	16	15	7	27	97
EE	34	15	14	7	27	97	30	13	14	7	30	94	27	17	17	5	29	95	33	14	16	6	30	99
ME	57	25	27	13	59	181	50	24	27	13	59	173	55	26	28	13	57	179	50	28	26	14	57	175
MME	22	10	10	6	24	72	24	10	11	6	22	73	23	10	9	6	19	67	17	10	9	5	17	58
Total	263	139	127	64	263	855	240	127	126	64	273	830	252	129	121	59	251	812	241	132	123	59	253	808

3.5.9 Enrolment in B.Tech & M. Tech Dual Degree Programmes during 2023-2024(Caste wise):

Dept.	Dual Degree II Semester						Dual Degree IV Semester						Dual Degree VI Semester						Dual Degree VIII Semester						Dual Degree X Semester					
	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	SC	ST	OBC	TOT	
BT	1	1	1	1	3	7	2	1	1	1	0	5	0	1	1	1	0	3	1	1	0	1	3	6	2	1	1	0	4	
ChE	2	1	1	1	2	7	1	1	1	0	3	6	1	1	1	1	3	7	2	1	0	2	5	10	2	1	0	2	5	
Total	3	2	2	2	5	14	3	2	2	1	3	11	1	2	2	2	3	10	3	2	0	3	8	16	4	2	1	2	9	

3.5.10 Enrolment in 5 year Integrated M.Sc Programmes during 2023-2024 (Caste wise):

Dept.	INT M.Sc. II Semester						INT M.Sc. IV Semester						INT M.Sc. VI Semester						INT M.Sc. VIII Semester						INT M.Sc. X Semester												
	OP		EWS		SC		ST		OBC		TOT		OP		EWS		SC		ST		OBC		TOT		OP		EWS		SC		ST		OBC		TOT		
	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	OP	EWS	SC	ST	OBC	TOT	
Chem	2	3	2	1	4	12	6	3	3	1	5	18	4	3	1	1	5	14	2	2	2	0	4	10	2	1	1	0	2								
Total	2	3	2	1	4	12	6	3	3	1	5	18	4	3	1	1	5	14	2	2	2	0	4	10	2	1	1	0	2								

3.5.11 Enrolment in M.Tech. Programmes during 2023-2024 (Gender wise)

Semester	BT	CH	CH (ERS)	CH (SE)	CE (GE)	CE (SE)	EE (PS)	EE (PMD)	EE (INST)	EC (NGCN)	EC (VL)	ES (EST)	OR (MA)	ME (MD)	ME (FMHT)	ME (TE)	AMS (PHY)	Total
M.Tech I & II	10 (9)	0 (0)	1 (0)	19 (2)	6 (0)	45 (9)	9 (1)	4 (0)	2 (0)	7 (4)	27 (6)	2 (1)	10 (1)	5 (0)	4 (0)	1 (0)	0 (0)	154 (33)
M.Tech III & IV	10 (6)	2 (1)	3 (1)	18 (2)	13 (6)	40 (14)	9 (2)	10 (3)	8 (2)	14 (3)	18 (2)	6 (1)	14 (5)	10 (1)	6 (1)	11 (0)	2 (0)	195 (50)

3.5.12 Enrolment in M.Sc. Programmes during 2023-2024 (Gender wise)

Semester	M. Sc (CY)	M. Sc (MA)	M. Sc (PH)	M. Sc (Life Science)	M. Sc (Life Science) DBT	M. Sc (Life Science) Geoinfo)	M. Sc (Appl Geo & Geoinfo)	Total
M.Sc I & II	20 (6)	23 (5)	21 (4)	14 (8)	2 (1)	21 (8)	21 (8)	101 (32)
M.Sc III & IV	23 (13)	23 (4)	23 (5)	11 (6)	0 (0)	19 (5)	19 (5)	99 (33)

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

3.5.13 Enrolment in M.Tech Programmes during 2023-2024(Caste wise):

Dept. / Year	I & II						III & IV							
	OP	GEN (EWS)	SC	ST	OBC	FS	TOTAL	OP	GEN (EWS)	SC	ST	OBC	FS	Total
BT	5 (4)	1 (1)	2 (2)	0 (0)	2 (2)	0 (0)	10 (9)	7 (5)	1 (0)	1 (0)	0 (0)	1 (1)	0 (0)	10 (6)
CH	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (1)
CH (ERS)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	1 (0)	0 (0)	1 (0)	0 (0)	1 (1)	0 (0)	3 (1)
CE (SE)	3 (0)	1 (0)	4 (0)	2 (2)	9 (0)	0 (0)	19 (2)	6 (2)	2 (0)	3 (0)	0 (0)	6 (0)	1 (0)	18 (2)
CE (GT)	4 (0)	0 (0)	0 (0)	0 (0)	2 (0)	0 (0)	6 (0)	3 (1)	0 (0)	2 (1)	0 (0)	8 (4)	0 (0)	13 (6)
CS	14 (1)	5 (1)	7 (1)	3 (0)	16 (6)	0 (0)	45 (9)	9 (2)	1 (0)	6 (4)	1 (0)	22 (8)	1 (0)	40 (14)
EE (PS)	6 (0)	0 (0)	1 (0)	0 (0)	2 (1)	0 (0)	9 (1)	3 (1)	1 (0)	1 (0)	0 (0)	4 (1)	0 (0)	9 (2)
EE(PMD)	2 (0)	0 (0)	0 (0)	0 (0)	2 (0)	0 (0)	4 (0)	4 (0)	1 (1)	1 (1)	0 (0)	4 (1)	0 (0)	10 (3)
EE (INST)	2 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (0)	4 (1)	1 (1)	0 (0)	0 (0)	3 (0)	0 (0)	8 (2)
EC (NGCN)	3 (1)	0 (0)	2 (2)	0 (0)	1 (0)	1 (1)	7 (4)	7 (1)	0 (0)	2 (0)	0 (0)	4 (2)	1 (0)	14 (3)
EC (VL)	6 (2)	3 (0)	4 (1)	0 (0)	14 (3)	0 (0)	27 (6)	6 (2)	3 (0)	2 (0)	0 (0)	6 (0)	1 (0)	18 (2)
ES	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	2 (1)	2 (0)	0 (0)	1 (1)	0 (0)	3 (0)	0 (0)	6 (1)
MA (OR)	7 (1)	1 (0)	2 (0)	0 (0)	0 (0)	0 (0)	10 (1)	5 (3)	3 (0)	2 (1)	1 (0)	3 (1)	0 (0)	14 (5)
ME (MD)	0 (0)	0 (0)	2 (0)	1 (0)	2 (0)	0 (0)	5 (0)	2 (0)	0 (0)	0 (0)	1 (0)	7 (1)	0 (0)	10 (1)

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

3.5.14 Enrolment in M.Sc Programmes during 2023-2024 (Caste wise)

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

3.5.15 Enrolment in MBA programmes during 2022-2023 (Gender wise)

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

3.5.16 Enrolment in MBA Programme during 2023–2024 (Caste wise)

MBA	MBA I & II						MBA III & IV					
	OP	GEN (EWS)	SC	ST	OBC	TOTAL	OP	GEN (EWS)	SC	ST	OBC	TOTAL
	16 (9)	3 (2)	5 (0)	0 (0)	8 (5)	32 (16)	19 (10)	2 (0)	3 (1)	1 (0)	4 (1)	29 (12)

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

3.5.17 Enrolment in MSW Programme during 2023–2024 (Gender wise)

Master of Social Work (MSW)	I & II Semester	III & IV Semester
	12 (7)	7 (4)

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

3.5.18 Enrolment in MSW Programme during 2023–2024 (Caste wise)

MSW	MSW I & II					MSW III & IV				
	OP	SC	ST	OBC	TOTAL	OP	SC	ST	OBC	TOTAL
	6 (4)	2 (1)	0 (0)	4 (2)	12 (7)	5 (2)	1 (1)	0 (0)	1 (1)	7 (4)

(Number of female students indicated in parentheses; the total number is inclusive of the number of female students)

3.6 Exam and Evaluation

Performance of a student is assessed throughout the semester and assessment in a course is made based on his/her performance. For each theory paper of any academic semester there is a mid-term and an end-term examination following the regulations.

3.7 Admission Statistics

3.7.1 Admission of Research Scholars for Regular PhD programme during 2023–2024

Sl. No.	Branch of Research Study	Gender		Caste				Total
		Male	Female	OP	SC	ST	OBC	
1.	Biotechnology	3	7	7	1	0	2	10
2.	Chemical Engineering	4	1	3	1	0	1	5
3.	Chemistry	2	0	2	0	0	0	2
4.	Civil Engineering	4	0	3	0	0	1	4
5.	Computer Science & Engineering	6	8	10	1	0	3	14
6.	Earth & Environmental Studies	0	1	1	0	0	0	1
7.	Electrical Engineering	5	2	4	1	0	2	7
8.	Electronics & Communications Engineering	3	3	6	0	0	0	6
9.	Humanities & Social Sciences	1	3	4	0	0	0	4
10.	Management Studies	3	1	3	0	0	1	4
11.	Mathematics	2	3	3	0	1	1	5
12.	Mechanical Engineering	5	1	4	0	0	2	6
13.	Metallurgical & Materials Engineering	3	0	2	0	0	1	3
14.	Physics	2	2	2	1	0	1	4
15.	Centre for Research on Environment and Water (CREW)	0	1	0	1	0	0	1
16.	Centre for Biomedical Engineering & Assistive Technology (BEAT)	1	0	1	0	0	0	1

Sl. No.	Branch of Research Study	Gender			Caste			Total
		Male	Female	OP	SC	ST	OBC	
17.	Centre for Advanced Research on Energy (CARE)	1	0	0	0	0	1	1
18.	Centre of Excellence on IoT and Intelligent Systems (IoTIS)	0	0	0	0	0	0	0
Total		45	33	55	6	1	16	78

3.7.2 Admission of Research Scholars for Professional PhD programme during 2023–2024:

Sl. No.	Branch of Research Study	Gender			Caste			Total
		Male	Female	OP	SC	ST	OBC	
1.	Biotechnology	1	0	1	0	0	0	1
2.	Chemical Engineering	1	0	1	0	0	0	1
3.	Chemistry	0	0	0	0	0	0	0
4.	Civil Engineering	0	0	0	0	0	0	0
5.	Computer Science & Engineering	5	4	9	0	0	0	9
6.	Earth & Environmental Studies	0	0	0	0	0	0	0
7.	Electrical Engineering	3	2	4	1	0	0	5
8.	Electronics & Communications Engineering	2	0	2	0	0	0	2
9.	Humanities & Social Sciences	2	0	2	0	0	0	2
10.	Management Studies	0	0	0	0	0	0	0
11.	Mathematics	2	0	2	0	0	0	2
12.	Mechanical Engineering	2	0	2	0	0	0	2
13.	Metallurgical & Materials Engineering	0	0	0	0	0	0	0
14.	Physics	0	0	0	0	0	0	0
15.	Centre for Research on Environment and Water (CREW)	0	0	0	0	0	0	0
16.	Centre for Biomedical Engineering & Assistive Technology (BEAT)	0	0	0	0	0	0	0
17.	Centre for Advanced Research on Energy (CARE)	0	0	0	0	0	0	0
18.	Centre of Excellence on IoT and Intelligent Systems (IoTIS)	0	0	0	0	0	0	0
Total		18	6	23	1	0	0	24

3.7.3 Total strength of Research Scholars for Regular PhD programme in 2023–2024

Sl. No.	Branch of Research Study	Gender			Caste				Total
		Male	Female	OP	EWS	SC	ST	OBC	
1.	Biotechnology	25	34	39	3	6	1	10	59
2.	Chemical Engineering	19	13	20	0	5	1	6	32
3.	Chemistry	10	8	9	3	2	1	3	18
4.	Civil Engineering	19	7	15	1	3	1	6	26
5.	Computer Science & Engineering	39	28	45	1	5	2	14	67
6.	Earth & Environmental Studies	1	2	2	0	0	0	1	3
7.	Electrical Engineering	33	9	23	1	7	0	11	42
8.	Electronics & Communications Engineering	18	14	20	1	5	1	5	32
9.	Humanities & Social Sciences	6	10	11	1	1	0	3	16
10.	Management Studies	6	6	8	0	1	0	3	12
11.	Mathematics	29	16	22	3	5	2	13	45

Sl. No.	Branch of Research Study	Gender				Caste			Total
		Male	Female	OP	EWS	SC	ST	OBC	
12.	Mechanical Engineering	34	2	21	1	5	0	9	36
13.	Metallurgical & Materials Engineering	25	1	14	0	2	0	10	26
14.	Physics	19	8	14	1	5	0	7	27
15.	Centre for Research on Environment and Water (CREW)	0	2	1	0	1	0	0	2
16.	Centre for Biomedical Engineering & Assistive Technology (BEAT)	1	0	1	0	0	0	0	1
17.	Centre for Advanced Research on Energy (CARE)	1	0	0	0	0	0	1	1
18.	Centre of Excellence on IoT and Intelligent Systems (IoTIS)	0	0	0	0	0	0	0	0
Total		285	160	265	16	53	9	102	445

3.7.4 Total strength of Research Scholars for Professional PhD programme (2023-24)

Sl. No.	Branch of Research Study	Gender				Caste			Total
		Male	Female	OP	EWS	SC	ST	OBC	
1.	Biotechnology	2	0	2	0	0	0	0	2
2.	Chemical Engineering	10	6	12	0	2	0	2	16
3.	Chemistry	1	0	1	0	0	0	0	1
4.	Civil Engineering	10	2	10	0	1	0	1	12
5.	Computer Science & Engineering	19	12	27	0	1	1	2	31
6.	Earth & Environmental Studies	2	1	3	0	0	0	0	3
7.	Electrical Engineering	15	5	18	0	1	0	1	20
8.	Electronics & Communications Engineering	14	7	21	0	0	0	0	21
9.	Humanities & Social Sciences	9	3	11	0	0	0	1	12
10.	Management Studies	8	4	11	0	0	1	0	12
11.	Mathematics	5	3	7	0	0	0	1	8
12.	Mechanical Engineering	14	0	11	0	2	0	1	14
13.	Metallurgical & Materials Engineering	6	0	5	0	1	0	0	6
14.	Physics	5	5	7	0	2	0	1	10
15.	Centre for Research on Environment and Water (CREW)	0	0	0	0	0	0	0	0
16.	Centre for Biomedical Engineering & Assistive Technology (BEAT)	1	0	1	0	0	0	0	1
17.	Centre for Advanced Research on Energy (CARE)	0	0	0	0	0	0	0	0
18.	Centre of Excellence on IoT and Intelligent Systems (IoTIS)	0	0	0	0	0	0	0	0
Total		121	48	147	0	10	2	10	169

3.7.5 Students admitted to B.Tech programmes from various annual income groups during 2023-2024- 1st Year

Sl. No.	State	Below Rupees 1 lakh	Between Rupees 1 lakh to Rupees 5 lakhs	Above Rupees 5 lakhs	Total
1.	Andhra Pradesh	57	12	29	98
2.	Assam	0	0	1	1
3.	Bihar	38	22	30	90

Sl. No.	State	Below Rupees 1 lakh	Between Rupees 1 lakh to Rupees 5 lakhs	Above Rupees 5 lakhs	Total
4.	Chattishgarh	0	0	2	2
5.	Haryana	0	1	4	5
6.	Jammu & Kashmir	0	0	1	1
7.	Jharkhand	9	3	3	15
8.	Karnataka	1	0	7	8
9.	Kerala	1	0	3	4
10.	Madhya Pradesh	1	2	1	4
11.	Maharashtra	2	0	4	6
12.	Odisha	3	1	16	20
13.	Rajasthan	3	3	3	9
14.	Tamil Nadu	0	1	2	3
15.	Telangana	9	9	7	25
16.	Uttar Pradesh	29	5	27	61
17.	West Bengal	96	71	136	303
18.	Andaman & Nicobar	0	0	5	5
Total		249	130	281	660

3.7.6 The Number of Candidates Admitted to B.Tech & M.Tech Dual Degree Programme from Various Annual Income Groups During 2023-2024- 1st Year

Sl. No.	State	Below Rupees 1 lakh	Between Rupees 1 lakh to Rupees 5 lakhs	Above Rupees 5 lakhs	Total
1.	Bihar	1	-	-	1
2.	Jharkhand	-	1	-	1
3.	Uttar Pradesh	1	1	-	2
4.	West Bengal	1	1	3	5
Total		3	3	3	9

3.7.7 The Number of Candidates Admitted to Integrated M. Sc. Programme from Various Annual Income Groups During 2023-2024- 1st Year

Sl. No.	State	Below Rupees 1 lakh	Between Rupees 1 lakh to Rupees 5 lakhs	Above Rupees 5 lakhs	Total
1.	Bihar	-	2	-	2
2.	Uttar Pradesh	2	-	-	2
3.	West Bengal	-	2	2	4
Total		2	4	2	8

3.7.8 The Details of Admission To The PG Programmes During 2023-2024 -1st Year

Department	PG Program	Open	OBC	SC	ST	EWS	FS	Total
Physics	Advanced Material Science & Technology	0	0	0	0	0	0	0
Biotechnology	Biotechnology	5	2	2	0	1	0	10
Chemical Engineering	Chemical Engineering	0	0	0	0	0	0	0
Chemical Engineering	Energy Resources and Sustainable Environmental Engineering	1	0	0	0	0	0	1
Computer Science & Engineering	Computer Science & Engineering	14	16	7	3	5	0	45

Department	PG Program	Open	OBC	SC	ST	EWS	FS	Total
Earth and Environmental Studies (Coordinating)	Environmental Science & Technology	1	0	0	0	0	1	2
Mechanical Engineering	Fluid Mechanics and Heat Transfer	3	1	0	0	0	0	4
Civil Engineering	Geotechnical Engineering	4	2	0	0	0	0	6
Mechanical Engineering	Machine Design	0	2	2	1	0	0	5
Metallurgical and Materials Engineering	Metallurgy and Materials Technology	2	0	0	0	0	0	2
Electronics and Communication Engineering	Microelectronics & VLSI	6	14	4	0	3	0	27
Mathematics	Operations Research	7	0	2	0	1	0	10
Electrical Engineering	Power Electronics & Machine Drives	2	2	0	0	0	0	4
Electrical Engineering	Power Systems	6	2	1	0	0	0	9
Electrical Engineering	Instrumentation and Control	2	0	0	0	0	0	2
Civil Engineering	Structural Engineering	3	9	4	2	1	0	19
Electronics and Communication Engineering	Next Generation Communication and Networks	3	1	2	0	0	1	7
Mechanical Engineering	Thermal Engineering	1	0	0	0	0	0	1
Total M. Tech.		60	51	24	6	11	2	154
Chemistry	MSc in Chemistry	7	8	4	0	1	0	20
Physics	MSc in Physics	9	4	4	0	4	0	21
Mathematics	MSc in Mathematics	3	12	3	0	4	1	23
EES	MSc in Applied Geology & Geoinformatics	5	10	3	1	2	0	21
Biotechnology	MSc in Life Science	4	4	3	1	2	0	14
Biotechnology	MSc in Life Science - DBT	2	0	0	0	0	0	2
Management Studies	MBA	16	8	5	0	3	0	32
HSS	MSW	6	4	2	0	0	0	12
Total Admission		112	101	48	8	27	3	299

3.7.9 The Details of Admission of Students Under EWS to the Different PG Programmes During 2023-2024 -1st Year

Department	PG Program / Specialization	EWS		Total
		Male	Female	
Physics	Advanced Material Science & Technology	0	0	0
Biotechnology	Biotechnology	0	1	1
Chemical Engineering	Chemical Engineering	0	0	0
Chemical Engineering	Energy Resources and Sustainable Environmental Engineering	0	0	0
Computer Science & Engineering	Computer Science & Engineering	4	1	5
Earth and Environmental Studies (Coordinating)	Environmental Science & Technology	0	0	0
Mechanical Engineering	Fluid Mechanics and Heat Transfer	0	0	0
Civil Engineering	Geotechnical Engineering	0	0	0
Mechanical Engineering	Machine Design	0	0	0
Metallurgical and Materials Engineering	Metallurgy and Materials Technology	0	0	0

Department	PG Program / Specialization	EWS		Total
		Male	Female	
Electronics and Communication Engineering	Microelectronics & VLSI	3	0	3
Mathematics	Operations Research	1	0	1
Electrical Engineering	Power Electronics & Machine Drives	0	0	0
Electrical Engineering	Power Systems	0	0	0
Electrical Engineering	Instrumentation and Control	0	0	0
Civil Engineering	Structural Engineering	1	0	1
Electronics and Communication Engineering	Next Generation Communication and Networks	0	0	0
Mechanical Engineering	Thermal Engineering	0	0	0
	Total M. Tech.	9	2	11
Chemistry	MSc in Chemistry	0	1	1
Physics	MSc in Physics	3	1	4
Mathematics	MSc in Mathematics	1	3	4
EES	MSc in Applied Geology & Geoinformatics	1	1	2
Biotechnology	MSc in Life Science	0	2	2
Management Studies	MBA	1	2	3
HSS	MSW	0	0	0
Total Admission		15	12	27

3.7.10 The Details of Admission of Students Under EWS to the Different Research Programmes During 2023–2024

Sl. No.	Branch of Research Study	EWS		Total
		Male	Female	
1.	Biotechnology	0	0	0
2.	Chemical Engineering	0	0	0
3.	Chemistry	0	1	1
4.	Civil Engineering	0	0	0
5.	Computer Science & Engineering	0	0	0
6.	Earth & Environmental Studies	0	0	0
7.	Electrical Engineering	0	0	0
8.	Electronics & Communications Engineering	0	0	0
9.	Humanities & Social Sciences	0	0	0
10.	Management Studies	0	0	0
11.	Mathematics	0	0	0
12.	Mechanical Engineering	0	0	0
13.	Metallurgical & Materials Engineering	0	0	0
14.	Physics	0	1	1
15.	Centre for Research on Environment and Water (CREW)	0	0	0
16.	Centre for Biomedical Engineering & Assistive Technology (BEAT)	0	0	0
17.	Centre for Advanced Research on Energy (CARE)	0	0	0
18.	Centre of Excellence on IoT and Intelligent Systems (IoTIS)	0	0	0
Total		0	2	2

3.7.11 The Details of Admission of Students Under EWS To the Different UG Programmes During 2023-2024

Name of the programme	EWS		Total
	Male	Female	
Bachelor of Technology in Biotechnology	7	2	9
Bachelor of Technology in Chemical Engineering	9	2	11
Bachelor of Technology in Computer Science & Engineering	31	8	39
Bachelor of Technology in Civil Engineering	11	3	14
Bachelor of Technology in Electronics & Communication Engineering	13	3	16
Bachelor of Technology in Electrical Engineering	11	4	15
Bachelor of Technology in Metallurgical & Materials Engineering	5	5	10
Bachelor of Technology in Mechanical Engineering	20	6	26
B.Tech & M.Tech Dual Degree in Biotechnology	1	1	2
B.Tech & M.Tech Dual Degree in Chemical Engineering	0	0	0
5 year integrated M.Sc in Chemistry	3	0	3
Total	111	34	145

4. Departments

4.1 Department of Biotechnology

4.1.1 Department at a Glance

The Department of Biotechnology, NIT Durgapur was established in 2005 with the B. Tech Biotechnology Program. The M.Tech program was subsequently introduced in 2009. In the year 2020, the department introduced a MSc in Life Sciences program. The department consists of 17 faculties with diverse research backgrounds, engaged in teaching and research in applied biological sciences and biomedical engineering. Faculty members are actively involved in projects, publishing high quality research articles, patents and have established collaborations with various national and international laboratories. The department frequently receives grants from various central funding agencies such as DST, DBT, CSIR to support research activities. It is equipped with extensive research facilities and

infrastructure to develop cutting-edge technology through interdisciplinary research, training, and technical innovation. From past few years, the department has steadily emerged as a leader in providing excellent education at both the undergraduate and postgraduate levels with strong emphasis on modern biotechnology skills and on extensive laboratory training. The department also hosts international students. The curriculum and syllabi have been framed to meet the challenges of the growing demand of the Biotechnology sector in India. The department aims to provide a holistic education by means of innovative teaching, extracurricular activities and frequently organised seminars and workshops.

4.1.2 Mission & Vision

Mission

- » To produce highly qualified, well-rounded and motivated graduates and postgraduates possessing adequate basic and technical knowledge and understanding in Biotechnology, who can provide service and eventually leadership to the nation and to the world.
- » To pursue creative research and develop new technologies in the field of Biotechnology, which can contribute to the industry and to academia.

Vision

- » To focus on quality teaching and research and foster innovation in the field of Biotechnology to cater to the needs of society and of the country.

4.1.3 Faculty

Name	Designation	Email-id
Apurba Dey	HAG Professor	apurba.dey@bt.nitdgp.ac.in
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Debjani Dutta	Associate Professor	debjani.dutta@bt.nitdgp.ac.in
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Monidipa Ghosh	Associate Professor	monidipa.ghosh@bt.nitdgp.ac.in
Subhankar Roy Barman	Associate Professor	subhankar.roybarman@bt.nitdgp.ac.in
Ashish Bhattacharjee	Associate Professor	ashish.bhattacharjee@bt.nitdgp.ac.in
Nibedita Mahata	Assistant Professor	nibedita.mahata@bt.nitdgp.ac.in
Oindrilla Mukherjee	Assistant Professor	oindrilla.mukherjee@bt.nitdgp.ac.in
Sougata Saha	Assistant Professor	sougata.saha@bt.nitdgp.ac.in
Debojyoti De	Assistant Professor	debojyoti.de@bt.nitdgp.ac.in
Sudipta Mondal	Assistant Professor	sudipta.mondal@bt.nitdgp.ac.in
Amita Barik	Assistant Professor	amita.barik@bt.nitdgp.ac.in

4.1.4 Equipments (Newly Added)

Sl. No.	Name of the equipment	Date of Purchase	Amount
1.	Water Purifier	08.07.2022	52300
2.	Projector	27.05.2022	142860
3.	Desktop Computer	25.08.2022	211604
4.	CO2 Cylinder	10.02.2023	15222
5.	UPS	11.10.2022	18000
6.	UPS	10.10.2022	7785
7.	Freezer	03.11.2022	104000
8.	Ultralow Deep Freezer	01.03.2023	741880
9.	Cooling Centrifuge	06.03.2023	299720
10.	Motor for Centrifuge	02.02.2023	53373
11.	Microwave Oven	16.11.2022	6586
12.	Weighing Balance	07.12.2022	95000
13.	PH Meter	22.12.2022	59750
14.	Stabilizer	28.01.2023	10030
15.	Magnetic Stirrer	18.01.2023	11800
16.	Bacteriological Incubator	18.01.2023	108500
17.	Refrigerator	21.01.2023	24998
18.	Pipette	03.02.2023	5500
19.	PH Meter	14.02.2023	55000
20.	Magnetic Stirrer	11.02.2023	8333
21.	Probe Sonicator	16.02.2023	123000
22.	Non Refrigerated Centrifuge	13.02.2023	39847.61
23.	Industrial Oven	13.02.2023	21059.22
24.	UV-Transilluminator	21.02.2023	59000
25.	Bacteriological Incubator	22.02.2023	108300
26.	Biosafety Cabinet	14.02.2023	284500
27.	Microscope	13.03.2023	223610
28.	Double Door Refrigerator	03.03.2023	30887
29.	Stabilizer	23.02.2023	18830
30.	RICOH Multifunction Machine	10.05.2023	139861
31.	Single door Refrigerator	14.05.2023	13326
32.	Steel Almirah	08.11.2023	119920

4.1.5 Labs

Sl. No.	Name of Laboratory	Major equipment
1.	UG Lab 1	NA
2.	UG Lab 2	NA
3.	PG Lab	Spectrophotometer
4.	CIF I	Spectrophotometer, Gel documentation system
5.	CIF II	Flow cytometer; Flurimeter, Sonicator, -80 freezer
6.	Bioinformatics	Computational facility
7.	Microscopy Room	Fluorescet Microscopes
8.	Cell culture facility	Cell culture facility

Sl. No.	Name of Laboratory	Major equipment
9.	Molecular Plant Pathogen Interactions (SRB)/ Microbial products ,Drug delivery systems and Ecotoxicology(DDG)	Spectrophotometer, Refrigerated centrifuge, PCR machine. Incubator shaker, UV-Vis Spectrophotometer, Microscope
10.	Microbial Biotechnology (SC/KA)	GC, UV Vis Spectrophotometer
11.	Inflammation Biology and Cancer cell Signaling (AB)/Genomic instability and Protein Engineering (SSM)	Real time PCR, Cold centrifuge, Semi confocal microscope etc.
12.	Immunobiology Lab (MG)	Biosafety cabinet Level 3, Sonicator, Centrifuge, Free Radical Analyser, Ph meter, Vortex, Gel rocker
13.	Plant Developmental Biology (SCH)	Incubator shaker, PCR machine, Centrifuge machine, gel electrophoresis apparatus
14.	Bioprocess Engineering (AD/SM)	UV Vis Spectrophotometer
15.	Food and Environmental Biotechnology (SK/DD)	Incubator shaker, UV-Vis Spectrophotometer, PCR machine, GC, -20 freezer, gel electrophoresis
16.	Cellular and molecular Immunology (NM)	CO ₂ -Incubator, Biosafety Cabinet-II, ELISA reader
17.	Infection Biology laboratory (OM)	Dual gas incubator; Nanopore sequencer system
18.	Laboratory of Cellular Differentiation (SS/DDE)	2D gel electrophoresis, Real Time PCR Machine with HRM, -80 Freezer
19.	Chemical Biology Laboratory (SM)	Chemical fume hood; Rotary evaporator, Solid Phase Peptide Synthesizer

4.1.6 PhD Degree awarded till 2023–24

Fifty Two.

4.1.7 Specialization

» Food Biochemistry	» Environmental Microbiology and Biotechnology
» Infection Biology	» Cell and Molecular Biology
» Immunology	» Bioprocess engineering
» Biochemistry	» Microbial Fermentation & Biochemical Engineering
» Bionanotechnology	» Cell and Molecular Biology
» Cell and Molecular Biology	» Molecular Immunology and therapeutics
» Bioinformatics, Computational Biology	» Chemical Biology
» Cell and Molecular Biology, Virology	» Environmental Biotechnology, Ecotoxicity, Bioprocess Drug Delivery System
» Immunology , Infection Biology	» Stem Cells, Computational Biology, Metabolic Disorder
» Molecular Plant Pathogen Interactions	

4.1.8 Proposed Plan for Research

» Metabolomics, Food Biotechnology	» Human microbiome and diseases
» Immunoinformatics	» Bacterial Host-pathogen interaction
» Bionanotechnology	» Antimicrobials
» Bacterial Pathophysiology	» Mathematical modelling of human diseases
» Computational study of Intrinsically disordered proteins	» Functional interconnection between WISH and cell wall integrity pathway AND penicillin biosynthesis pathway in rice blast fungus
» Role of protein arginylation in cellular physiology and human diseases	

- » Microbial CO₂ utilization and conversion to valuable bioproducts ; Microbial genomics and metagenomics; Astrobiology
- » 1. Understanding the DNA intercrosslinking mechanism.
2. Engineering of the Cellulase enzymes.
- » Nanobioremediation of environmental pollutants
- » The research focus of my lab is currently limited in two different directions. One is Innate Immunity and Inflammation and the other is Cancer cell signaling. In the first area, I am interested to study the molecular mechanisms associated with Monocyte chemoattractant protein-1 (MCP-1) directed migration of blood monocytes to inflamed tissue. In Cancer cell signaling, I want to elucidate the role of fatty acids in regulating cancer progression. The information from

this research will advance our understanding of the mechanisms that control these important biological events and will suggest novel therapeutic approach for treatment of these diseases

- » Biopolymer production & application, Ethanol production using waste potatoes
- » Identification of anti-leishmanial molecules acting as novel inhibitors against intracellular lipid signaling machinery in Leishmania donovani
- » Developemnet of amyloid inhibitors
- » Exploration of synergistic intercatons of small peptide with antibiotic
- » Metabolic Disorder and study of gut microbiome and Genomics , Neurobiology of Autism

4.1.9 Area of Research Interest

- » Food Biotechnology
- » Immunotherapy
- » Immunoinformatics
- » Molecular Cell Signalling
- » Macromolecular interactions, RNA Bioinformatics, Intrinsically Disordered Proteins
- » Cell differentiation, inflammation, stress response, structural biology
- » Infection Biology
- » Human Microbiome and Diseases
- » Antimicrobials
- » Molecular Plant Pathogen Interactions using rice-blast pathosystem
- » Microbial CO₂ capture and conversion to valuable metabolites; Microbial genomics and metagenomics , Astrobiology

- » 1. Cell and Molecular Biology of Cancer.
2. Protein engineering
- » Environmental Biotechnology
- » Food Biotechnology
- » Microbial Biotechnology
- » Innate Immunity and Inflammation; Cancer cell Signaling
- » Biofuels, Bioplastics
- » Parasite Genomics
- » Peptide self-assembly, Protein folding, Nanobiotechnology
- » Environmental Biotechnology and Nano-Biotechnology, Drug Delivery Sytem
- » Genomics based drug discovery, Understanding disease mechanism, Stem Cell Biology

4.1.10 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
1. IIT Delhi. 2. IIT Bombay. 3. Bose Institute Kolkata	Protein engineering	N/A

4.1.11 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
National Institute of Cholera and Enteric Diseases, Kolkata	Research on stability and functional characterization of IpaD	Dr. Hemanta Koley	Research
Central Mechanical Engineering Research Institute, Durgapur	Research projects on Biopolymer Development and its Applications	Dr. Nripen Chanda	Research
IIT Indore	Computational Biology	Dr. Parimal Kar	Joint research in structural biology
Tezpur University	Computational Biology	Venkata Satish Kumar Mattaparthi	Joint research in structural biology
IIT Patna	Animicrobials	Dr. Subrata Chattopadhyay	Joint research
NIT Calicut	Computational Biology	Dr. Ravindra Kumar	Joint Research
IIT Bombay	Molecular plant pathogen interactions using rice blast pathosystem	Dr. Rajesh Patkar	Rice blast research
Indian Institute of Technology Kharagpur	Environmental Microbiology, Microbial CO ₂ capture and conversion	Dr. Kazy Sufia Khannam	Sponsored Project; Research and Publications
1. IIT Delhi. 2. IIT Bombay 3. Bose Institute	Protein engineering	1. Prof. Biswajit Kundu 2. Prof. Ajay Panwar 3. Prof. Jayanta Mukherjee	N/A
BOSE INSTITUTE, KOLKATA	CELLULAR SIGNALING AND INFLAMMATION MEDIATED CANCER	Prof. KAUSHIK BISWAS	Research
MoES-Borehole Geophysics Research laboratory (BGRL), Karad, Maharashtra	Subsurface Sample Collection and Research	Dr. Kazy Sufia Khannam	Research and Publication
Tel Aviv University	Research	Prof. Ehud Gazit	Running complimentary experiments, Writing joined project
Samsung Biomedical Research Institute	Stem Cell research	Prof. Kyeong Kyu Kim	Collaborative research, writing research grants together and student exchange
Bose Institute	Cancer Biology	Prof. Kaushik Biswas	Collaborative Research and co- guiding students
Indian Institute of Science Bangalore	Systems Biology	Prof. Mohil Kumar Jolly	Collaborative research

4.1.12 Innovations and Technology Transfer (Patents filed during)

Title	Inventors	Application Nos.	Date of Filing
Granted patent title: An electrode based system for analysis of biomarkers/biological specimens	Monidipa Ghosh and Chiranjib Koley	201931047203, Granted	2024-02-29
Granted patent title: Amorphous Silicon monoxide based Nanoware Electrode Biosensor	A Mondal, Monidipa Ghosh, et. al.	Grant no. 452651	2023-09-19
Piezoelectric peptide-based materials and piezoelectric devices containing same	Dr. Sudipta Mondal, Dr. Ehud Gazit	EP3948272A4	2022-11-08

4.1.13 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Dr. Vipin Singh, Dr. Subarna Thakur,	Workshop & Hands-on Training on "Bioinformatics-A Primer, Principal coordinator: Dr. Amita Barik, Co-coordinator: Dr. Nibedita Mahata	0015-10-14
Dr. Vipin Singh, Dr. Subarna Thakur	Virtual Workshop & Hands-on Training on "Bioinformatics-A Primer"	2023-04-10
Mr Jaydeep Chatterjee, Mr Sudipta Bhattacharya, Dr Amartya Shankar Chowdhury, Dr Jeyan Arthur Moses, Prof Sachin Mandavgane, Mr Sumit Dey	National Conference on Millet based sustainable diet for healthier India	2023-08-19
Mr. Jaydeep Chatterjee Senior Application Specialist, International Flavors & Fragrances; Mr Abhra Ghosh Quality Control Manager, Food Corporation of India; Prof Sachin Mandavgane (online) Head, Chemical Engineering Department, VNIT Nagpur; Dr Amarta Shankar Chowdhury Endocrinologist, Mission Hospital, Durgapur	National Millet Conference	2023-08-19
Dr. Shailesh Nayak ; Prof. Thomas L Keift; Prof. Rup Lal; Prof. Douglas Bartlett; Prof. Frederick Colwell; Prof. Mukund Sharma; Dr. Thomas Wiersberg; Dr. Kasthuri Venkateswaran; Dr. Sharmila Mande; Dr. Sanjay Swaroop; Dr. Karthik Raman; Prof. R K Asthana; Dr. Hema Rajaram, Dr. Sukanta Roy; Prof. Saibal Gupta; Dr. Gopal Dharani; Prof. Abhijit Mukherjee	International Conference on Biodiversity and Geochemistry of Deep and Extreme earth Systems	2024-02-01
Mr. Jaydeep Chatterjee	Millet Conference	2024-11-25

4.1.14 Journal: Published in 2023-2024

Author(s) Name	Paper Name	Journal Name	Others Info
Ria Majumdar, Umesh Mishra, Nibedita Mahata*, Maulin P. Shah, Abhijit Mondal, Biswanath Bhunia	Preparation, characterization, and performance evaluation of composite films of polyvinyl alcohol/ cellulose nanofiber extracted from <i>Imperata cylindrica</i>	Chemosphere	Volume:337 Issue No: Page No: 139370 Year:2023 Month:Jun
Jayanti Mukherjee, Bibhab Kumar Lodh, Ramesh Sharma, Nibedita Mahata**, Maulin P. Shah, Subhasis Mandal, Susanta Ghanta, Biswanath Bhunia*	Advanced oxidation process for the treatment of industrial wastewater: A review on strategies, mechanisms, bottlenecks and prospects	Chemosphere	Volume:345 Issue No: Page No:140473 Year:2023 Month:Oct
Namita Jaiswal, Nibedita Mahata**, Gautam Biswas, Nripen Chanda*	Thiol responsive 6-thioguanine delivery using fluorescent gold nanoconjugate for synergistic oxidative stress amplification and chemotherapy: A combinatorial approach in cancer management	Journal of Drug Delivery Science and Technology	Volume:93 Issue No: Page No: 105452 Year:2024 Month:Feb
Santosh Kumar, Annapureddy Rama Linga Reddy, Indra Bhusan Basumatary, Anamika Nayak, Debjani Dutta, Jyotismita Konwar, Manashi Das Purkayastha and Avik Mukherjee	Recent progress in pectin extraction and their applications in developing films and coatings for sustainable food packaging: A review.	International Journal of Biological Macromolecules	Volume:239 Issue No: Page No:124281 Year:2023 Month:Jun

Author(s) Name	Paper Name	Journal Name	Others Info
Abhisek Jana, Rahul Naga, Sougata Saha, Christian Griñán-Ferré & Deb Ranjan Banerjee	Integration of ligand and structure-based pharmacophore screening for the identification of novel natural leads against Euchromatic histone lysine methyltransferase 2 (EHMT2/G9a)	Journal of Biomolecular Structure and Dynamics	Volume: Issue No: Page No:1-28 Year:2023 Month:May
Rahul Naga, Sayan Poddar, Arghyadeep Bhattacharjee, Parimal Kar, Avishek Bose, Venkata Satish Kumar Mattaparthi, Oindrilla Mukherjee & Sougata Saha	Structural analysis of human ATE1 isoforms and their interactions with Arg-tRNAArg	Journal of Biomolecular Structure and Dynamics	Volume: Issue No: Page No:1-21 Year:2023 Month:Jul
Arghyadeep Bhattacharjee, Om Saswat Sahoo, Ahana Sarkar, Saurabh Bhattacharya, Rukhsana Chowdhury, Samarjit Kar, Oindrilla Mukherjee	Infiltration to infection: key virulence players of Helicobacter pylori pathogenicity	Infection	Volume:52 Issue No:2 Page No:345-384 Year:2024 Month:Mar
Subhadip Saha, Harshita Tiwari, Monidipa Ghosh	Molecular dynamics simulation guided analysis of the interaction between delafloxacin and Staphylococcus aureus gyrase mutants	Molecular Simulation	Volume:50 Issue No:10 Page No:601-612 Year:2024 Month:Mar
S Saha, M Ghosh	Computational exploration of natural compounds targeting Staphylococcus aureus: inhibiting AgrA promoter binding for antimicrobial intervention	Journal of Biomolecular Structure and Dynamics	Volume:42 Issue No:16 Page No: 8256-8267 Year:2024 Month:Jan
Chanda Deep, De Debojyoti	Meta-analysis reveals obesity associated gut microbial alteration patterns and reproducible contributors of functional shift	Gut Microbes	Volume:16 Issue No:1 Page No:2304900 Year:2024 Month:Jan
Dasgupta A, Saha S, Ganguli P, Das I, De D, Chaudhuri S.	Characterization of pumilacidin, a lipopeptide biosurfactant produced from Bacillus pumilus NITDIDI and its prospect in bioremediation of hazardous pollutants	Arch Microbiol	Volume:205 Issue No:8 Page No:274 Year:2023 Month:Jul
Arpan Dasgupta, Sourav Saha, Parna Ganguli, Ishita Das, Debojyoti De & Surabhi Chaudhuri	Characterization of pumilacidin, a lipopeptide biosurfactant produced from Bacillus pumilus NITDIDI and its prospect in bioremediation of hazardous pollutants	Archives of Microbiology	Volume:205 Issue No: Page No:274 Year:2023 Month:Jul
Arpan Dasgupta , Debojyoti De, Surabhi Chaudhuri	Anti-biofilm and disinfectant-like activity of pumilacidin, a lipopeptide biosurfactant produced by Bacillus pumilus NITDIDI	Biocatalysis and Agricultural Biotechnology	Volume:56 Issue No: Page No:103024 Year:2024 Month:Feb
Bodhisattwa Das Gupta, Arpita Halder, Thangavel Vijayakanth, Nandita Ghosh, Ranik Konar, Oindrilla Mukherjee, Ehud Gazit and Sudipta Mondal	A broad-spectrum antibacterial hydrogel based on the synergistic action of Fmoc-phenylalanine and Fmoc-lysine in a co-assembled state	Journal of Materials Chemistry B	Volume:12 Issue No: Page No:8444-8453 Year:2024 Month:Jul
Daiji Brahma & Debjani Dutta	Evaluating β -cryptoxanthin antioxidant properties against ROS-induced macromolecular damages and determining its photo-stability and in-vitro SPF	World Journal of Microbiology and Biotechnology	Volume:39 Issue No: Page No: Year:2023 Month:Sep

Author(s) Name	Paper Name	Journal Name	Others Info
Anamika Nayak, Avik Mukherjee, Santosh Kumar and Debjani Dutta	Exploring the potential of jujube seed powder in polysaccharide based functional film: Characterization, properties and application in fruit preservation	International Journal of Biological Macromolecules	Volume:260 Issue No: Page No:129450 Year:2024 Month:Mar
Debasmita Dutta and Debjani Dutta	Designing a nanoliposome loaded with provitamin A xanthophyll β -cryptoxanthin from K. marina DAGII to target a population suffering from hypovitaminosis A	Process Biochemistry	Volume: Issue No: Page No:97-110 Year:2024 Month:Mar
Om Saswat Sahoo, Rhati Mitra, Arghyadeep Bhattacharjee, Samarjit Kar, Oindrilla Mukherjee	Is Diabetes Mellitus a Predisposing Factor for Helicobacter pylori Infections?	Current Diabetes Reports	Volume:23 Issue No:8 Page No:195-205 Year:2023 Month:Aug
Jyoti Devi Katiyar, Arpita Halder, Mohd Avais, Hiya Aidasani, Oindrilla Mukherjee, Subrata Chattopadhyay	Hydrophobic PEGylation of Chitosan: A Graft Copolymer Approach toward Developing Nontoxic Antimicrobial Chitosan	Acs Applied Polymer Materials	Volume:5 Issue No:12 Page No:9742-9750 Year:2023 Month:Nov
Arpan Dasgupta, Debojyoti De, Surabhi Chaudhuri	Anti-biofilm and disinfectant-like activity of pumilacidin, a lipopeptide biosurfactant produced by Bacillus pumilus NITDIDI	Biocatalysis and Agricultural Biotechnology	Volume:56 Issue No: Page No:103024 Year:2024 Month:Feb
Plaban K Saha, Rajendra P Sahu, Pinaki Sar & Sufia K Kazy	Deep subsurface igneous rocks from the Deccan traps harbor H ₂ and CO ₂ utilizing chemolithoautotrophic bacteria	Biologia	Volume:79 Issue No: Page No:1553 - 1569 Year:2024 Month:Feb
Rohini Samadarsi, Anamika Nayak & Debjani Dutta	In Vitro Study of the Cytoprotective and Antimutagenic Potential of Mangiferin Encapsulated Nanoparticles	BioNanoScience	Volume:14 Issue No: Page No:27-36 Year:2023 Month:Dec
Swamini Saini, Mansi Balhara, Debjani Dutta, Surabhi Chaudhuri, Shamik Ghosh & Kabir Sardana	Synergistic effect of Punica granatum derived antifungals on strains with clinical failure to terbinafine and azoles drugs	Advances in Traditional Medicine	Volume:24 Issue No:1 Page No:335-348 Year:2023 Month:Sep
Anamika Nayak and Debjani Dutta	A comprehensive review on CRISPR and artificial intelligence based emerging food packaging technology to ensure "safe food"	Sustainable Food Technology	Volume: Issue No:1 Page No:641-657 Year:2023 Month:Jun
Swarup Kumar Tarai, Angana Pan, Pritam Biswas, Rituparna Bhaduri, Saikat Mandal, Animesh Paul, Sujoy Baitalik, Ashish Bhattacharjee, and Sankar Ch. Moi	Anticancer Behavior of Pyrrolidine-Based Palladium (II) Complexes and Biophysical Approach on Their DNA, BSA Binding Activity, Molecular Docking, and DFT Study	Langmuir	Volume: 39 Issue No:Jul 27 Page No:10947 10964 Year:2023 Month:Jul
Gaurav Singh, Kunal Das, Dalia Dasgupta Mandal	Valorization of Kraft Lignin via its Conversion into Lignin Nanoparticles to act both as DDS and Biostimulator for Plant	Waste and Biomass Valorization	Volume:15 Issue No: Page No:4823-4838 Year:2024 Month:Apr

Author(s) Name	Paper Name	Journal Name	Others Info
Swamini Saini, Mansi Balhara, Debjani Dutta, Surabhi Chaudhuri, Shamik Ghosh & Kabir Sardana	Synergistic effect of Punica granatum derived antifungals on strains with clinical failure to terbinafine and azoles drugs	Advances in traditional medicine	Volume:24 Issue No: Page No:335-348 Year:2023 Month:Sep
Animesh Mondal, Sandip Dolui, Sukhamoy Dhabal, Shubham Kundu, Lopamudra Das, Ashish Bhattacharjee, Nakul C Maiti	Structure specific neuro-toxicity of α - synuclein oligomer	International Journal of Biological Macromolecules	Volume: 253 Issue No:Sep 4 Page No:126683 Year:2023 Month:Sep
Subba Reddy Dodda, Musaddique Hossain, Sudipa Mondal, Shalini Das, Sneha Khator, Kaustav Aikat, Sudit S Mukhopadhyay	The S-S bridge mutation between the A2 and A4 loops (T416C-I432C) of Cel7A of <i>Aspergillus fumigatus</i> enhances catalytic activity and thermostability	Applied and Environmental Microbiology	Volume:20 Issue No:4 Page No:1-18 Year:2024 Month:Mar

4.1.15 Journal: Accepted for Publication in 2023-2024 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Sudhir Kumar Barik, Prakash Kumar, Uma Jyoti Pal, Kaustav Aikat	Integrated biorefinery approach for sustainable biofuel production from algal biomass	Clean Technologies and Environmental Policy	Volume: Issue No: Page No: Year:2024 Month:Mar

4.1.16 Journal: Published in Others in 2023-2024

Author(s) Name	Paper Name	Journal Name	Others Info
Dodda SR., Hossain M., Mondal S., Das S., Khator S., Aikat K., Mukhopadhyay SS.	The S-S bridge mutation between the A2 and A4 loops (T416C-I432C) of Cel7A of <i>Aspergillus fumigatus</i> enhances catalytic activity and thermostability	Applied and Environmental Microbiology	Volume:90 Issue No:4 Page No: Year:2024 Month:Apr

4.1.17 Conference: Published in 2023-2024 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Debasmita Dutta and Debjani Dutta	Nanoliposomal encapsulation of provitamin A carotenoid β cryptoxanthin extracted from <i>Kocuria marina</i> DAGII	IICHe-CHEMCON	DOI/ISBN: 9789310000719 Volume: Issue No: Page No:401 Year: 2023 Month: Dec Presenter :CO- AUTHOR
Sanhita Saha, Swarnabha Goswami and Debjani Dutta	Investigation of Antimicrobial and Antioxidant activity of Bioactive molecules extracted from a novel microorganism <i>Kocuria marina</i> DAG II	IICHe-CHEMCON	DOI/ISBN: 9789310000719 Volume: Issue No: Page No:402 Year: 2023 Month: Dec Presenter: CO- AUTHOR
Sreejita Chowdhury, Anamika Nayak and Debjani Dutta	From farm to functional: How Jujube seeds can revolutionize the food industry	Technological advances in waste management: challenges and opportunities (TAWMCO)	DOI/ISBN: 9789819760244 Volume: Issue No: Page No:17 Year: 2023 Month: Dec Presenter: CO- AUTHOR
Madhabendra Mohon Kar, Prachi Bhargava, and Amita Barik	Computational Study of Conformational Changes in Intrinsically Disordered Regions During Protein-Protein Complex Formation	International Work-Conference on Bioinformatics and Biomedical Engineering	DOI/ISBN: doi.org/10.1007/978-3-031-34953-9_28 Volume: Issue No: Page No: Year:2023 Month:Jul Presenter:SELF

4.1.18 Conference: Published in Others in 2023–2024

Author(s) Name	Paper Name	Conference Name	Others Info
Aishwarya Mallick, Nibedita Mahata	Structural modelling and analysis of recombinant fluorescent-tagged Invasion plasmid antigen D (IpaD): A vaccine target against bacillary dysentery	International Conference on New Horizons in Biotechnology (NHBT2023)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Nov Presenter:CO-AUTHOR
Pinkan Sadhukhan, Nibedita Mahata	Immunoepitope based peptide vaccine candidates against Bacillary Dysentery	6 th REGIONAL SCIENCE AND TECHNOLOGY CONGRESS (Region 3)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2024 Month:Jan Presenter:CO-AUTHOR
Namita Jaiswal, N Mahata, G Biswas, N Chanda	6-Thioguanine-modified Albumin-Gold Nanoconjugate: Fluorescence imaging and targeted therapy of KRAS-mutated Cancers	Recent Trends in Chemical Science and Technology RTCST 2024, Indian Institute of Technology Patna Bihar, India, March 1 – 2, 2024, Poster (Physical mode) – ACS Best poster award in Biochemistry.	DOI/ISBN: NA Volume: Issue No: Page No: Year:2024 Month:Mar Presenter:CO-AUTHOR
Daiji Brahma, Abheerup Sarkar, Sagnik Kulavi and Debjani Dutta	Production and characterization of biosurfactant from Kocuria marina DAGII: Potential role towards bioremediation application	7 th international conference on Biotechnology and Biological sciences, Biospectrum	DOI/ISBN: NA Volume: Issue No: Page No:51 Year:2023 Month:Nov Presenter:CO-AUTHOR
Sanhita Saha , Shweta Kumari, and Debjani Dutta	Biofertilizers of Tomorrow: Exploring the Role of Plant Growth- Promoting Bacteria and Their Bioactive Metabolites in Crop Production	ICGDB	DOI/ISBN: NA Volume: Issue No: Page No:85 Year:2024 Month:Mar Presenter:CO-AUTHOR
Debasmita Dutta, Neha Sheet and Debjani Dutta	Chitosome-encapsulated β -cryptoxanthin: A breakthrough in antioxidant stability and cellular protection	ICGDB	DOI/ISBN: NA Volume: Issue No: Page No:122 Year:2024 Month:Mar Presenter:CO-AUTHOR
Anamika Nayak, Divyanshu Kumar and Debjani Dutta	Sustainable Release Packaging: Harnessing the Bioactive Potential of Mangiferin and Jujube Seed Powder in Pectin-Chitosan Composite Films	International Conference on Translational Materials for Sustainable Research (TransMat 2k24)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2024 Month: Feb Presenter:CO-AUTHOR

4.1.19 Conference: Accepted in Others in 2023–2024

Author(s) Name	Paper Name	Conference Name	Others Info

4.1.20 Book Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Nibedita Mahata	Jayanti Mukherjee	Bioprocess Engineering and Technology: Fundamentals (Volume-1)	Chapter-2: Basics of Biochemistry	Publisher: CRC Press Publication Date: 2024-03-20
Nibedita Mahata	Amiya Ojha, Partha Palit , Tarun Kanti Bandyopadhyay	Bioprocess Engineering and Technology: Fundamentals (Volume-1)	Chapter-4: Molecular Biology and Cellular Physiology	Publisher: CRC Press Publication Date: 2024-03-20

4.1.21 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
National Nutrition Conference	ParaMedical College	2023-09-25	2023-09-26	India
International Work-Conference on Bioinformatics and Biomedical Engineering	Ignacio Rojas	2023-07-12	2023-07-14	Spain
Indian Conference on Bioinformatics 2023 – Inbix 23	School of Bio Sciences & Technology, Vellore Institute of Technology	2023-11-24	2023-11-26	India
Regional Young Investigators' Meeting (RYIM)	DBT-Institute of Life Sciences, Bhubaneswar	2023-12-04	2023-12-06	India
Hybrid EMBO Workshop on "Computational structural biology"	EMBO	2023-12-06	2023-12-09	Germany
International Conference on New Horizons in Biotechnology	NIIST	2023-11-26	2023-11-29	India

4.1.22 Ph.D. Supervision

Topic Name	Scholar	Supervisor	Status	Status Date
Assessing the role of an isolated bacterium as a probiotic and its application as a nutraceutical	Sanhita Saha	Dr. Debjani Dutta	ONGOING	-
Detection of packaged food quality by using paper-based biosensor	Priti Das	Dr. Debjani Dutta	ONGOING	-
Development and Evaluation of Advanced Plant-Based Active Films and Smart Coatings for Food Packaging: Enhancing Preservation, Safety, and Sustainability	Anamika Nayak	Dr. Debjani Dutta	ONGOING	-
Study of pomegranate peel extract as an alternative source of therapy for the skin infections caused by drug-resistant microbes	Swamini Saini	Prof. Surabhi Chaudhuri Dr. Debjani Dutta Dr Shamik Ghosh	SUBMITTED	2023-09-13
Preclinical Studies of Theranostic Agent based on Carbon Nanocapsules and PDMS Nanoparticles and its Drug Loading Efficacy	Madhu Verma	Prof. Surabhi Chaudhuri Dr. Debjani Dutta Prof. Sri Sivakumar	SUBMITTED	2023-10-10
Ethnic fermented food of tribal community of West Bengal and its impact on <i>Helicobacter pylori</i>	Shreya Mukherjee	Dr. Debjani Dutta	ONGOING	-
Bioprospecting the bioactive metabolites of <i>Kocuria marina</i> DAGII: Harnessing the new paradigm as nutraceutical	Daiji Brahma	Dr. Debjani Dutta	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Innovative encapsulation vehicles for characterization of β -cryptoxanthin delivery in food systems	Debasmita Dutta	Dr. Debjani Dutta	ONGOING	-
Molecular cloning, expression, characterization and thermostability enhancement of effector protein, IpaD (Invasion Plasmid Antigen D) from Enteroinvasive Escherichia coli (EIEC)	Sudeshna Halder	Nibedita Mahata	DEGREE AWARDED	2024-03-22
The impact of linker residues on the structural stability of an EGFP-fused Novel E3 ubiquitin ligase following Bacillary Dysentery vaccine application	PINKAN SADHUKHAN	Nibedita Mahata	ONGOING	-
Deciphering the role of IpaD as a novel E3 ubiquitin ligase in pathogenesis of Escherichia coli	AISHWARYA MALLICK	Nibedita Mahata	ONGOING	-
Technological innovation towards the enhanced synthesis of functionally improved Enteroinvasive Escherichia coli (EIEC) Invasive Plasmid Antigen H 4.5 (IpaH 4.5): a novel immunogenic E3 ligase	Bidisha Pal	Nibedita Mahata	ONGOING	-
“Engineering nanogold-albumin conjugate for targeted delivery of cancer therapeutics”	Namita Jaiswal	Dr. Nibedita Mahata, Dr.Nripen Chanda	SUBMITTED	2024-05-09
Computational study of intrinsically disordered regions in proteins	Prachi Bhargava	Amita Barik	ONGOING	-
Intrinsically Disordered Proteins (tentative)	Kirtiman Mahata	Amita Barik	ONGOING	-
Ultra short peptides and their antibacterial properties	Arpita Halder	Oindrilla Mukherjee	ONGOING	-
Riboregulation of Helicobacter pylori oncoprotein CagA	Bivash Sinha	Oindrilla Mukherjee	ONGOING	-
Phytochemicals and anti H.pylori	Arghyadeep Bhattacharjee	Oindrilla Mukherjee	ONGOING	-
Ethnic fermented food of tribal community of West Bengal and its impact on Helicobacter pylori	Shreya Mukherjee	Oindrilla Mukherjee; Debjani Dutta	ONGOING	-
Structure And Function Analysis of Human ATE1 isoforms	Rahul Naga	Dr. Sougata Saha	ONGOING	-
Functional genomics of GPCRs in Magnaporthe oryzae	Nazmiara Sabnam	Dr. Subhankar Roy-Barman	DEGREE AWARDED	2017-10-09
LaeA – Its role in molecular pathogenesis of Magnaporthe oryzae	Pallabi Saha	Dr. Subhankar Roy-Barman	DEGREE AWARDED	2020-06-15
RNAi-mediated resistance to rice blast fungus: Transformative and non-transformative approaches	Atrayee Sarkar	Dr. Subhankar Roy-Barman	DEGREE AWARDED	2022-11-21
Dependence of MoWISH on cAMP-dependent signaling pathway	Mousumi Biswas	Dr. Subhankar Roy-Barman	ONGOING	-
Identification of molecular mechanisms of MoLAEA function with respect to synthesis of penicillin in rice blast fungus	Chandrima Roy	Dr. Subhankar Roy-Barman	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Functional interconnection between MoWISH and cell wall synthesis / remodeling pathway in rice blast fungus	Debarpita Dutta	Dr. Subhankar Roy-Barman	ONGOING	-
Functional inter-connection of WSC genes & WISH and their role in maintaining integrity of rice blast fungal cell wall	Soumavo Mondal	Dr. Subhankar Roy-Barman	ONGOING	-
MITOCHONDRIAL DNA MUTATIONS PROFILING IN ORAL SQUAMOUS CELL CARCINOMA	Abhisek Banerjee	Sudit S. Mukhopadhyay and Amita Barik	ONGOING	2024-04-03
Production of biofuel and other value-added products from oleaginous microorganisms in a biorefinery approach	Sudhir Kumar Barik	Kaustav Aikat	ONGOING	-
Production, Characterization and Application (as Bioplastic) of Polyhydroxyalkanoates (PHA) produced by Halophilic Microorganism, isolated from Bay of Bengal	Sandip Mahato	Kaustav Aikat	ONGOING	-
Microbial production of lactic acid using whey and rice straw as substrates	Reshmi Verma	Kaustav Aikat	ONGOING	-
Dependence of MoWISH on cAMP-dependent signaling pathway	Mousumi Biswas	Dr. Subhankar Roy-Barman	ONGOING	-
Identification of molecular mechanisms of MoLAEA function with respect to synthesis of penicillin in rice blast fungus	Chandrima Roy	Dr. Subhankar Roy-Barman	ONGOING	-
Functional interconnection between MoWISH and cell wall synthesis / remodeling pathway in rice blast fungus	Debarpita Dutta	Dr. Subhankar Roy-Barman	ONGOING	-
Tentative topic – Bioethanol from waste potatoes	Kirti Jyoti	Kaustav Aikat	ONGOING	-
Tentative topic – Site saturation and free energy based protein engineering approach to increase glucose tolerance level and thermostability simultaneously on GH1 family beta-glucosidase from <i>Aspergillus niger</i> and its functional expression in <i>Pichia pastoris</i> system	Shalini Das	Sudit Sekhar Mukhopadhyay & Kaustav Aikat	ONGOING	-
Exploring the mechanistic action of lipid transportation in <i>Leishmania donovani</i> .	Mousumi Paul	Monidipa Ghosh	ONGOING	-
Study of pomegranate peel extract as an alternative source of therapy for the skin infections caused by drug-resistant microbes	Swamini Saini	Surabhi Chaudhuri, Debjani Dutta	DEGREE AWARDED	2024-08-05
Characterization and application of Pumilacidin, a lipopeptide biosurfactant from <i>Bacillus pumilus</i> NITDID1	Arpan Dasgupta	Surabhi Chaudhuri, Debojyoti De	DEGREE AWARDED	2024-07-30
Preclinical Studies of Theranostic Agent based on Carbon Nanocapsules and PDMS Nanoparticles and its Drug Loading Efficacy	Madhu Verma	Surabhi Chaudhuri, Debjani Dutta, Sri Sivakumar	SUBMITTED	2024-11-08

Topic Name	Scholar	Supervisor	Status	Status Date
Bioremediation of lindane by consortia of bacteria and ecotoxicity assessment	Banishree Sahoo	Surabhi Chaudhuri	DEGREE AWARDED	2021-12-08
Potential Role of AMPK Activators in Reducing Cancer Cell Aggressiveness by Modulating a Monoamine Oxidase-A (MAO-A)-Mediated pathway	Sameep Gehlot	Surabhi Chaudhuri, Ashish Bhattacharjee	SUBMITTED	2024-10-03
Green synthesis of bimetallic nanoparticles and their application in the development of antibiofouling coatings	Parna Ganguli	Surabhi Chaudhuri	ONGOING	-
Characterization and Application of Isolated Probiotic bacteria of Kheer Dahi from Different Regions of West Bengal	Maithili Adhikary	Surabhi Chaudhuri	ONGOING	-
Study of bacteriocin from probiotic bacteria isolated from indigenous fermented foods of north east india	Sourav Saha	Surabhi Chaudhuri	ONGOING	-
Nanobioremediation of industrial pollutants	Niharika Kumari	Surabhi Chaudhuri	ONGOING	-
Neuromuscular Retraining in Autism: Integrative Approaches Using Behavioral Therapy, Computer Vision Models, and Brain-Muscle Activation Mapping	Aheli Guha	Surabhi Chaudhuri, Debojyoti De	ONGOING	-
Metagenomic Study to Decipher Obesityassociated Gut Microbial Signature Pattern and Their Interaction with Host	Deep Chanda	Debojyoti De	SUBMITTED	2024-08-09
Studies related to the spectral shift of gut microbiome and their functions during the onset of lean to type II diabetes transition.	Jayeeta Chatterjee	Debojyoti De	ONGOING	2024-09-28
A genetic based approach towards understanding Autism Spectrum Disorders in the light of its therapeutic landscape and shared pleiotropism with other neuropsychiatry disorders.	Nikhil Raj Vashimalla	Debojyoti De and Asish Bhattacharjee (Co-PI)	ONGOING	-
AN INTEGRATED APPROACH TO UNCOVER GENE REGULATORY MANIFESTATIONS OF GENOMIC VARIANTS IN POLYCYSTIC OVARY SYNDROME TOWARDS UNDERSTANDING THE CAUSAL MECHANISMS EXPANDING CARDINAL FEATURES OF PCOS AND EFFICIENTLY REPURPOSE DRUGS TO ACCELERATE THE ABIDING TREATMENT	Sindhuja Rajavelu	Debojyoti De	ONGOING	-
Exploring Microbial communities and Metabolic Processes in deep subsurface continental crust underneath the Deccan traps at Koyna region, Western India	Sunanda Mandal	Kazy Sufia Khannam	SUBMITTED	2023-07-07
Exploring the diversity and metabolic potential of cultivable chemolithoautotrophic microorganisms from deep continental crust beneath the deccan Traps, India	Plaban K Saha	Kazy Sufia Khannam	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Physiological and genomic Characterization of extremotolerant/ extremophilic bacteria from subsurface igneous rock beneath the Deccan Traps	Abhisek Sahu	Kazy Sufia Khannam	ONGOING	-
Phylogeny, physiology and genomic potential of chemolithotrophic bacteria from subsurface igneous rock underneath the deccan Traps	Mouli Bhattacharyya	Kazy Sufia Khannam	ONGOING	-
Exploring marine microbiome from Andaman sea	Gajendra Joshi	Kazy Sufia Khannam	ONGOING	-
Characterization and application of Pumilacidin, a lipopeptide biosurfactant from <i>Bacillus pumilus</i> NITDID1	Arpan Dasgupta	Surabhi Chaudhuri and Debojyoti De (Co-PI)	DEGREE AWARDED	2024-09-28
Effect of frying, freezing and sun-drying on the biochemical components of fish and its nutritional impact on human health	Ms. Indrani Banerjee	Dr. Jitanyu Chakraborty and Dr. Ashish Bhattacharjee (Co-	SUBMITTED	2024-03-21
Regulation of 15-lipoxygenase gene expression and function in monocytes and A549 lung cancer cells.	Ms. Surbhi Swaroop	Dr. Ashish Bhattacharjee	ONGOING	-
Monoamine Oxidase-A (MAO-A), a biomarker of cancer progression	Ms. Suchandra Pal	Dr. Ashish Bhattacharjee and Dr. Debojyoti De (Co- supervisor)	ONGOING	-
INVESTIGATION OF SOME POTENTIAL CHEMOPREVENTIVE AGENTS AND THEIR EFFICACY IN CANCER CELLS.	Mr. Sourav Paul	Dr. Ashish Bhattacharjee	ONGOING	-
Role of (AMP)-activated protein kinase [AMPK] in controlling the expression and function of Monoamine Oxidase A (MAO-A) in response to IL-13	Mr. SAMEEP GEHLOT	Dr. Surabhi Chaudhuri and Dr. Ashish Bhattacharjee (Co-supervisor)	ONGOING	-
ELUCIDATING THE ROLE AND DECIPHERING THE MOLECULAR MECHANISM ASSOCIATED WITH FATTY ACID-MEDIATED CANCER PROGRESSION	Ms. ARPITA MUKHERJEE	Dr. Ashish Bhattacharjee	ONGOING	-
CONTRIBUTION OF PHOSPHOLIPASE D (PLD) IN MEDIATING THE iPLA2 AND RELATED LPA REGULATION OF MCP-1-INDUCED CHEMOTAXIS.	Ms. Rachita Sahoo	Dr. Ashish Bhattacharjee	ONGOING	-
Developing a machine learning based platform for defining and mechanistic understanding of chemo drug response/ resistance biomarkers for lung cancer and subsequent validation with patient data from TCGA database	Vasimalla Nikhil Raj	Dr. Ashish Bhattacharjee and Dr. Debojyoti De	ONGOING	-
Exploration of mechanistic understanding of amyloid aggregation and study of interactions of amyloid fibrils with biological systems	Bodhisattwa Das Gupta	Dr. Sudipta Mondal	ONGOING	-
Development of Functional Short Self-Assembling Helical Peptide Building Blocks	Nandita Ghosh	Dr. Sudipta Mondal	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Peptide self-assembly	Ranik Konar	Dr. Sudipta Mondal	ONGOING	-
Peptide self-assembly and antibiotics	Rahul Kuiri	Dr. Sudipta Mondal	ONGOING	-
Recombinant protein synthesis	Samiran Hazra	Prof. Sudit Sekhar Mukhopadhyay, Dr. Sudipta Mondal	ONGOING	-

4.1.23 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount (in Rs.)	Starting Year
Investigating the role of therapeutic compounds in fermented foods and ethnic beverages used by the Tribal population of West Bengal as a novel therapy for Helicobacter pylori and H. pylori mediated gastric ulcer	Dr. Oindrilla Mukherjee and Dr. Debjani Dutta	DST SERB	3000000.0	2023
"To develop a Green and Sustainable process for Bacterial assisted Bio- conversion of lignin into value-added products: A biorefinery approach"	Dalia Dasguptamondal, Tamal Mondal, Debjani Dutta, Nibedita Mahata	CSIR	2200000.0	2023
Role of protein arginylation in the regulation of IL-1 β expression and inflammatory response in macrophages and airway epithelial cells	Dr. Sougata Saha	SERB	5500000.0	2022
Investigating the role of therapeutic compounds in fermented foods and ethnic beverages used by the Tribal population of west Bengal as a novel therapy for Helicobacter pylori and H.pylori mediated gastric ulcer	Oindrilla Mukherjee, Debjani Dutta	SERB	28.0	2023
Deciphering the metabolic and microbial diversity signature in the fecal microbiota of obese patients to find their correlation with brown versus white adipogenesis pathway	Oindrilla Mukherjee, Debojyoti De	ICMR	2900000.0	2021
Functional inter-connection between WISH and cell-wall biosynthesis / remodelling pathway in rice blast fungus	Dr. Subhankar Roy-Barman & Dr. Nazmiara Sabnam	DST-SERB	6000000.0	2022
Understanding the mechanism of ICL (Inter crosslink) mediated replication collapse: involvement of Fanconi anemia proteins	Sudit S. Mukhopadhyay	SERB DST	5059945.0	2023
Role of FANCD2 in mitochondria and its association with the mtDNA repair mechanism	Sudit S. Mukhopadhyay	DBT, Govt. of India	6411000.0	2022
Cloning, Expression, Purification and Characterization of the Auxillary enzymes Lytic Polysaccharide Monooxygenases (LPMOs) and Xylanases from the genome of the thermophilic fungus Aspergillus fumigatus NITDGPKA3	Sudit S. Mukhopadhyay	DBT, Govt. of India	4911000.0	2023

Title of the Project	Investigator	Sponsor Authority	Amount (in Rs.)	Starting Year
Microbial production of Lactic Acid using wastes (dairy waste & rice straw) as substrates, for the production of bioplastic	Kaustav Aikat & Utpal Adhikari	Department of Science & Technology and Biotechnology, Govt. of West Bengal	1370000.0	2019
Cloning, expression, purification, and characterization of the auxiliary enzymes Lytic Polysaccharide Monooxygenases (LPMOs) and xylanases from the genome of the thermophilic fungus <i>Aspergillus fumigatus</i> NITDGPKA3	Sudit Sekhar Mukhopadhyay & Kaustav Aikat	DBT-Govt. of India	4761600.0	2022
Identification of anti-leishmanial molecules acting as novel inhibitors against intracellular lipid signaling machinery in <i>Leishmania donovani</i>	Monidipa Ghosh, Kaushik Das et. al.	ICMR	5100000.0	2023
Carbon and energy metabolism in deep life within the granitic basement of Koyna seismogenic zone	Prof. Pinaki Sar, IIT Kharagpur and Dr. Kazy Sufia Khannam	MoES, Govt. of India	1552841.0	2022
Role of adenosine monophosphate activated protein kinase (AMPK) activators in reducing cancer cell aggressiveness	Dr. AshishBhattacharjee(PI), Dr. SURABHICHOUDHURIAND Dr.SUPARNACHATTERJEE (Co-PI)	Department of higher education, Science & Technology and Biotechnology, Govt. of West Bengal.	2075647.0	2019
Developing a machine learning based platform for defining and mechanistic understanding of chemo-drug response/resistance biomarkers for lung cancer and subsequent validation with patient data from TCGA database	Dr. Ashish Bhattacharjee (PI), Dr. DEBOJYOTI DE (Co-PI)	Indian Council of Medical Research (ICMR), Govt. of India	2239932.0	2023
Introducing protein folding paradigm in misfolding diseases: An attempt to redefine the structural understanding of amyloid aggregation following nucleated conformational conversion pathway	Dr. Sudipta Mondal	SERB-DST	4642000.0	2021
Chemical sensors cum inhibitors of Histone PTM	Dr. Deb Ranjan Banerjee, Dr. Sudipta Mondal	SERB-DST	3650000.0	2022
To develop a green and sustainable process for bacterial assisted bioconversion of lignin into value added products-A biorefinery approach	Prof. Dalia Dasgupta Mandal, Prof. Tamal Mandal, Dr. Debjani Dutta, Dr. Nibedita Mahato	CSIR	2200000.0	2023
Developing a machine learning based platform for defining and mechanistic understanding of chemo-drug response/resistance biomarkers for lung cancer and subsequent validation with patient data from TCGA database.	Dr Asish Bhattacharjee and Dr Debojyoti De	ICMR	2200000.0	2023
Deciphering the metabolic and microbial diversity signature in the fecal microbiota of obese patients to find their correlation with brown versus white adipogenesis pathway	Dr Oindrilla Mukherjee and Dr Debojyoti De	ICMR	3200000.0	2021

4.1.24 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
Structural and functional analysis of disordered regions in unbound and bound protein-protein and protein-nucleic acid complexes	Amita Barik	DST-SERB	2023
Isolation and characterization of <i>Magnaporthe oryzae</i> mutants to study early events of pathogenesis	Prof. B. B. Chattoo & Dr. Subhankar Roy-Barman	DBT	2014
Functional genomics of G-protein coupled receptors (GPCRs) in <i>Magnaporthe oryzae</i>	Dr. Subhankar Roy-Barman	DST-SERB	2014
RNAi-based resistance to rice blast fungus	Dr. Subhankar Roy-Barman	DBT	2017
Pathogenesis of rice blast fungus	Dr. Subhankar Roy-Barman	DBT	2016
Investigation of functional connection between cAMP-dependent signaling pathway and MoWISH, a gene encoding a novel GPCR in rice blast fungus	Dr. Subhankar Roy-Barman	DST-SERB	2021
Isolation and identification of novel bacteriocin producing probiotic microbial species from Northeast region, exploration of probiotic traits and application of purified bacteriocin in food preservation	Surabhi Chaudhuri, Sucharita Ghosh Maiti (CIT Kokrajhar)	Department of Biotechnology, Govt of India	2022
Regulation of MCP-1-induced calcium independent phospholipase A2 (iPLA2) dependent monocyte migration	Dr. Ashish Bhattacharjee (PI), Dr. MONIDIPA GHOSH (Co-PI)	Dept. of Biotechnology, Govt. of India	2023
Design of modular peptide nanotubes platforms by the self-assembly of shortest helical building blocks for application as ion channel mimic	Dr. Sudipta Mondal	SERB-DST	2022
Molecular characterization of a small-molecule based reprogramming of nonadipocyte cells to brown adipocytes for its potential use as antiobesity drug	Dr Debojyoti De	SERB	2022

4.1.25 Testing & Consultancy Services Rendered

Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
NA	NA	NA	NA

4.1.26 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Debjani Dutta	Food Control	Elseiver	2023-11-21
Debjani Dutta	Food Hydrocolloids	Elseiver	2023-10-04
Debjani Dutta	Food Hydrocolloids	Elseiver	2023-08-22
Debjani Dutta	Trends in Food Science and Technology	Elseiver	2023-11-01
Debjani Dutta	Journal of Food Quality	Hindwai	2023-08-01

Reviewer	Name of the Journal	Publisher	Date of Final Review
Oindrilla Mukherjee	Gut Pathogens	Biomed Central	2023-08-07
Oindrilla Mukherjee	Helicobacter	Wiley	2023-08-13
Sougata Saha	Bioconjugate Chemistry	ACS Publications	2024-03-20
Subhankar Roy Barman	Communications Biology	Nature Portfolio	2024-08-22
Sudit Sekher Mukhopadhyay	Systems Microbiology and Biomanufacturing	Springer	2023-12-21
Sudit Sekher Mukhopadhyay	Scientific Reports	Nature	2024-06-13
Sudit Sekher Mukhopadhyay	Bioenergy Research	Springer	2024-07-17
Kaustav Aikat	BioEnergy Research	Springer	2023-08-27
Kazy Sufia Khannam	Journal of Hazardous Materials	Elsevier	2024-05-10
Debojyoti De	Frontiers in Nutrition	Frontiers Media SA	2024-03-06
Ashish Kumar Bhattacharjee	Cancer Biology & Therapy	Taylor and Francis	2023-09-15
Ashish Kumar Bhattacharjee	Immunohorizons	Oxford Academic	2023-10-23
Ashish Kumar Bhattacharjee	Heliyon	Cell Press	2023-10-27
Dalia Dasgupta (mandal)	Waste and Biomass Valorization	Springer	2024-01-22
Dalia Dasgupta (mandal)	Chemosphere	Elsevier	2023-08-18
Dalia Dasgupta (mandal)	International Journal of Biological Macromolecules	Elsevier	2023-12-31
Dalia Dasgupta (mandal)	Journal of Hazardous material	Elsevier	2023-07-24

4.1.27 Participation in National Committees/Visits

Name of the Faculty	Name of the Committee	Place of Visit	From Date	To Date
Kazy Sufia Khannam	Jury in 6 th regional science and technology congress (region 3))	Durgapur Govt. College	2024-01-09	2024-01-09
Dalia Dasgupta (mandal)	FACULTY SELECTION COMMITTEE	NIT Agartala	2024-01-16	2024-01-16
Dalia Dasgupta (mandal)	FACULTY SELECTION COMMITTEE	NIT Raipur	2023-12-27	2023-12-27
Dalia Dasgupta (mandal)	SELECTION COMMITTEE FOR FACULTY RECRUITMENT	NIT SILCHAR	2023-10-03	2023-10-04

4.1.28 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Amita Barik	University Examination of BT Semester III (M.Sc.)	P P Savani University	2023-10-21	2023-10-21
Oindrilla Mukherjee	University paper setter	Raigang University	2023-06-08	2024-06-08
Kazy Sufia Khannam	External Examiner for evaluating the project dissertations and conducting the viva-voce examination of M.Tech students in the specialization AGRICULTURAL BIOTECHNOLOGY	Agricultural and Food Engineering Department, IIT Kharagpur	2023-05-02	2023-05-02
Kazy Sufia Khannam	External expert member of the Board of Postgraduate studies in Microbiology	The University of Burdwan	2024-02-27	2024-11-08
Ashish Kumar Bhattacharjee	Indian examiner of the thesis entitled "Understanding the molecular mechanism of action of Azadiradione as an activator of Heat Shock Factor 1" and also acted as an external expert for the viva voce exam	National Institute of Pharmaceutical Education and Research, Kolkata	2023-11-01	2024-01-09

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Ashish Kumar Bhattacharjee	Served as an examiner to evaluate grant proposals from Kerala Biotechnology Commission (KBC)- State Council of Kerala for Young Investigators Programme in Biotechnology (YIPB) to promote research by young scientists	Kerala Biotechnology Commission (KBC)- State Council of Kerala, India	2023-05-01	2023-06-30
Sudipta Mondal	M. Sc. 4 th SEM paper-setter	Oriental institute of science and technology	2024-05-31	2024-05-31

4.1.29 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Amita Barik	External expert panel member	Centurion University of Technology and Management, Bhubaneswar	2023-09-13	2023-09-13
Sudit Sekher Mukhopadhyay	6Th Regional Science & Technology Congress	Sidhu-Kani-Birsha University	2023-09-12	2023-09-13
Dalia Dasgupta (mandal)	Committe for selection of Faculty Department of Biotechnology, NIT Raipur	NIT Raipur	2023-10-26	2023-10-26

4.1.30 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Oindrilla Mukherjee	Basic immunological techniques in microbiology	A Hands-on Training cum Workshop on Basic Techniques in Bioprocess and Molecular Biology (BTBMB- India- 2024)	Rourkela	2024-01-12	2024-01-16
Sudit Sekher Mukhopadhyay	World Environment Day: Solutions to Plastic Pollution	The Institute of Engineers (India) Durgapur Local Chapter	Durgapur	2023-06-05	2023-06-05
Sudit Sekher Mukhopadhyay	Introduction of Life and Life Engineering	Student's induction programme	Sidhu Kanu Univertsity, Asansol	2025-08-13	2023-08-13
Ashish Kumar Bhattacharjee	Invited lecture at RRole of Monoamine Oxidase A (MAO-A) in promoting cancer progression	Lecture series at Raiganj University, West Bengal	Raiganj, Uttar Dinajpur, West Bengal	2023-07-04	2023-07-04
Ashish Kumar Bhattacharjee	Monoamine Oxidase A (MAO-A) promotes cancer aggressiveness by activating PI3K/AKT/ mTOR signaling pathway	Lecture series Organized by Society of Biological Chemists, Kolkata chapter	Kolkata	2023-08-16	2023-08-16
Dalia Dasgupta (mandal)	Biotransformation of Sugarcane solid waste into valuables	Short Term Programme	NIT Durgapur	2023-07-17	2023-07-21

4.1.31 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Amita Barik	International Work-Conference on Bioinformatics and Biomedical Engineering	Gran Canaria, Spain	Session A.3: Biomedical Engineering (Part I)	2023-07-12	2023-07-14
Kazy Sufia Khannam	International Conference on Biodiversity and Geochemistry of Deep and Extreme Earth Systems	IIT Kharagpur	Life in Marine, Polar, and High Altitude environment	2024-02-01	2024-02-03
Dalia Dasgupta (mandal)	6 th REGIONAL SCIENCE AND TECHNOLOGY CONGRESS 2023-2024	BALLYGUNGE SCIENCE COLLEGE, KOLKATA	FIRST	2023-12-21	2023-12-22

4.2 Department of Civil Engineering

4.2.1 Dept at a glance

The Department of Civil Engineering is one of the oldest Departments of this institute. Presently, the department offers B.Tech., M.Tech. and PhD. programs. The Department is actively engaged in research activities in all branches of Civil Engineering and other contemporary fields of interdisciplinary research. In addition to handling R&D projects funded by the institute as well as external

funding agencies, the department also offers testing and consultancy services to various government departments and organizations from the public and private sectors. Besides, the Department conducts seminars, short term training programmes and conferences etc. from time to time for the benefit of personnel from academia, research institutions and industries.

4.2.2 Mission and Vision

Mission

- » To provide quality education with ethical values in commensuration with balanced curriculum.
- » To provide advanced skills and knowledge in design, construction, consultancy and develop the state-of-the-art research facilities.
- » To serve as a knowledge base and create professional expertise for the community
- » To promote innovative and original thinking in the minds of civil engineering graduates

Vision

- » To impart knowledge, advanced skills, excellence in scientific and technical education and research with global perspectives in infrastructural developments with modern trends.
- » To encourage students to imbibe the engineering ethics to serve India and World.
- » To serve as a valuable resource for societal needs and economic growth of the country.

4.2.3 Faculty

Name	Designation	Email-id
Dr. Amiya Kumar Samanta	Professor	aksamanta.ce@nitdgp.ac.in
Dr. Amlan Das	Professor	adas.ce@nitdgp.ac.in
Dr. Atul Krishna Banik	Professor	akbanik.ce@nitdgp.ac.in akbanik@gmail.com
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Name	Designation	Email-id
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4.2.4 Labs

Sl. No.	Name of Laboratory	Major equipment
1.	Strength of Materials Laboratory	» 20& 100 Ton UTM » Torsion Testing Equipment » Hardness testing Equipment » Charpy Impact Tester Equipment
2.	Soil Mechanics and Foundation Engineering Laboratory	» Soil Tri-axial test apparatus » Rock Tri-axial Test Apparatus » Direct Shear Test Apparatus » Large Scale Direct Shear Test Apparatus » CBR test Apparatus » Automatic Compaction Test Apparatus » Point load test Apparatus » Brazilian Tensile Test Apparatus » Slake Durability Apparatus » DCPT, SCPT, Relative Density Test Apparatus
3.	Computer Laboratory	» Computers and its allied accessories with centralized software like ANSYS, ABAQUS etc.

Sl. No.	Name of Laboratory	Major equipment
4.	Concrete Structure Laboratory (UG)	» Digital balance Capacity » Le-Chatelier Mould » Vicat Needle apparatus with accessories » 200 Tonne Compression Testing Machine » Flexural Testing Apparatus » Humidity Cabinet » Accelerated Curing tank » Constant Temperature Water Bath » Compacting factor apparatus » Hardness test machine for concrete & stones » Workability Test apparatus » Bar Bending Machine
5.	PG Structural Engineering Laboratory	» UTM 200, CTM 300T, » LOADING FRAME 100T, » Mortar Pan Mixture, Incubator, » Hot Water Bath, » Flexure Test Machine, » Ultrasonic Pulse Velocity Tester, » Rebar Locator, » Digital Schmidt Hammer » Corrosion Testing Machine, » Resistivity Meter, Multimeter, » Core Cutter, Surface Grinder, » Metal Cutter
6.	Survey Engineering Laboratory	» Plane table with stand » Total Station » Prismatic Compass » Levelling Instrument (Dumpy) » Theodolite » Linen Tape » Surveyor's compass with stand » Land measuring Chain » Levelling Staff » AI based moving object capturing device with 60 fps with different level mounting capacity

Sl. No.	Name of Laboratory	Major equipment
7.	Environmental Engineering Laboratory	» pH meter » Conductivity meter » Turbidity meter » COD digester » Autoclave » BOD incubator » Muffle furnace » Incubator (ambient) » Hot Air Oven » Conductivity meter » Spectrophotometer » Bench Top Turbidity meter » Manual pH meter » Water quality meter » Jar Test Apparatus
8.	Transportation Engineering Laboratory	» Flakiness gauge » Elongation gauge » Aggregate Impact Testing Machine » Aggregate Crushing test setup including Compression testing machine » Los Angeles abrasion testing machine. » Bitumen softening point test apparatus (Ring ball Apparatus) » Bitumen Penetration value test apparatus (penetrometer) » Bitumen Ductility value testing apparatus » Centrifuge for Bitumen Extraction Test. » Marshall test apparatus » Mechanical Soil compactor for Proctor and CBR » CBR (Lab and Field) test apparatus. » Benkelman Beam » 200 T Compression Testing Machine » Automatic Speed Radar Gun » Motorized Bitumen Extractor » Thin Film Oven » Particle Charge Apparatus » Storage Stability Tester » Digital Thermometer » MAKITA Electric Drill (800Watt)
9.	Structural Health Monitoring Laboratory	» Impact Hammer » UPVM » Acoustic Emission System » Rebar Locator

Sl. No.	Name of Laboratory	Major equipment
10.	Water Resource Engineering Laboratory	» Acoustic doppler velocimeter » Electronic flow meter » Mobile Bed flume » Escape Channel » Two motors with pump of 7.5 HP each » Hosting Gauge » Trolley on Mobile bed
11.	Earthquake Laboratory	» Vibration Excitor with Analyzer and Accelerometer » Electro dynamic shaker with Shake Table-400mm
12.	Actuator Laboratory	» 100 kN Hydraulic Actuator setup

4.2.5 D degree awarded till 2023-24

Twenty nine.

4.2.6 Specialization

» Mechanics of Solids/ Structural Engineering	» Geotechnical Engineering
» Structural Engineering	» Construction Technology and Management
» Earthquake Engineering	» Broad area of specialization: Structural Engineering
» Structural Health Monitoring	» Structural Engineering
» Soil Mechanics and Foundation Engg, Earthquake Engineering	» Environmental Engineering
» Transportation and Road safety	» Water Resources Engineering
» Pavement analysis	» Structure and Earthquake Engineering
» Water Resource Engineering	

4.2.7 Proposed Plan for Research

» PhD, MTech, BTech Projects in Concrete Structure and Wind Tunnel Test Facility developed under RIG, at Structural Engg. Lab NIT Durgapur	» Environmental Friendly Construction Material
» This research proposes developing an IoT-based structural health monitoring system using Acoustic Emission (AE) technology for real-time fault detection in infrastructure. By integrating high-sensitivity AE sensors with IoT modules, the system will enable wireless, continuous monitoring to detect stress waves generated by structural defects. The approach includes designing an AI model for accurate fault detection and localization, incorporating environmental factors like temperature to improve reliability. After validation through lab simulations and real-world field testing, this system aims to provide a scalable solution for critical infrastructure monitoring, enhancing safety and efficiency. Future work will focus on expanding the system's adaptability, leveraging cloud/edge AI, and developing predictive maintenance capabilities based on AE signal patterns.	» AI based Road safety assessment
	» Alternative materials for road construction
	» Novel application of technical textiles in Civil Engineering infrastructures, Prototype development of constructed wetlands in attenuating wastewaters, Novel application of industrial wastes as alternate materials in pavement
	» Hydrological modelling
	» Detection Leakage in Pipe Network
	» Climate change impact assesment.
	» Establishment of Structural Dynamics and Control Laboratory
	» Sponsored research projects
	» Research collaborations with premier Academic Institutions within and outside India

- » Organizing short term courses, workshops and international conferences
- » Development of laboratory facilities to perform model studies on reinforced and stabilized soil slopes, retaining walls and ground improvement applications; Analytical and numerical modelling of finite and infinite slopes considering the effect of rainfall infiltration; Analytical and numerical modelling of ground anchors, tunnelling through soil medium; Analytical and numerical modelling of different ground improvement solutions
- » Sustainable Construction Materials
- » My research generally revolves around the areas like Structural Health Monitoring (SHM), Computational Mechanics, Composite/sandwich and smart structures. My works require/involve FE modelling, experimentations and processing of resulting data. Of late, effective analysis of sensor signals is also becoming an integral part of research especially in

SHM. In recent years, real-time damage detection (a part of SHM) in structures has been a major focus area of mine where all the above expertise are being utilised based on available laboratory infrastructure and computational facilities. Research for the next few years will continue to focus broadly on the same areas while diversifying in to other types of structures with different geometrical and material configurations e.g. laminated composites and pipes.

- » Stabilization of soil
- » study on Soil Liquefaction
- » Machine Learning Based Slope Stability Analysis, and Analysis and Design of Hydrogen Storage Tank • High end blast simulation lab
- » Structural Stability under extreme loads
- » nothing special
- » AAC block manufacture and Plastic Road

4.2.8 Area of Research Interest

- » Sustainable, heat resistant, Eco-friendly, Green Concrete, Structural /Wind Engineering
- » AI applications in SHM of Structure/Infrastructure, Fault detection in Railway, Earthquake Engineering and Structural Dynamics, Strengthening and Rehabilitation of Structures, FE modelling of Structures, Structural Health Monitoring (SHM), Smart Infrastructure Management System, System Identification.
- » Structural Dynamics, Earthquake Engineering, Vibration Control, Non-linear Analysis of Structures, Soil-Structure Interaction, Artificial Intelligence and Soft Computing, Offshore Structural Engineering, Bridge Engineering, Masonry Structures
- » Road Construction
- » Road Safety
- » Traffic Control
- » AI and ML in Transportation Engineering
- » Pavement design and analysis
- » waste and recycle materials in road construction
- » Pedestrian Safety
- » Geotechnical and Geo-environmental Engineering
- » Remote Sensing of Precipitation
- » Hydrological modelling
- » Climate change impact assesment.
- » Remote Sensing for water quality monitoring
- » Flood Risk Assessment
- » Geotechnical Engineering
- » Innovative ground improvement applications
- » Design and development of reinforced earth slopes, retaining walls
- » Soil Stabilization
- » Green and Sustainable approaches in Geotechnical Engineering
- » Analytical and numerical studies on soil slopes
- » Design of ground anchors
- » Studies on tunnelling through soil medium
- » Alternative building materials, Advances in concrete technology
- » Earth Retaining Wall
- » Soil Liquefaction
- » Ground Improvement
- » Soil Stabilization
- » Structural Health Monitoring (SHM), Computational Mechanics, Composite/sandwich and smart structures.
- » AI/ML based Structural Reliability Analysis
- » Impact analysis, Construction management and Quality control
- » Offshore Structures, Dynamics, Stability
- » Application of RS & GIS
- » nothing special
- » Seismic vulnerability assessment and sustainable materials

4.2.9 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
ESI Corporation	Industrial consultancy	Various Site data collection and report on structural soundness.
Various Govt. Organisations: Rail, NHAI, etc.	Structural, highway, and quality	Consultancy
Min of Jal Shakti	National River Conservation Plan	Independent Appraisal of DPR
NRIDA	PMGSY Road	quality and DPR checking
Mahanadi Water Disputes Tribunal, Ministry of Jal Shakti, Govt. of India, New Delhi	Water Resources Management	Determination of basin characteristics of River Mahanadi

4.2.10 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
HIT Haldia	Board of Studies	Hod, CE HIT	Academic upgradation, Curriculum revision
Central Mechanical Engineering Research Institute, Durgapur	Structural Engineering, Structural Dynamics, Earthquake Engineering, Wind Engineering, Structural Engineering, Structural	Diptesh Das and Pijush Topdar	PhD guidance and Research
IEST Shibpur	Dynamics, Non-linear Analysis of Structures, Earthquake Engineering, Passive, Semiactive and Hybrid Vibration Control, Soil-Structure Interaction, Machine Learning Artificial Intelligence and Soft Computing	Diptesh Das	PhD guidance and Research
NIT Jamshedpur	Pavement design and analysis	Dr. A. K. Sinha	Co guiding the two students
CSIR-CMERI	Phase change materials for rigid pavement construction	Dr. K Samal	Co guiding a student
United Arab Emirates University	Research on Water Quality and Water Distribution Network	Dr. Gilbert Hinge	Research and Paper Publications
New York University (NYU), US	Research on Hydrological Modelling	Dr. Gilbert Hinge	Research and Paper Publications
University of Alabama	Research on Hydrological Modelling	Dr. Gilbert Hinge	Research and Paper Publications
IIT Kharagpur and IIT Bhubaneswar	Structural and Highway Engineering	Prof. Amit Shaw and Dr. P P Dey	Research and Consultancy
IIT KHARAGPUR	NJB FUNDED PROJECTS ON JUTE GEOTEXTILE	Prof. Debasis Roy	Research on application of nanocomposite JGT on rural roads, overburden dump slopes
Mahanadi Water Disputes Tribunal, Ministry of Jal Shakti, Govt. of India, New Delhi	Water Resources Management	Assessor, Mahanadi Water Disputes Tribunal, New Delhi	Determination of basin characteristics of River Mahanadi

4.2.11 Innovations and Technology Transfer (Patents filed during)

Title	Inventors	Application Nos	Date of Filing
Title of the Invention: Lightweight cement concrete using plastic waste aggregate	RP Nanda, D Banerjee	202331059034	2023-09-03
Recycling of industrial waste like FA and waste glass for manufacturing of sustainable building materials	D Banerjee, RP Nanda, P Ghosh, D Das, B Das, U Ghosh, I Ghosh, M Mandal	202431025710	2024-04-05
Nanotechnology based jute geotextile for pavement Construction and method of production thereof	Sahinur Rahaman Mondal, Dr. Supriya Pal, Dr. Mrinal Kanti Mandal, Dr. Hirok Choudhuri, Dr. Rajib Ghosh Choudhuri	202331056396	2023-08-23

4.2.12 Workshop/ Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Prof. P. P. Day, Prof. G. Sil, Dr. S. Biswas, Dr. D. Majumdar	Safe and Sustainable Road Construction and Current Trends (SSRCCT -2024)	2024-04-01
Dr. Supriya Pal, NIT durgapur; Dr. Dipanjan Basu, University of Waterloo, Dr. Indrajit Chowdhury, Future Institute of Technology	National Seminar on GEOTECHNICS-RECENT ADVANCEMENT IN RESEARCH AND PRACTICE (GEO-RARP 2023)	2023-08-04

4.2.13 Journal: Published in 2023-2024 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Tamal Kundu, Apurba Pal, Parikshit Roy, Alope Kumar Datta, and Pijush Topdar	Development of a novel real-time AE source localisation technique using ANN for health monitoring of rail section: an experimental study	Structural Health Monitoring	Volume:23 Issue No:1 Page No:479-494 Year:2023 Month:May
Apurba Pal, Tamal Kundu, Alope Kumar Datta	Assessing the Influence of Welded Joint on Health Monitoring of Rail Sections: An Experimental Study Employing SVM and ANN Models	Journal of Nondestructive Evaluation	Volume:42 Issue No:4 Page No:102-121 Year:2023 Month:Nov
Sudipta Ghosh, Amiya K. Samanta, Ashok K Sahani	Effect of Elevated Temperature on Diverse Properties of Concrete Containing Waste Materials– A Review	Indian Jr. of Engg & Materials Science NISCAIR	Volume:30 Issue No: Page No:195-211 Year:2023 Month:Apr
Bandyopadhyay, A., Samanta, A.K	Behaviour of concrete-filled double skin UPVC pipe under compression	Sadhana	Volume:48 Issue No:113 Page No: Year:2023 Month:Jun
MKD Rout, S Biswas, K Shubham, AK Sinha	A systematic review on performance of reclaimed asphalt pavement (RAP) as sustainable material in rigid pavement construction: Current status to future perspective	Journal of Building Engineering	Volume:76 Issue No: 2352-7102 Page No: 107253 Year:2023 Month:Aug
MKD Rout, SK Sahdeo, S Biswas, K Roy, AK Sinha	Feasibility study of reclaimed asphalt pavements (RAP) as recycled aggregates used in rigid pavement construction	Materials	Volume:16 (4) Issue No:19961944 Page No:1504 Year:2024 Month:May
Gilbert Hinge, Swati Sirsant, Amandeep Kumar, Ruchika Gupta & Mohamed A. Hamouda	Enhancing flood prediction in Southern West Bengal, India using ensemble machine learning models optimized with symbiotic organisms search algorithm	Stochastic Environmental Research and Risk Assessment	Volume: Issue No: Page No: Year:2024 Month:Mar

Author(s) Name	Paper Name	Journal Name	Others Info
Avishek Adhikary, Succhanda Mondal, Jhilik Gantait, Supriya Pal and Sudipta Ghosh	Evaluation of Lightweight Expanded- Clay Aggregates as Bed Material in Constructed Wetlands for Attenuation of Antibiotics	Journal of Environmental Engineering	Volume:149 Issue No:11 Page No: Year:2023 Month:Sep
Gilbert Hinge, Mohamed A Hamouda, Mohamed M Mohamed	Flash flood susceptibility modelling using soft computing-based approaches: from bibliometric to meta-data analysis and future research directions	Water	Volume: Issue No: Page No: Year:2024 Month:Jan
Mohamed A Hamouda, Gilbert Hinge, Henok S Yemane, Hasan Al Mosteka, Mohammed Makki, Mohamed M Mohamed	Reliability of GPM IMERG Satellite Precipitation Data for Modelling Flash Flood Events in Selected Watersheds in the UAE	Remote Sensing	Volume: Issue No: Page No: Year:2023 Month:Aug
Patra, S. and Das, Diptesh	Semi-Active Groundhook Control of Offshore Tension Leg Platforms Using Tuned Mass Damper With Optimized Parameters and Magneto-Rheological Damper Under Multiple Hazards	Journal of Offshore Mechanics and Arctic Engineering (ASME)	Volume:DOI: https://doi.org/10.1115/1.4064299 Issue No: Page No: Year:2024 Month:Mar
Vedprakash C Maralapalle, Maheboobsab B Nadaf, Sushovan Dutta, Aijaz Ahmad Zende, S. Sangita Mishra, Shrikant Charhate	Load-settlement and skin friction behaviour of piles in dry sand: experimental and numerical study	Sadhana	Volume:49 Issue No:4 Page No:13 Year:2023 Month:Dec
Neetika Saha, Parikshit Roy and Dr. Pijush Topdar	Damage detection in composites using non-destructive testing aided by ANN technique: A review	Journal of Thermoplastic Composite Materials	Volume:36 Issue No:12 Page No:4997-5033 Year:2023 Month:Apr
Kundu, T., Pal,A., Roy, P.,Datta, A.K. & Topdar, P	Development of a novel real-time AE source localisation technique using ANN for health monitoring of rail section: an experimental study	Structural Health Monitoring	Volume:23 Issue No:1 Page No:479-494 Year:2024 Month:Jan
Kundu, T.,Datta, A. K.,Topdar, P., Sengupta, S	Optimal location of acoustic emission sensors for detecting rail damage.	Structures and Buildings	Volume:177 Issue No:3 Page No:254-263 Year:2024 Month:Mar
Puja Halder & Somnath Karmakar	Wind Response on RC Trapezoidal Box Girder Bridge using Computational Fluid Dynamics	Sadhana Journal	Volume:48 Issue No:74 Page No: https://doi.org/10.1007/s12046023-02127-x , Year:2023 Month:Aug
R K Mitra, S S Mondal, A K Banik	Dynamic stability and control of vortex induced oscillations of tension leg platform tethers	Journal of Sound and Vibration	Volume:585 Issue No: Page No:118442 Year:2024 Month:Sep
Parikshit Roy, Aloke Kumar Datta, Pijush Topdar	A study on the efficacy of modal acoustic emission technique for health monitoring of structures with different geometries	Nondestructive Testing and Evaluation	Volume:39 Issue No:4 Page No:846-885 Year:2023 Month:Jul

Author(s) Name	Paper Name	Journal Name	Others Info
Apurba Pal, Tamal Kundu & Alope Kumar Datta	Damage Localization in Rail Section Using Single AE Sensor Data: An Experimental Investigation with Deep Learning Approach	Nondestructive Testing and Evaluation	Volume:39 Issue No:5 Page No:1088–1106 Year:2023 Month:Aug
MKD Rout, K Shubham, S Biswas, AK Sinha	An integrated evaluation of waste materials containing recycled asphalt fine aggregates using central composite design	Asian Journal of Civil Engineering	Volume:25(1) Issue No:1563–0854 Page No:1007 1025 Year:2024 Month:Jan
Bajrabahu D. N. Deo & Alope Kumar Datta	A step toward the development of a user interface (UI) for material calculation and cost analysis of jacketed buildings	Asian Journal of Civil Engineering	Volume:24 Issue No:8 Page No:2925–2938 Year:2023 Month:May
Bittu Ghosh and Somnath Karmakar	The conventional construction scenario and the emergence of advance technologies in bridge construction: implementation, impediments, and case study	Journal of Institute of Engineers India Series A	Volume:104 Issue No:3 Page No:709–720 Year:2023 Month:Sep
Abdul Waris Kenue, Eedy Sana, Avishek Adhikary, Supriya Pal and Majid Hussain	Assessment of Landfill Leachate and Its Surface and Subsurface Migration: Experimental and Numerical Investigations	Journal of Hazardous, Toxic, and Radioactive Waste	Volume:27 Issue No:4 Page No: Year:2023 Month:Aug
Anupam Kumar Biswas, Alope Kumar Datta, Piyush Topdar, Sanjay Sengupta	Detection Of Damage In Steel Frame Structures By Acoustic Medium: An Analytical Review	International Journal for Computational Civil and Structural Engineering	Volume:19 Issue No:2 Page No:188–204 Year:2023 Month:Jun
Avishek Adhikary, Tapabrata Chakraborty, Pradyumna Konar, Supriya Pal and Sudipta Ghosh	Attenuation of erythromycin-laden waste water using the constructed wetland technique	Environmental Geotechnics	Volume:11 Issue No:7 Page No:487–501 Year:2023 Month:Jun
Apurba Pal, Tamal Kundu, Alope Kumar Datta	Sensor-based smart diagnosis of rail defects using an ann model	Asian Journal of Civil Engineering	Volume:24 Issue No:8 Page No:3001–3008 Year:2023 Month:May
Nanda RP and Priya N	Geopolymer as sustainable materials in pavement constructions: a review	Cleaner Waste System	Volume:7, 100134 Issue No: Page No: Year:2024 Month:Jan
Arpan Chattopadhyay, Supriya Pal, Gautam Bandyopadhyay & Kalyan Adhikari	A Multi-Attribute Decision-Making Model for Selecting Centralized or Decentralized Municipal Solid Waste Management Facilities: a Study from the Indian Perspective	Process Integration and Optimization for Sustainability	Volume:7 Issue No: Page No:861–886 Year:2023 Month:Apr
Anupam Kumar Biswas, Alope Kumar Datta, Pijush Topdar, Sanjay Sengupta	Detection Of Damage In Steel Frame Structures By Acoustic Medium: An Analytical Review	International Journal for Computational Civil and Structural Engineering	Volume:19 Issue No:2 Page No: Year:2023 Month:Jun
Prakash Mondal, Amiya K. Samanta, Dilip K. Singha Roy	Experimental and Numerical Study on Shear and Bending Behaviour of External Plate Concrete Beams with Prefabricated Cages	Innovative Infrastructure Solutions	Volume:8 Issue No:225 Page No: Year:2023 Month:Dec

Author(s) Name	Paper Name	Journal Name	Others Info
Atrayee Bandyopadhyay, Amiya K. Samanta	Performance of RC Double Skin Tubular Column Confined with UPVC Pipe under Axial Compression	Innovative Infrastructure Solutions	Volume:9 Issue No:87 Page No: Year:2024 Month:Mar
43. Ashok Kr. Sahani, Sudipta Ghosh, Amiya Kr. Samanta, Ratan Adhikary	Influence of fly ash on refractory properties and microstructural characteristics of sustainable refractory bricks	J. Inst. Eng. India Ser. A	Volume: Issue No: Page No: Year:2024 Month:Mar
Pijus Rajak and Pronab Roy	An Efficient Approach for Evaluating the Reliability of Engineering Structures Using Support Vector Machine with Clustering Algorithm	Australian Journal of Structural Engineering	Volume:25 Issue No:2 Page No:144-154 Year:2024 Month:Mar
Tamal Kundu, Alope Kumar Datta, Parikshit Roy, Pijush Topdar, Aishwarya Banerjee, Arpita Mukherjee, Pratap Karmakar, Apurba Pal	An Experimental Study on Health Monitoring of Rail Section Using an Indigenously Developed AE System	International Journal of Structural Engineering	Volume:13 Issue No:4 Page No:463-481 Year:2023 Month:Oct
Apurba Pal, Tamal Kundu, Alope Kumar Datta	Acoustic Emission-Based Assessment of Weld Effects on the Health Monitoring of the Rail Section: An Experimental Study	Engineering Research Express	Volume:6 Issue No:1 Page No: Year:2024 Month:Feb

4.2.14 Journal: Accepted for Publication in 2023-2024 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Krishna, R. S., Sethy, N, Saha, S., Mustakim, S. M., Ram, B., Shaikh, F. A. U., Qureshi, T.	Nanoengineered Geopolymer Composites with Biomass-Based 2D Graphitic Carbon Nanoplatelets	Journal of Materials in Civil Engineering	Volume: Issue No: Page No: Year:2023 Month:Dec
Puja Haldar & Somnath Karmakar	Experimental and Numerical Performance analysis of Alccofine- based crumb rubber concrete under Quasi-Static cyclic Load	Canadian Journal of Civil Engineering	Volume:51 Issue No:8 Page No:841-857 Year:2024 Month:
Bittu Ghosh and Somnath Karmakar	Assessing the Causes of Claims in Highway construction projects with a case study: A Construction Practitioner's Perspective	Asian Journal of Civil Engineering	Volume:25 Issue No: Page No:3035-3048 Year:2024 Month:

4.2.15 Journal: Published in Others in 2023-2024

Author(s) Name	Paper Name	Journal Name	Others Info
Prakash Mondal, A Rajender, Amiya K. Samanta, Dilip K. Singha Roy	Performance Study and Efficacy of Steel Plate Reinforced Concrete Composite Beam with Prefabricated Cage and Bent-Up Bars: An ANN-Based Approach	Trans Indian Natl. Acad. Eng	Volume: Issue No: Page No: Year:2024 Month:Jan

4.2.16 Conference: Published in 2023–2024 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Bajrabahu Dhananjay Narayan Deo, Alope Kumar Datta	Cost-Effective Strengthening Methodology for RCC Buildings by Jacketing Against Failure Due to Earthquake	17 th Symposium on Earthquake Engineering	DOI/ISBN: https://doi.org/10.1007/978981-99-1604-7_15 Volume: Issue No: Page No:193–205 Year:2023 Month:Jul Presenter:CO-AUTHOR
Soumyadip Das, Dr. Alope Kumar Datta, Dr. Pijush Topdar, Dr. Sanjay Sengupta	Damage Detection in Reinforced Concrete Slab Using Shannon Entropy Applied to Acoustic Emission Signals	13 th Structural Engineering Convention (SEC–2023)	DOI/ISBN: https://doi.org/10.1007/978981-99-9625-4_35 Volume: Issue No: Page No:371–380 Year:2023 Month:Dec Presenter:CO-AUTHOR
Arunangshu Mondal, Dr. Alope Kumar Datta	An Experimental Study on Optimal Placement of AE Sensor for Localisation of AE Source in Steel Truss Bridge	13 th Structural Engineering Convention (SEC–2023)	DOI/ISBN: https://doi.org/10.1007/978981-97-6603-1_13 Volume: Issue No: Page No:123–132 Year:2023 Month:Dec Presenter:CO-AUTHOR
Rajdeep Majumdar, Apurba Pal, Tamal Kundu, Alope Kumar Datta	Enhancing AI Model for Fault Detection in Rail Through the Evaluation of AE Parameters with Proper Weighting Approach: A Comprehensive Study	International Conference on Advances in Computer Engineering and Communication Systems (ICACECS2023)	DOI/ISBN: 10.2991/978-94-6463-3146_10 Volume: Issue No: Page No:97–105 Year:2023 Month:Sep Presenter:CO-AUTHOR
Bajrabahu Dhananjay Narayan Deo and Alope Kumar Datta	Seismic strengthening of buildings by concrete jacketing: A review	International conference On innovations in civil Engineering–icice 2022	DOI/ISBN: https://doi.org/10.1063/5.0166011 Volume: Issue No: Page No: Year:2023 Month:Sep Presenter:CO-AUTHOR
Pritam Singh, Suman Saha, Amiya Kr. Samanta	An experimental investigation on the properties of concrete using natural soil deposit	Intl. Conf. on Sustainable Infrastructure, Innovation, Opportunities and Challenges–2023 (SIIOC–2023) on April 20– 21, 2023 at NIT Surathkal, Karnataka	DOI/ISBN: https://doi.org/10.1007/978981-97-4844-0_59 Volume: Issue No: Page No: Year:2023 Month:Apr Presenter:CO-AUTHOR
Shriti Singh, Amiya Kr. Samanta, Suman Saha	An experimental investigation to develop heat resistant Mortar mixes using exfoliated vermiculite	Intl. Conf. on Sustainable Infrastructure, Innovation, Opportunities and Challenges–2023 (SIIOC–2023) on April 20– 21, 2023 at NIT Surathkal, Karnataka	DOI/ISBN: https://doi.org/10.1007/978981-97-4844-0_58 Volume: Issue No: Page No: Year:2023 Month:Apr Presenter:CO-AUTHOR
Venkat K. Raj, Pranoy Roy and Amiya K. Samanta	Performance of plain concrete column confined with cold formed steel under axial compression	Intl. Conf. on Sustainable Infrastructure, Innovation, Opportunities and Challenges–2023 (SIIOC–2023) on April 20– 21, 2023 at NIT Surathkal, Karnataka	DOI/ISBN: https://doi.org/10.1007/978981-97-4844-0_28 Volume: Issue No: Page No: Year:2023 Month:Apr Presenter:CO-AUTHOR
Krishna, R. S., Saha, S., Korniejenko, K., Qureshi, T. S. and Mustakim, S. M.	Investigation on the Electrical Properties of Graphene Reinforced Geopolymer Composites	10 th Scientific–Technical Conference on Materials Problems in Civil Engineering (MATBUD’2023)	DOI/ISBN: 978-3-0365-7094-5 Volume: Issue No: Page No: Year:2023 Month:Apr Presenter:CO-AUTHOR

Author(s) Name	Paper Name	Conference Name	Others Info
Singh, S., Samanta, A. K., and Saha, S.	Performance of Mortar Mixes Using Exfoliated Vermiculite Exposed to High-temperature	International Conference On Sustainable Infrastructure: Innovation, Opportunities and Challenges – 2023 (SIIOC– 2023)	DOI/ISBN: 978-981-97-4843-3 Volume: Issue No: Page No: Year:2023 Month:Apr Presenter:CO-AUTHOR
Singh, P., Saha, S., and Samanta, A. K.	An Experimental Investigation on the Properties of Concrete Using Natural Soil Deposit	International Conference On Sustainable Infrastructure: Innovation, Opportunities and Challenges – 2023 (SIIOC– 2023)	DOI/ISBN: 978-981-97-4843-3 Volume: Issue No: Page No: Year:2023 Month:Apr Presenter:CO-AUTHOR
S Das, AK Datta, P Topdar, S Sengupta	Damage Detection in Reinforced Concrete Slab Using Shannon Entropy Applied to Acoustic Emission Signals	SEC 2023	DOI/ISBN: 978-981-99-9625-4 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
Radhe Yassung, Parikshit Roy, Neetika Saha, Pijush Topdar	MODELLING AND ANALYSIS OF PLATES UNDER SIMULATED DAMAGE USING FEM	Sustainable Infrastructure:Innovation, Opportunities And Challenges – 2023	DOI/ISBN: 978-982-97-4844-0 Volume: Issue No: Page No: Year:2023 Month:Apr Presenter:CO-AUTHOR
Gudipati Bhanu Kiran,Tamal Kundu,Neetika Saha,Parikshit Roy, Pijush Topdar	Localization Of Ae Source In Plates Using Ann Approach:An Experimental INVESTIGATION	Sustainable Infrastructure:Innovation, Opportunities AndChallenges – 2023	DOI/ISBN: https://doi.org/10.1007/978981-97-4844-0_24 Volume: Issue No: Page No:293-303 Year:2023 Month: Apr Presenter:CO-AUTHOR
Pijus Rajak and Pronab Roy	Sensitivity analysis for investigating the impact of uncertainties on failure probability of four-bay twelve-storey frame structures	International Conference on Research Trends in AI and IoT for Infrastructure and Industry– AIII 2024. Anna University, Chennai, India, March 0608, 2024.	DOI/ISBN: ISBN: 978-93-91930-97-4. Volume: Issue No: Page No: Year: 2024 Month:Mar Presenter:CO-AUTHOR
K. D. Sarkar, S. Ghosh, S. Bhattacharyya and A. Chowdhury	Mitigating CH4 Emission From Hydroelectric Reservoirs Using GEE And G-res: Case Study From A Tropical Reservoir	2023 IEEE India Geoscience and Remote Sensing Symposium (InGARSS), Bangalore, India	DOI/ISBN: doi: 10.1109/InGARSS59135.2023.10490385 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
Pravin Lal and Supriya Pal	Electrokinetic Remediation of Total Chromium from Contaminated Soil	Sustainable Advanced Technologies for Industrial Pollution Control	DOI/ISBN: 978-3-031-37595-8 Volume: Issue No: Page No: Year:2023 Month:Apr Presenter:CO-AUTHOR

4.2.17 Conference: Accepted in 2023–2024 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
A K Banik and Burhan Ahmad Wani	Effect of Perforation on the Hydrodynamic Performance of Sustainable Floating Breakwater	Structural Engineering Convention 2023 (SEC 2023)	DOI/ISBN: 10.1007/978981-97-6067-1_46 Volume: Issue No: Page No:13 Year:2023 Month:Dec Presenter:SELF

4.2.18 Conference: Published in Others in 2023–2024

Author(s) Name	Paper Name	Conference Name	Others Info
Sagnik Datta, Tamal Kundu, Apurba Pal, and Aloke Kumar Datta	Selection of best-performing AE sensor for damage localization in rail section using Artificial Intelligence Model	International Conference on Creative and Innovative Solutions in Civil Engineering (CISCE)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Aug Presenter:CO-AUTHOR
Bajrabahu D.N. Deo and Aloke Kumar Datta	Investigations on the Performance of Retrofitted Reinforced Concrete (RC) Structural Elements Under Different Loading Conditions Through Numerical Simulation	International Conference on Condition Assessment, Rehabilitation & Retrofitting of Structures (CARRS 2023)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
Sudha Das Khan, Aloke Kumar Datta and Pijush Topdar	Assessment of defects of highway concrete bridges using PROMETHEE II method in fuzzy environment	Recent Advances in Infrastructure Development (RAID 2024)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2024 Month:Feb Presenter:CO-AUTHOR
Taduku Ekambaram, Aloke Kumar Datta	Seismic Monitoring of Reinforced Concrete Building using Artificial Neural Network	First Indian Conference on Disaster Resilient Infrastructure (I-DRI – 2024)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2024 Month:Mar Presenter:CO-AUTHOR
Taduku Ekambaram, Aloke Kumar Datta	Seismic Monitoring of Reinforced Concrete Building with Different Plinth Area and Height: A Study using ANN Model	International Conference on Natural Disaster: Risk Analysis, Management and Mitigation (NDRAMM-2024)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2024 Month:Mar Presenter:CO-AUTHOR
Bikash Behera, Aloke Kumar Datta	Application of artificial neural network for efficient earthquake resistant design of buildings: a study	First Indian Conference on Disaster Resilient Infrastructure (I-DRI 2024)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2024 Month:Mar Presenter:CO-AUTHOR
Bikash Behera, Aloke Kumar Datta	A study on the effect of variation of plan and height for Efficient earthquake resistant design of building using ANN model	International Conference on Natural Disaster: Risk Analysis, Management and Mitigation	DOI/ISBN: NA Volume: Issue No: Page No: Year:2024 Month:Mar Presenter:CO-AUTHOR
Ghosh, S. K. and Das, Diptesh	Seismic response of base-isolated buildings under near-field and far-field earthquakes considering soil-structure interaction	International Conference on Creative and Innovative Solution in Civil Engineering (CISCE 2023)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Aug Presenter:CO-AUTHOR
Banerjee, T., M. A. Nimezi and Das, Diptesh	Parametric Study on Bridge Decks Pounding Considering Soil-Structure Interaction Under Earthquake Excitation	13 th Structural Engineering Convention (SEC 2023)	DOI/ISBN: https://doi.org/10.1007/978981-99-9625-4_25 Volume: Issue No: Page No:– Year:2023 Month:Dec Presenter:CO-AUTHOR
I. Nimezi, M.A., Banerjee, T. and Das, Diptesh	Effect of frequency-dependent soil-structure interaction on seismic pounding in RC bridges	13 th Structural Engineering Convention (SEC 2023)	DOI/ISBN: – Volume: Issue No: Page No:– Year:2023 Month:Dec Presenter:CO-AUTHOR

Author(s) Name	Paper Name	Conference Name	Others Info
Banerjee, T. and Das, Diptesh	Effect of mass ratio on bridge decks pounding considering frequency-dependent SSI under earthquake excitation	3 rd Mediterranean Geosciences Union (MedGU-2023) November 26-30, 2023, Istanbul, Turkey.	DOI/ISBN: – Volume: Issue No: Page No:- Year:2023 Month:Nov Presenter:SELF
Minar Islam, Sushovan Dutta and Sanku Konai	Strength Enhancement of Soft Soil Using Alkali Activated Fly Ash	Technological Advancement in Waste Management Challenges and Opportunities – 2023 (TAWMCO – 2023)	DOI/ISBN: Not available Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
Gaurav Kumar, Anand Raj, Sanku Konai and Sushovan Dutta	Utilization of Waste Material as a Filler Material in Stone Column: A Review	Technological Advancement in Waste Management Challenges and Opportunities – 2023 (TAWMCO – 2023)	DOI/ISBN: Not Available Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
Anand Raj, Gaurav Kumar, Sanku Konai	Performance of Encased Stone Column Filled with Construction And Demolition Waste: Experimental Study	Indian Geotechnical Conference-2023 (GEOTECHNICAL ADVANCES IN SUSTAINABLE INFRASTRUCTURE DEVELOPMENT AND RISK REDUCTION)	DOI/ISBN: Not available Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
Minar Islam, Sushovan Dutta, Sanku Konai	Strength Enhancement of Soft Soil Using Alkali Activated Fly Ash	Technological Advancement in Waste Management Challenges and Opportunities – 2023 (TAWMCO – 2023)	DOI/ISBN: Not available Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
Gaurav Kumar, Anand Raj, Sanku Konai, Sushovan Dutta	Utilization of Waste Material as a Filler Material in Stone Column: A Review	Technological Advancement in Waste Management Challenges and Opportunities – 2023 (TAWMCO – 2023)	DOI/ISBN: Not available Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
Sanku Konai, Sushmita Kumari, Gaurav Kumar, Anand Raj	Strengthening Weak Clay Soil through the Incorporation of Plastic Strips	Advances of The Material Science and Engineering 2023 (ATMSE 2023)	DOI/ISBN: Not available Volume: Issue No: Page No: Year:2023 Month:Sep Presenter:CO-AUTHOR
Manhanpaaly, N., Nagarajan, P., and Saha, S.	A Taguchi-based approach for optimization of compressive strength for M60 grade GGBS-Dolomite based Geopolymer Concrete	Fifth International Conference on Recent Advances in Materials and Manufacturing (ICRAMM 2023)	DOI/ISBN: N/A Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
Pijus Rajak and Pronab Roy	Determining Probability of Failure of Structures Using Improved Active Learning Kriging Model with Clustering Algorithm.	14 th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASPI4), during July 09-13, 2023.	DOI/ISBN: Nil Volume: Issue No: Page No:1-7 Year:2023 Month:Jul Presenter:SELF

Author(s) Name	Paper Name	Conference Name	Others Info
Pijus Rajak and Pronab Roy	Adaptive Sampling Strategy for Kriging-Based Reliability Analysis in Structural Engineering: Overcoming Challenges and Enhancing Accuracy	9 th International Congress on Computational Mechanics and Simulations (ICCMS 2023), IIT Gandhinagar, India. December 20–22, 2023.	DOI/ISBN: Nil Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO–AUTHOR
Rahul Karmakar and Pronab Roy	Safety Analysis of Various Size and Shape Composite Overwrapped Hydrogen Storage Tanks	International Conference on Sustainable Energy and Environment (ICSEE 2024) Hosted at the Maulana Azad National Institute of Technology Bhopal. February 23–25, 2024.	DOI/ISBN: NA Volume: Issue No: Page No: Year:2024 Month:Feb Presenter:CO–AUTHOR

4.2.19 Conference: Accepted in Others in 2023–2024

Author(s) Name	Paper Name	Conference Name	Others Info
Karmakar, A.; Iqbal, A; Pal,S., Bhattacharya,K.	Assessment of Cement-Modified Reclaimed Asphalt Pavement Material as A Promising Base Course Material for Flexible Pavements in India	Geotechnical Advances in Sustainable Infrastructure Development And Risk Reduction, IGC2023, IIT Roorkee	DOI/ISBN: yet to be Volume: Issue No: Page No:yet to be appeared Year:2023 Month:Dec Presenter:CO–AUTHOR
Karmakar,A., Pal,S., Bhattacharya,K.	Utilization of Coalmine Overburden Mixed Industrial Wastes in Subbase/Base Layers for Cement–Treated Sustainable Flexible Pavements in India	7 th International Conference on Environmental Sustainability and Climate Change 2023 (ICESCC 2023)	DOI/ISBN: yet to be Volume: Issue No: Page No:yet to published Year:2023 Month:Dec Presenter:CO–AUTHOR
Swagata Sarkar; Sabyasachi Biswas and Bandhan Bandhu Majumdar	A Case Study of an Investigation of Risk Element Recognition of Traffic Parameters in Association with Fatal Road Collisions	15 th EAST Conference	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Sep Presenter:SELF
Mallikarjun Patil, Bandhan Bandhu Majumdar and Sabyasachi Biswas	Analyzing Prospective Users' Willingness to Pay for Electric Two wheeler Infrastructure Attributes in Indian context	15 th EAST Conference	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Sep Presenter:SELF
Swagata Sarkar, and Sabyasachi Biswas	An Investigation of Risk Factor Recognition of Traffic Parameters in Association with Fatal Road Collisions	7 th Conference of Transportation Research Group of India (CTRG–2023)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO–AUTHOR
Samanta, A. K., Singh, P., Ghosh, S. and Saha, S.	Utilization of Kaolin Clay as Natural Soil Deposit in Sustainable Mortar Subjected to Elevated Temperature	3 rd MedGU (MedGU–23)	DOI/ISBN: N/A Volume: Issue No: Page No: Year:2023 Month:Nov Presenter:CO–AUTHOR
Neetika Saha,Parikshit Roy, Radhe Yassung,Pijush Topdar	Investigation of Isotropic and Anisotropic Plates under Simulated Damage: A Numerical Study	International Conference on Condition Assessment,Rehabilitation & Retrofitting of Structures	DOI/ISBN: 0 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO–AUTHOR

Author(s) Name	Paper Name	Conference Name	Others Info
Sudha Das Khan, Aloke Kumar Datta and Pijush Topdar	Assessment of defects of highway concrete bridges using PROMETHEE II method in fuzzy environment.	Recent Advances in Infrastructure Development (RAID 2024) at the Department of Civil Engineering, NIT Calicut	DOI/ISBN: 0 Volume: Issue No: Page No: Year:2024 Month:Feb Presenter:CO-AUTHOR
Sudha Das Khan, Pijush Topdar, and Aloke Kumar Dutta.	A fuzzy synthetic evaluation approach for condition rating of RC bridge decks.	Advance Engineering Optimization through Intelligent Techniques (AEOTIT), Department of Mechanical Engineering, NIT Surat.	DOI/ISBN: 0 Volume: Issue No: Page No: Year:2023 Month:Sep Presenter:CO-AUTHOR

4.2.20 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Das, Diptesh	Banerjee, T. and Nimezi, M. A.	Recent Developments in Structural Engineering, Volume 1. SEC 2023. Lecture Notes in Civil Engineering, vol 52.	Parametric Study on Bridge Decks Pounding Considering Soil-Structure Interaction Under Earthquake Excitation	Publisher: Springer, Singapore Publication Date: 2023-12-09
Pronab Roy	M. Mumtaj, L. V. K. Reddy	Lecture Notes in Civil Engineering: Proceedings of 17 th Symposium on Earthquake Engineering (Vol. 1)	Seismic Response of Multistorey Building with Varying Stiffness Modifiers.	Publisher: Springer Singapore Publication Date: 2023-07-28

4.2.21 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
International Conference on Creative and Innovative Solutions in Civil Engineering (CISCE)	Malaviya National Institute of Technology Jaipur	2023-08-11	2023-08-12	India
International Conference on Condition Assessment, Rehabilitation & Retrofitting of Structures (CARRS 2023)	Department of Civil Engineering, IIT Hyderabad	2023-12-10	2023-12-13	India
13 th Structural Engineering Convention (SEC-2023)	Department of Applied Mechanics at VNIT, Nagpur	2023-12-07	2023-12-09	India
13 th Structural Engineering Convention (SEC-2023)	Department of Applied Mechanics at VNIT, Nagpur	2023-12-07	2023-12-09	India
International Conference on Advances in Computer Engineering and Communication Systems (ICACECS-2023)	Department of Computer Science & Engineering, VNR VJIET, co-located at THE UNIVERSITY OF THE WEST INDIES(UWI), AT MONA, JAMAICA.	2023-09-22	2023-09-23	India
Recent Advances in Infrastructure Development (RAID 2024)	Department of Civil Engineering, NIT Calicut	2024-02-12	2024-02-13	India
First Indian Conference on Disaster Resilient Infrastructure (I-DRI - 2024)	NIT Puducherry	2024-03-07	2024-03-08	India
First Indian Conference on Disaster Resilient Infrastructure (I-DRI 2024)	NIT Puducherry	2024-03-07	2024-03-08	India

Name of the Programme	Organized By	From Date	To Date	Organizing Country
International Conference on Natural Disaster: Risk Analysis, Management and Mitigation (NDRAMM-2024)	NIT Silchar	2024-03-23	2024-03-24	India
International Conference on Natural Disaster: Risk Analysis, Management and Mitigation (NDRAMM-2024)	NIT Silchar	2024-03-23	2024-03-24	India
Orientation Workshop on Outcome Based Education and Accreditation for the newly identified Program Evaluators (PEVs) at IIT Guwahati.	NBA	2023-08-19	2023-08-19	India
International Conf. MedGU2023 at Istanbul Teknik Univ., Turkey	Mediterranean Geosciences Union	2023-11-27	2023-11-30	Turkey
15 th EAST Conference	Eastern Asia Society for Transportation Studies	2023-09-04	2023-09-07	Malaysia
15 days Road Safety Audits certification Course	VNIT Nagpur association with MoRTH and IRC	2023-07-08	2023-07-22	India
International Climate Research Conclave	IIT Bombay	2023-05-26	2023-05-27	India
International Conference of The Mediterranean Geosciences Union (MedGU 2023)	The Mediterranean Geosciences Union and Istanbul Technical University, Turkey	2023-11-26	2023-11-30	Turkey
Safe and Sustainable Road Construction and Current Trends	NIT Durgapur	2023-04-01	2023-04-06	India
Structural Engineering Convention 2023 (SEC 2023)	NIT Nagpur	2023-12-07	2023-12-09	India
14 th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP14).	Trinity College Dublin, Ireland.	2023-07-09	2023-07-13	Ireland
Summer tour of basin of River Mahanadi	Mahanadi Water Disputes Tribunal, New Delhi	2023-05-01	2023-05-27	India

4.2.22 Ph.D. Supervision

Topic Name	Scholar	Supervisor	Status	Status Date
Structural Investigation using Acoustic Emission Technique	Dr. Sanjay Sengupta	Dr. Alope Kumar Datta and Dr. Pijush Topdar	DEGREE AWARDED	2018-08-10
Fuzzy-Logic Based Condition Assessment and Rating of Reinforced Concrete Bridges: A Study	Dr. Sudha Das Khan	Dr. Pijush Topdar & Dr. Alope Kumar Datta	DEGREE AWARDED	2023-04-19
Study and Modelling of Highway Pavement Under Dynamic Loading	Dr. Arijit Banerji	Dr. Pijush Topdar & Dr. Alope Kumar Datta	DEGREE AWARDED	2024-03-07
Studies on Different Aspects of Acoustic Emission Technique for Damage Localisation in Structures	Dr. Parikshit Roy	Dr. Pijush Topdar & Dr. Alope Kumar Datta	DEGREE AWARDED	2023-12-11
Detection and Monitoring of Damage in Rail Sections Using Acoustic Emission Technique	Dr. Tamal Kundu	Dr. Alope Kumar Datta and Dr. Pijush Topdar	DEGREE AWARDED	2024-06-26

Topic Name	Scholar	Supervisor	Status	Status Date
A Study on Damage Localisation in Framed Structure using Acoustic Emission Technique	Mr. Anupam Kumar Biswas	Dr. Alope Kumar Datta and Dr. Pijush Topdar	ONGOING	-
Characterization of Rigid Pavement Using Acoustic Emission Technique	Mr. Soumyadip Das	Dr. Alope Kumar Datta and Dr. Pijush Topdar	ONGOING	-
Studies and Development of AI Models for Fault Detection in Railway Track	Mr. Apurba Pal	Dr. Alope Kumar Datta	ONGOING	-
Experimental Investigation on the Strength and Behaviour of Plate Reinforced Concrete Beam.	Prakash Mondal	AK Samanta, DK Singha Roy	SUBMITTED	2023-11-01
A study on IoT enable Structural Health Monitoring of Railway Infrastructure	Mr. Suman Dey	Dr. Alope Kumar Datta	ONGOING	-
Effect of Elevated Temperature on Diverse Properties of Concrete Containing Refractory Waste Materials	Sudipta Ghosh	AKSamanta	ONGOING	2024-01-18
Identification of Urban Heat Islands from Multi Temporal MODIS Land Surface Temperature Data in the Southern Part of West Bengal, India	Naval K Yadav	AK Samanta, A Santra	DEGREE AWARDED	2024-01-18
Characterization of Sustainable Heat Resistant Concrete with Recycled Refractory Brick and Alccofine	Kapildeo Prasad Yadav	AK Samanta	ONGOING	-
Condition Assessment and Service Life Prediction of Corrosion-Distressed Reinforced Concrete Structures.	Amgoth Rajender	AK Samanta	ONGOING	-
Performance evaluation of Concrete-filled Cold-formed Steel Built-up Composite Structures	Pranoy K Roy	AK Samanta	ONGOING	-
AI-Based Real Time Electrocardiogram (ECG) Signal Analysis for Cardiac Arrhythmia Detection, and Classification	Pinaki R Das	TK Bera, AK Samanta	ONGOING	-
Performance Study of Asymmetric Structures under Static and Dynamic Loads	Debi Prasad Das	Dr. Diptesh Das, Dr. P. Topdar, Dr. R. K. Biswas (CMERI)	SUBMITTED	2023-04-03
Utilization of RAP in the rigid pavement	M K Diptikant	Dr Sabyasachi Biswas and Dr A.K Sinha	SUBMITTED	2024-01-05
An Integrated approach to tackling pertinent water challenges in Dwarkeswar river basin	Suktiprajna Rath	Dr. Gilbert Hinge	ONGOING	-
Identification and Estimation of pre-accident measure by Deep Learning (DL) Technique	Swagata Sarkar	Dr Sabyasachi Biswas and Dr A. K Sinha	ONGOING	-
To be Decided	Souvil Pal	Professor Vijay Kumar Dwivedi, Dr. Gilbert Hinge	ONGOING	-
Surrogate Safety Measures for Urban Road Users	Sourav Dutta	Dr Sabyasachi Biswas	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Characterization and Geotechnical Performance Assessment of Nanocomposite Jute Geotextiles for Reinforcing Coal Mine Overburden Dump Slopes	Tapabrata Chakraborty	Dr. Supriya Pal & Dr. Mrinal Kanti Mandal	ONGOING	-
Nanotechnological intervention on jutegeotextile to adapt long term sustainability and enhanced durability for its cost-effective and wide application in flexible pavement systems.	Mr. Sahinur Rahaman Mondal	Dr. Supriya Pal & Rajib Ghosh Chaudhuri	ONGOING	-
Prediction of Ground Subsidence due to Underground Coal Mining through Numerical Modelling Approach.	Nisheeth Shekhar	Dr. Supriya Pal	ONGOING	-
Performance Evaluation of Flyash, Slag-Cement Stabilized Coal Mine Over-Burden as a Potential Sub-Base and Base Course Material In Flexible Pavement Systems with Additional Improvement Using Geocell.	Arindam Karmakar	Prof. Kamal Bhattacharya & Dr. Supriya Pal	ONGOING	-
Vibration Control of Structures under Multihazard Scenario	Arunabha Sen	Diptesh Das	ONGOING	-
Vibration Control of Offshore Structures subjected to Environmental Loads	Ankita Som	Diptesh Das	ONGOING	-
Vibration Mitigation in Building Structures subjected to Dynamic Loads using Isolation Techniques	Sukamal Kanta Ghosh	Diptesh Das	ONGOING	-
Vibration Control of Offshore Structures (Tentative)	Shreyashee Sulakshana Sanjay	Diptesh Das	ONGOING	-
Broad area of research: Analytical and Numerical Modelling of Finite and Infinite Slopes	Autri Mukherjee	Dr. Sushovan Dutta	ONGOING	-
Broad area of research: Design of Ground Anchors through Analytical and Numerical Studies	Siddhartha Sandip Ray	Dr. Sushovan Dutta	ONGOING	-
Geopolymer Concrete	Sharwar Ahmed Choudhary	Suman Saha	ONGOING	-
Studies on Different Aspects of Acoustic Emission Technique for Damage Localisation in Structures	Mr. Parikshit Roy	Dr. P. Topdar and Dr. A.K. Datta	DEGREE AWARDED	2024-09-28
Investigation on Damages in Composite Structures using AE Technique aided by AIML Approach: A Study	Ms. Neetika Saha	Dr. P. Topdar	ONGOING	-
Study and Modelling of Highway Pavements under Dynamic Loading	Mr. Arijit Banerjee	Dr. P. Topdar and Dr. A.K. Datta	DEGREE AWARDED	2024-09-28
Performance Study of Asymmetric Structure under Static & Dynamic Loads	Mr. Debi Prasad Das	Dr. D. Das and Dr. P. Topdar	SUBMITTED	2023-04-03

Topic Name	Scholar	Supervisor	Status	Status Date
Detection and Monitoring of Damage in Rail Sections Using Acoustic Emission Technique	Mr. Tamal Kundu	Dr. A.K. Datta and Dr. P. Topdar	DEGREE AWARDED	2024-09-28
Characterization of Pavements Using Acoustic Emission Technique	Mr. Soumyadip Das	Dr. A.K. Datta and Dr. P. Topdar	SUBMITTED	2024-09-27
A Study on Structural Defects in Frame Type Buildings using Acoustic Emission Technique	Mr. Anupam Kumar Biswas	Dr. A.K. Datta and Dr. P. Topdar	SUBMITTED	2024-09-27
A study of stability design of the different types of Floating Offshore Wind Turbine (FOWT) system by integrated-coupled analysis under environment loadings	Swarnadip Dey	Prof. A K Banik and Dr. Pronab Roy	DEGREE AWARDED	2024-09-03
Rutting Analysis of Low Volume Roads Constructed from Construction and Demolished Waste.	Arpan Ray	Dr R P Nanda and Dr. Pronab Roy	DEGREE AWARDED	2024-05-20
Development of Efficient Computational Methods for Structural Reliability and Sensitivity Analysis Using Machine Learning Approach	Pijus Rajak	Dr. Pronab Roy	SUBMITTED	2024-11-05
Analytical and Numerical Analyses of Free Span Offshore Pipelines Considering SoilStructure Interaction	Goutam Sarkar	Dr. Pronab Roy	ONGOING	-
Machine Learning Based Leakage Detection of the Pipelines	Koyndrik Bhattacharjee	Dr. Pronab Roy	ONGOING	-
Machine Learning Based Slope Stability Prediction	Rimjhim Ghosh	Dr. Pronab Roy	ONGOING	-
Rutting analysis by using Construction and demolished Waste for low volume roads	A Ray	RP Nanda and P Roy	DEGREE AWARDED	2024-05-31

4.2.23 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount (in Rs.)	Starting Year
Water leakage detection in water distribution systems and evaluating the state of urban water bodies: Remote Sensing Based Approach	Dr. Gilbert Hinge	DST-SERB	3023900.0	2024
Improving the performance of satellite precipitation products across different climatological and topographical zones of India	Dr. Gilbert Hinge	DST-SERB	1324000.0	2023
Nano-technological intervention on jutegeotextile to adapt long term sustainability and enhanced durability for its cost-effective and wide application in flexible pavement systems	Dr. Supriya Pal, Dr. Mrinal Kanti Mandal, Dr. Rajib Ghosh Chaudhuri, Dr. Hirok Chaudhuri	National Jute Board A Statutory Body, Ministry of Textiles, Govt. of India	6952264.0	2021

Title of the Project	Investigator	Sponsor Authority	Amount (in Rs.)	Starting Year
Development of guidelines to adopt the process of height increment of overburden dumps at open cast coal mines in India using jute-geotextile as reinforcing material	Dr. Supriya Pal, Dr. Mrinal Kanti Mandal, Dr. Rajib Ghosh Chaudhuri, Dr. Hirok Chaudhuri	National Jute Board A Statutory Body, Ministry of Textiles, Govt. of India	7172264.0	2021
Performance Evaluation of Fly Ash –Cement Stabilized Coal Mine Overburden as a Potential Sub-base and Base Course Material in Flexible Pavement Systems	Dr. Supriya Pal, Dr. Mrinal Kanti Mandal, Dr. Rajib Ghosh Chaudhuri, Dr. Hirok Chaudhuri	National Rural Infrastructure Development Agency Ministry of Rural Development Government of India	1892000.0	2023
Development of nano-composite jutegeotextile for high-speed railway embankment system to enhance the durability and its remotely health monitoring using Internet of Things (IoT)	Dr. Supriya Pal, Dr. Mrinal Kanti Mandal, Dr. Rajib Ghosh Chaudhuri, Dr. Hirok Chaudhuri	National Technical Textiles Mission, Ministry of Textiles, Govt. of India	9970400.0	2023
Development of an IoT based Organicinorganic contaminants removal system (CRS) for purifying domestic wastewater through constructed wetland using durable, nano-composite jute-geotextile sandwiched LECA cartridges	Dr. Mrinal Kanti Mandal, Dr. Supriya Pal, Dr. Rajib Ghosh Chaudhuri, Dr. Hirok Chaudhuri	National Technical Textiles Mission, Ministry of Textiles, Govt. of India	9996444.0	2024
Education Proposal ID "Edu-23-00056" of National Institute of Technology, Durgapur for civil engineering/infrastructure/science (including Geotechnical Engineering & water resources engineering/Occnography) under National Technical Textiles Mission (NTTM) of Ministry of Textiles (MoT)	Dr. Supriya Pal, Dr. Mrinal Kanti Mandal, Dr. Rajib Ghosh Chaudhuri, Dr. Hirok Chaudhuri	National Technical Textiles Mission, Ministry of Textiles, Govt. of India	84720000	2024

4.2.24 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
Environmental geochemistry and treatment of organic pollutants in aquatic systems in the selected areas of China, India and Russia	Dr. Supriya Pal, Dr. Mrinal Kanti Mandal, Dr. Rajib Ghosh Chaudhuri, Dr. Hirok Chaudhuri	DST-Govt. of India under BRICS STI Framework Programme	2023
Vetting of Structural Design and drawings for proposed Science Centre (Cat II) at Jabalpur, MP	A K Banik	NCSM, GOI	2023

4.2.25 Testing & Consultancy Services Rendered

Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
Matix Fertilizer, Panagarh	Condition Assessment (Phase-I) & Stability checking (Phase-II) for the "Prilling Tower" at Panagarh plant, Durgapur	585000.0	Completed June 2023
RSP, Rourkela	Additional Strengthening of Chimney of Coke Oven Battery#2 of Rourkela Steel Plant.	1009000.0	Completed Mar'2024

Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
Indian Oil, Haldia Refinery	Consultancy services for condition assessment and detail structural stability study of 09 Nos 02/04 storied old residential Type-III Qtr bldg located at Cluster-II in IOCL Haldia Refinery Township	1209000.0	Completed Mar2024
CPWD, Kolkata	Third-Party Quality Assurance (TPQA) Service for Construction of 1000 capacity single seated G+10 Boys' Hostel with G+3 Dinning Block & other ancillary Units at IEST Shibpur, Howrah.	1200000.0	Ongoing
Garge Engineering Pvt Ltd; LLOYED Insulation india Ltd ; MR Enterprise; Maa Manasha Enterprise ; Triveni ENGINEERING Construction pvt ltd; Shaft Sinking; Shaft Sinking; Shaft Sinking; Garge Engineering Pvt Ltd; Garge Engineering Pvt Ltd; Garge Engineering Pvt Ltd; Garge Engineering Pvt Ltd; Garge Engineering Pvt Ltd; Garge Engineering Pvt Ltd; A& A Entrprise; A& A Entrprise; A& A Entrprise; Garge Engineering Pvt Ltd	Testing of material and design	7.34093	Various Consultancy work and material testing
M/S Gaja Engineering Ltd, Hyderabad	Structural design drawing vetting of Intake Jetty and ancillary structures for WTP at Asansol	2979500.0	Completed
M/S Ranjit Associates	Vetting of design & drawing of civil foundation of 1000 ton Hydraulic Press & 400 ton Cabbaging Press with accessories at ordnance factory, Nagpur	147500.0	Completed
M/S Manpasand Cement Pvt. Ltd	Testing of pavers blocks, fly ash bricks	26100.0	Completed
M/s CPWD	TPQA service for construction of Boys' Hostel with Dinning Block at IEST Shibpur, Howrah. 2023	3682000.0	Ongoing
M/s Gaja Engineering (P)Ltd.	Vetting of design & drawing of structural design and drawing of intake jetty and ancillary structure at Asansol	2979500.0	Ongoing
M/S National Highway Authority of India	Geotechnical investigation and structural consultancy for equal value infrastructure (EVI)/ 3 m high boundary wall on defence land of Panagarh Military Station	4425000.0	Ongoing
C.B. Enterprise	Structural analysis of slope stability to strengthen the earthen slope from landsliding, including site visits	177000.0	Completed

Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
C. B. Enterprise	Slope stability analysis and strengthening the earth slope (including the site visit)	150000.0	Completed
Damodar Valley Corporation	Strengthening, Retrofitting, Buttressing and further raising of ASH DYKE of MEJIA THERMAL POWER PLANT of DVC	459374.0	As Co-PI
Shaft Sinking and Mine Development LLP	Mix Design of M30 grade of concrete	46020.0	Co-PI
Various consultant projects	various projects	4167926.0	completed
Shyam Sel and Power LTD, Paschim Bardhaman 713362.	Testing of Mix design of Concrete of M20 grade using Ferro Manganese Slag for SSPL Jamuria Unit	460200.0	Completed on 21.06.2023
Kakali Enterprise on behalf of AGE B/R (CG & P).	M35, M30 and M25 Grade of concrete mix design for Coast Guard RQH NE and CG units at Rajarhat Kolkata	237000.0	Completed on 22.05.2023.
DCS Ltd, Hyderabad 500096.	Concrete Mix design of M25 grade of concrete for DCS Ltd project at Jagannathpur	46000.0	Completed on 23.05.2023.
M/S Reshmi 6 Paradigm Ltd, Kharagpur, Paschim Medinipur- 721301, WB	Concrete mix design for Heat Resistance Concrete (HRC) of M30 grade concrete	99710.0	Completed on 25.10.2023.
M/S DCS Ltd., Plot No 169, Road No. 11, Prashasan Nagar, Jubilee Hills, Hyderabad-500096, AP.	Concrete mix design of M20 to DCS Ltd, Parasia, Paschim Bardhaman	41000.0	Completed on 07.12.2023

4.2.26 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Aloke Kumar Datta	Journal of Vibration Engineering & Technologies (JVET)	Springer Nature	2024-10-08
Aloke Kumar Datta	Engineering Applications of Artificial Intelligence	Elsevier	2024-10-17
Aloke Kumar Datta	Civil Engineering and Architecture	HORIZON RESEARCH PUBLISHING	2024-04-25
Aloke Kumar Datta	Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems (JNDE)	The American Society of Mechanical Engineers	2024-07-30
Aloke Kumar Datta	Measurement	Elsevier	2024-09-25
Aloke Kumar Datta	Mechanical Systems and Signal Processing	Elsevier	2024-06-20
Amiya Kumar Samanta	STRUCTURES	Elsevier	2023-05-25
Amiya Kumar Samanta	Transactions of the Indian National Academy of Engineering	INAE	2023-05-27
Amiya Kumar Samanta	Transactions of the Indian National Academy of Engineering	INAE	2023-06-28
Amiya Kumar Samanta	Transactions of the Indian National Academy of Engineering	INAE	2023-10-17

Reviewer	Name of the Journal	Publisher	Date of Final Review
Amiya Kumar Samanta	Journal of The Institution of Engineers (India): Series A	IIE(I)	2023-11-07
Amiya Kumar Samanta	Structures	Elsevier	2024-11-14
Amiya Kumar Samanta	WOOD MATERIAL SCIENCE AND ENGINEERING	Taylor & Francis	2024-11-15
Amiya Kumar Samanta	Journal of The Institution of Engineers (India): Series A	IIE(A)	2024-01-18
Sabyasachi Biswas	KSCE Journal of Civil Engineering	Springer	2023-11-23
Sabyasachi Biswas	TRR: Journal Of The Transportation Research Board	SAGA	2023-11-01
Sabyasachi Biswas	Transportation in Developing Economies	Springer	2024-01-17
Sabyasachi Biswas	Transportation in Developing Economies	Springer	2024-02-21
Gilbert Hinge	Geomatics, Natural Hazards and Risk	Taylor & Francis	2024-03-12
Gilbert Hinge	Geomatics, Natural Hazards and Risk	Taylor & Francis	2024-03-06
Gilbert Hinge	Environmental Monitoring and Assessment	Springer	2024-02-21
Gilbert Hinge	Engineering Applications of Computational Fluid Mechanics	Taylor & Francis	2023-10-19
Sushovan Dutta	Indian geotechnical journal	Springer	2024-02-27
Diptesh Das	Ocean Engineering	Elsevier	2023-08-26
Diptesh Das	Practice Periodical on Structural Design and Construction	ASCE	2023-05-09
Diptesh Das	Ocean Engineering	Elsevier	2025-03-14
Sanku Konai	Sadhana	Indian Academy of Sciences, Springer	2024-01-30
Sanku Konai	Indian Geotechnical Journal	Springer	2024-01-16
Suman Saha	Construction and Building Materials	Elsevier	2024-01-15
Suman Saha	Geomechanics and Engineering	Techno-press	2024-01-18
Suman Saha	Construction and Building Materials	Elsevier	2024-02-22
Suman Saha	Journal of The Institution of Engineers (India): Series A (IEIA)	Springer	2024-03-06
Suman Saha	Indian Concrete Journal	ICJ, Adani Corporation	2024-03-21
Pijush Topdar	Journal of The Institution of Engineers (India): Series A	Springer	2023-08-23
Pijush Topdar	QEIOS	QEIOS Ltd., London	2024-02-19
Pronab Roy	Journal of Pressure Vessels and Piping	Elsevier	2023-07-31
Vijay Kumar Dwivedi	Int. J. of Exergy (IJEX).	Inderscience	2023-11-13

4.2.27 Participation in National Committees/Visits

Name of the Faculty	Name of the Committee	Place of Visit	From Date	To Date
Atul Krishna Banik	orientation Workshop on OBE and Accreditation for newly identified Program Evaluators (PEVs)	IIT Guwahati	2023-08-19	2023-08-19

4.2.28 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Aloke Kumar Datta	Board of Studies	Dr. B.C Roy Engineering College (An Autonomous Institute)	2024-10-08	2024-10-27
Aloke Kumar Datta	Board of Studies	Asansol Engineering College (An Autonomous Institute)	2024-05-22	2024-10-27
Amiya Kumar Samanta	MTech (structural Engg.)	IIT Kharagpur	2023-04-27	2023-04-27
Amiya Kumar Samanta	MTech (structural Engg.)	NIT Kurukhetra	2023-06-15	2023-06-15
Amiya Kumar Samanta	BOS	HIT Haldia	2023-11-22	2023-11-22
Diptesh Das	External Expert for evaluation of M. Tech thesis	Civil Engineering Department, IEST Shibpur	2024-06-06	2024-06-05
Suman Saha	M. Tech (research) Thesis	NITK Surathkal	2023-08-11	2023-09-11
Atul Krishna Banik	External Examiner for M Tech Viva Voce Examination	NIT Jamshedpur	2023-06-16	2023-06-16
Atul Krishna Banik	External Expert for Annual Progress report Seminar for PhD work	IEST Shibpur	2023-11-15	2023-11-15
Atul Krishna Banik	External Examiner for Technician posts	NIT Silchar	2024-01-20	2024-01-20
Pronab Roy	External expert in Members of Doctoral Committee	IEST Shibpur	2023-12-28	2023-12-28

4.2.29 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Amiya Kumar Samanta	Empanelled Academician Experts in the AICTE Expert Visit Committee	AICTE	2024-02-05	2024-02-05
Amiya Kumar Samanta	Subject Expert in various Interviews/ Personality Test Boards	UPSC	2024-02-06	2024-02-06
Vijay Kumar Dwivedi	Civil Engineering	Union Public Service Commission, New Delhi	2023-09-18	2023-09-22

4.2.30 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Aloke Kumar Datta	AI AND STRUCTURAL ENGINEERING: PREPARING THE NEXT GENERATION OF CIVIL ENGINEERS	One day seminar on "Advancements in Machine Learning for Structural Engineering: From Identification to Design"	Department of Civil Engineering, Dr. B.C. Roy Engineering College, Durgapur	2024-08-28	2024-08-28

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Aloke Kumar Datta	Research and Development in SHM LAB at Department of Civil Engineering, NIT Durgapur	Faculty Development Program on Health Monitoring and Rehabilitation of Structures (HMRS-2023)	Department of Civil Engineering, Dr. B.C. Roy Engineering College, Durgapur	2023-12-19	2023-12-19
Amiya Kumar Samanta	Feasibility Study of Manufacturing Refractory Brick and Acid Resistant Brick with Industrial Waste	FDP on Recent Trends in Civil Engineering	HIT Haldia	2023-07-17	2023-07-17
Sabyasachi Biswas	Application of intelligent transportation system (ITS)	Deliver a guest lecture in the five-days short term course titled "Resilient and Sustainable Transportation Engineering (RASTE)"	NIT Patna	2023-11-06	2024-11-10
Sabyasachi Biswas	Road safety assessment through DI and Ai application	Deliver a guest lecture in the five-days short term course titled on Sustainable Advancement in Structural and Transportation Engineering	NIT Jalandhar	2023-03-11	2024-03-15
Pijush Topdar	Invited speaker at FDP:"HealthMonitoring and Rehabilitation of Structures"	FDP	Dr. B.C. Roy Engg. College, Durgapur	2023-12-20	2023-12-20
Atul Krishna Banik	Progressive collapse of structures under natural and man-made disasters	NDRAMM 2024	NIT Silchar	2024-03-24	2024-03-24
Vijay Kumar Dwivedi	Delineation of sub-basins of basin of River Mahanadi	Summer tour of the Mahanadi Water Disputes Tribunal to the basin of river Mahanadi	Bhubaneswar	2023-05-19	2023-05-27

4.2.31 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Suman Saha	International conference on "Recent Advances in Infrastructure Developments (RAID 2024)"	NIT Calicut	Technical Session- 12	2024-02-12	2024-02-13

4.3 Department of Chemistry

4.3.1 Department at a Glance

Since inception of the institute (1960), the Department is sincerely engaged in teaching the students of different engineering courses in both UG and PG levels. The Department began its supreme journey with M. Tech. Program in Corrosion Science & Technology in 1987. Later on, M.Sc. in Chemistry has been introduced (2009). From 2017, the Department has started 5 years integrated M. Sc. Program in Chemistry. The department is gifted with a galaxy of enthusiastic and dedicated faculty members.

Besides the quality teaching, the faculty members have also contributed a lot to elevate the prestige of the institute through their research activities of international standard. Over these years, the department has observed a steady momentum of growth due to the cumulative efforts of the

faculty members, motivated students and the supporting staffs.

The Department regularly organizes Summer/Winter Schools, Workshops, Seminars and Conferences which bring together nationally renowned scientists, persons engaged in academics and industry. Total 14 faculty members of this department are devoted to the research activities in various fields of chemistry. At present, several Govt. and Private sponsored research projects are going on where a number of research scholars are pursuing their Ph.D. work. Many externally funded projects have been completed successfully in the recent past. The faculty members are publishing research papers in reputed international journals with impact factors at a regular basis.

4.3.2 Mission & Vision

Mission

To produce highly qualified, well- rounded, motivated and technologically sound students possessing fundamental understanding and knowledge in chemical science and technology, who will deliver service and leadership to the nation and the world and can fulfil the technological and socio-economic need of industry, government and society.

Vision

To be a globally recognized department in scientific and technical education through value-added teaching, research and innovation and producing quality human resources who can meet the challenges of the ever-changing, technology-based society.

4.3.3 Faculty

Name	Designation	Email-id
Prof. Sankar Chandra Moi	Professor & HOD	scmoi.ch@nitdgp.ac.in
Prof. Apurba Kumar Patra	Professor	akpatra.ch@nitdgp.ac.in
Prof. Dipankar Sukul	Professor	dsukul.ch@nitdgp.ac.in
Prof. Milan Maji	Professor	mmaji.ch@nitdgp.ac.in
Prof. Rajnarayan Saha	Professor	rnsaha.ch@nitdgp.ac.in
Dr. Sujit Sankat Panja	Associate Professor	sspanja.ch@nitdgp.ac.in
Dr. Jitamanu Chakaravarty	Associate Professor	jchakaravarti.ch@nitdgp.ac.in
Dr. Utpal Adhikari	Associate Professor	Uadhukari.ch@nitdgp.ac.in
Dr. Paresh Nath Chatterjee	Associate Professor	pnmchatterjee.ch@nitdgp.ac.in
Dr. Subhas Ghosal	Associate Professor	sgghosal.ch@nitdgp.ac.in
Dr. Tanmoy Kumar Saha	Assistant Professor	tksaaha.ch@nitdgp.ac.in
Dr. Deb Ranjan Banerjee	Assistant Professor	drbanerjee.ch@nitdgp.ac.in
Dr. Sourav Laha	Assistant Professor	slaha.ch@nitdgp.ac.in
Dr. Krishnendu Pal	Assistant Professor	kpal.ch@nitdgp.ac.in

4.3.4 Equipments

Sl. No.	Name of the equipment	Date of Purchase	Amount
1.	Multimode (fluorescence luminescence and phosphorescence) plate reader	10/7/2023	24.99 lakh (from SERB project)

4.3.5 Labs

Sl. No.	Name of Laboratory	Major equipment
1.	Electrochemical Laboratory	
2.	PG (M.Sc.) Laboratory	Melting Point apparatus, Chromatography set up
3.	UG (B.Tech.) Laboratory	Spectrophotometer, pH Meter, Conductometer, Deionized water purifier
4.	Synthesis & Analytical Laboratory	Rotary eval
5.	Inorganic Synthesis and Environmental Laboratory	FT-IR, AAS, Cyclic Voltameter, UV Spectrophotometer, Ultrapure water System, Electronic Balance
6.	Bio-molecular Modelling Laboratory	Computational facility, BIOVIA Discovery Studio academic suite
7.	Instrumentation Laboratory -1	
8.	Instrumentation Laboratory -2	GC-MS, UV-Vis, Fluorescence, CNS analyzer, multi-mode plate reader
9.	Computer Laboratory cum Library	05 desktop computer, computer server purchased from DST FIST

4.3.6 PhD Degree awarded till 2023-24

Seventy two

4.3.7 Any other relevant information

- (a) Prof Dipankar Sukul has been honoured with prestigious Fellow of the Royal Society of Chemistry (FRSC), London, UK on 1st August, 2023 (membership no. 687196).
- (b) Dr. Sourav Laha has received a Start-up Research Grant (SRG) of Science and Engineering Research Board (SERB), Govt. of India
 Title: Transition metal oxide nanosheets for efficient and cost-effective green hydrogen production
 Sanctioned amount: Rs. 33,00,000/-
 Duration: December 2023 – December 2024
- (c) Dr. Deb Ranjan Banerjee visited Department of Pharmacy, University of Barcelona as invited by Dr. Cristian Grenan Ferre (Associate Professor, University of Barcelona) as part of collaborative research visit/ research interaction on February 19-29, 2024.
- (d) Dr. Paresh Nath Chatterjee received a Teachers Associateship for Research Excellence (TARE) project as a Mentor in collaboration with Dr. Amit Kumar Mandal, Bankura University.
 Title: Synthesis and characterization of colloidal quantum dots and investigating their suitability as photo-catalyst in organic synthesis
 Sanctioned amount: Rs. 18,30,000/-
 Duration: February 2024 – February 2027
- (e) Dr. Paresh Nath Chatterjee received an externally sponsored research project from Department of Science and Technology and Biotechnology, Govt. of West Bengal
 Title: Exploring the synergy in Ru-Sn heterobimetallic complexes for their catalytic applications in organic syntheses
 Sanctioned amount: Rs. 17,40,000/-
 Duration: February 2024 – February 2027

4.3.8 Specialization

» Nonlinear Dynamics	» Inorganic Chemistry	» Bio-inorganic Chemistry
» Theoretical Physical Chemistry	» Pt(II) and Pd(II) based Anticancer drug Design and drug Development	» Organic chemistry
» Solid State Chemistry, Materials Chemistry	» Organic Chemistry • Organic Chemistry	» Inorganic Chemistry
» Physical Chemistry	» Organic Chemistry	» Computational and Theoretical Chemistry
» Electrochemistry		» physical chemistry

4.3.9 Proposed Plan for Research

- » Investigating synchronization dynamics in Higher Order Interaction networks on neuron
- » Investigation of Energetics of Neuronal synchronization
- » Materials Chemistry, Nanomaterials, Energy Materials
- » Corrosion inhibition of metals
- » 1. Small organic transformation using transition metal catalyst; 2. Synthesis of bioactive molecules using nanoparticles as catalysts
- » Assessment of synthesized Pt(II) based anticancer drug candidates: their Clinical trial on cancer model
- » The overall goal of my research lab is to develop and apply novel technologies to address the issues at the interface of chemistry and biology, and to break the wall between these two. By combining research expertise in organic synthesis, Computer-aided Drug Design (CADD), and biophysical/biochemical techniques, my research lab use chemical biology approach to discover inhibitor targeting cancer and Alzheimer's Disease. Additionally, we design and synthesize sensors for biologically relevant metals and biomolecules
- » Synthesis of nano catalysts for enhanced photocatalytic degradation of hazardous organic pollutant
- » Effect of frying / freezing / drying of some fish species for their effect on nutrition
- » Homogeneous/Heterogeneous catalysis, Photocatalysis with mechanistic investigations
- » submission of research proposals, PhD guidance
- » (I) To establish interdepartmental collaborative works in frontier area of research . (II) To arrange and attend seminars/symposium on modern topics on different areas of science, technology and teaching-learning process.
- » Bio-inorganic Chemistry Nitrosocyanin modelling
- » Study of structure, dynamics and spectroscopy of molecules of astrophysical interest, anticorrosion activities of different heterocyclic organic compounds for mild steel in acidic medium
- » I have plan to write a project on fluorescent sensing through excimer formation

4.3.10 Area of Research Interest

- » Higher Order Interaction in neuronal and ecological systems
- » Energy Materials
- » Corrosion inhibitor
- » Catalysis; Green chemistry
- » Bio-Inorganic chemistry and Anticancer drug design
- » Medicinal Chemistry, Chemical sensors
- » Cryopreservation, Lipid Chemistry, Food Chemistry, Analytical Chemistry, Photo catalyst
- » Development of methodologies for organic synthesis
- » Bio-inorganic Modelling
- » Metal Organic Frameworks, Organic synthesis, corrosion science
- » Environmental Chemistry, Water and Wastewater Treatment, Ground Water Remediation, Green Chemistry, Nano Material Synthesis and its Environmental Applications
- » Astrochemistry, Corrosion Science, pharmaceutical chemistry
- » photochemistry and fluorescence sensing

4.3.11 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
IIT Madras	Inorganic chemistry	data analysis
IIT Bhilai	Catalysis	Spectroscopic data
IIT(ISM) Dhanbad	catalysis	data analysis
Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
TCG Lifesciences Pvt. Ltd. Kolkata	Organic synthesis	Guiding 2 PhD students as co-supervisor (the students are registered to my previous Institute, NIT Meghalaya)

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
DVC MTPS, Bankura	Power plant chemistry and power plant Engineering	Our UG and PG students interacts with the chemists and engineers about power plant chemistry and power plant Engineering. I act as a coordinator to organise Industrial visit for them
Dr Reddy's Laboratory	Pharmaceutical Chemistry	collaborative research, PhD guidance

4.3.12 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
Indian Statistical Institute kolkata	Synchronization in HOI network of neuron	Prof. Dibakar Ghosh, PAMU, ISI Kolkata	ongoing, but slow
Department of Mathematics, NIT Durgapur	Energetics of neuronal synchrony in HOI network	None, with a PhD student from Mathematics department	Ongoing
Presidency University, Kolkata	Energy Storage and Conversion	Dr. Anjan Banerjee	Electrochemical Characterization of Materials
Indian Institute of Petroleum and Energy, Visakhapatnam	Nanomaterials	Dr. Somnath Ghosh	Materials synthesis and energy conversion
National Institute of Technology Kurukshetra	Solid State Chemistry	Dr. Avijit Kumar Paul	Structural Characterization of Materials
Vellore Institute of Technology - Chennai	Water electrolysis	Dr. Sujoy Sarkar	Synthesis and Characterization of Materials
Max Planck Institute for Solid State Research, Stuttgart, Germany	Materials Chemistry	Prof. Dr. Bettina V. Lotsch	Synthesis and Characterization of Materials
CSIR-CMERI Durgapur	Corrosion Science	Dr. P. Banerjee	Joint Research and publication
Department of Zoology, University of Calcutta	Cell culture and Molecular Biology	Prof. Urmi Chatterji	We have published five papers in collaboration
Department Zoology, Visva-Bharati University	Cell culture and Molecular Biology	Prof. Sudipta Moitra	We have published three research articles in this collaboration
Department of Zoology, Kalyani University	Cell culture and Molecular Biology	Dr. Arunima Biswas	Two papers have been published from the collaboration
IIT (ISM) Dhanbad	Corrosion Science	Dr. Soumit Chatterjee	Joint research
University of Barcelona, Spain	Research	Dr Deb Ranjan Banerjee, and Dr Christian Griñán Ferré	Collaborative visit, Joint Paper publications, collaborative research , future MoU in between institutions
University of Burdwan	Photo catalysis	Prof. Debasish Das	Joint research, supervising one postdoc fellow

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
NIT Meghalaya	Organic synthesis	Dr. Gitish K. Dutta, Associate Prof. & Dr. Naba Kamal Nath, Associate Prof.	Jointly guiding PhD students as cosupervisor (students are registered at NIT Meghalaya; 2 students with GKD & 1 student with NKN)
Visva-Bharati University	Research in chemical sensor	Dr. Sudip Mandal	jointly guiding a Phd student
Amity Institute of Click Chemistry Research & Studies (AICCRS), Amity University	Organic transformations	Dr. Milan Bera, Ramanujan Faculty Fellow	External co-guide of 1 PhD student (registered at Amity University, Noida)
F G M Government College, Hisar, Haryana	X-ray structure solvation	Dr. Kuldeep Mahiya	X-ray structure solvation
Civil Engineering Department North Dakota State University, USA	Water and Wastewater Treatment	Bezbaruah A. N	Research on "Synthesis of Advanced Nano-materials and their Application for the Reduction of Environmental Contaminants"
Dept. Of Environmental Science, The University of Burdwan, West Bengal	Water and Wastewater Treatment	Gupta S.	Joint Research in the areas on Environmental monitoring and wastewater treatment
Indian Institute of Technology, Kharagpur	Astrochemistry	Prof. Anakuthil Anoop	joint project and publications
San Diego State University, USA	Astrochemistry	Venkatesan S Thimmakondur	joint publication

4.3.13 Innovations and Technology Transfer (Patents filed during)

Title	Inventors	Application Nos	Date of Filing
Less toxic and more effective anticancer activity of pyridine derivative and few labile groupbased Pt(II) complexes	Prof. Sankar Chandra Moi and Miss. Rituparna Bhaduri	E-11/214/2023/ KOL	2023-08-18

4.3.14 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Dr. Debabrata Patra	Self-powered Supramolecular Assembly: A Tale of Chemical Powered Motion	2023-06-15
Workshop	A hands-on Workshop on "A hands-on workshop on Molecular structure prediction through global optimization and machine learning techniques"	2024-03-01
Dr. Pokhraj Ghosh	Bioinorganic Modeling of H ₂ Production and NO Reactivity	2023-04-14

4.3.15 Journal: Published in 2023–2024 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Palash Jyoti Boruah, Moumita Debnath, Ankita Agarwal, Gitumoni Kalita, Paresh Nath Chatterjee*, Amit Kumar Paul*	Calcium-Based Metal–Organic Framework: Detection and Idiosyncratic Removal of Copper by Nano-Particle Deposition	International Journal of Chemical Kinetics	Volume:56 Issue No:6 Page No:356 Year:2024 Month:Mar
Pallav Mondal, Bhaskar K. Brahma, Dudekula Khasim Vali, Joydeep Ray, Jyothiratha V. N. Kasu, Avishek Gangopadhyay, Sourav Laha, Utpal Adhikari	Calcium-Based Metal–Organic Framework: Detection and Idiosyncratic Removal of Copper by Nano-Particle Deposition	Chemistry – A European Journal	Volume:30 Issue No:35 Page No:e202400587 Year:2024 Month:Apr
Ipsita Som, Mouni Roy, Rajnarayan Saha	Polyethylene glycol modified mesoporous zerovalent iron nanoparticle as potential catalyst for improved reductive degradation of Congo Red from wastewater	J. Environ. Sci. Health, Part A: Toxic/Hazard. Subst. Environ. Eng	Volume:– Issue No:– Page No:1–24 Year:2023 Month:May
Ipsita Som, Sourav Biswas, Santanu Dey, Rajnarayan Saha	A Mesoporous CuO/CuSe Heterojunction Nanocomposite with Applications in Visible-Light Photocatalysis and as an Electrochemical Phenol Sensor	Chemistry Select	Volume: 8 Issue No:28 Page No:1–14 Year:2023 Month:Apr
Priyanka Khan, Rajnarayan Saha, Gopinath Halder	Towards sorptive eradication of pharmaceutical micro-pollutant ciprofloxacin from aquatic environment: A comprehensive review	Science of the Total Environment	Volume:https://doi.org/10.1016/j.scitotenv.2024.170723 Issue No:919(170723) Page No: Year:2024 Month:Feb
Tarun Roy, Sayon Satpati, Aland Sinjari, Anakuthil Anoop, Venkatesan S Thimmakondur, Subhas Ghosal	Energetic and Spectroscopic Properties of Astrophysically Relevant MgC ₄ H Radicals Using High-Level Ab Initio Calculations	The Journal of Physical Chemistry A	Volume:128 Issue No:8 Page No:1466–1476 Year:2024 Month:Feb
A. Pan, R. Bhaduri, S. Mandal, S. Kr. Tarai, A. Bagchi, A. Biswas, S. C. Moi*	Photophysical study on DNA & BSA binding and cytotoxic behaviour of piperidine–Pt(II) complexes: Their kinetics & mechanism and molecular docking	J. Photochem. Photobiol. A	Volume: Issue No:441 Page No:114740 Year:2023 Month:Apr
S. Kr. Tarai, A. Tarai, S. Mandal, B. Nath, I. Som, R. Bhaduri, A. Bagchi, S. Sarkar, A. Biswas, S. C. Moi,*	Cytotoxic behavior and DNA/BSA binding activity of thiosemicarbazone based Ni(II) complex: bio-physical, molecular docking and DFT study	J. of Mol. Liquids	Volume:383 Issue No: 383 Page No:121921 Year:2023 Month:May
S. Kr. Tarai, S. Mandal, A. Tarai, I. Som, A. Pan, A. Bagchi, A. Biswas, S. C. Moi*	Biophysical study on DNA and BSA binding activity of Cu(II) complex: Synthesis, molecular docking, cytotoxic activity, and theoretical approach	Appl Organomet Chem.	Volume:37 Issue No:37 Page No:e716 Year:2023 Month:May

Author(s) Name	Paper Name	Journal Name	Others Info
Kevin Synnatschke, Martin Jonak, Alexander Storm, Sourav Laha, Janis Köster, Julian Petry, Steffen Ott, Beata zydłowska, Georg S. Duesberg, Ute Kaiser, Rüdiger Klingeler, Bettina Lotsch, Claudia Backes	Sonication-Assisted Liquid Exfoliation and Size-Dependent Properties of Magnetic Two-Dimensional α -RuCl ₃	Journal of Physics D: Applied Physics	Volume:56 Issue No:27 Page No:274001 Year:2023 Month:Apr
A. Pan, S. Kr. Tarai, R. Bhaduri, S. Mandal, S. C. Moi *	Pd(II) based anticancer drug candidates with 1,2-Aminoethyl piperidine scaffold and sulfur donor ancillary: Their in vitro bio-activity, molecular docking and DFT study	J. Molecular Liquids	Volume:386 Issue No:386 Page No:122421 Year:2023 Month:Sep
S. Kumar Tarai, A. Pan, P. Biswas, Bhaduri, S. Mandal, A. Paul, S. Baitalik, A. Bhattacharjee, and C. Moi*	Anticancer Behavior of Pyrrolidine-Based Palladium(II) Complexes and Biophysical Approach on Their DNA, BSA Binding Activity, Molecular Docking, and DFT Study	Langmuir	Volume: Issue No:39 Page No:10947-10964 Year:2023 Month:Oct
R. Bhaduri and S. C. Moi*	Bio-physical and theoretical investigations on Pt(II)-pyridine based complexes with relevant biomolecules for the development of potent anticancer drug candidates	J. Molecular Structure	Volume: Issue No:1309 Page No:138261 Year:2024 Month:Jan
Aditya Suhasaria, Rakhi Senapati, Sanjoy Satpati, Subhas Ghosal, Sukalpa Dey, Dipankar Sukul	Experimental and theoretical investigation on the anti-corrosion characteristics of pyridine-substituted benzothiazole derivatives for mild steel in aqueous HCl	Physical Chemistry Chemical Physics	Volume:25 Issue No: Page No:17434-17449 Year:2023 Month:Jun
Pappu Naskar, Subhrajyoti Debnath, Biplob Biswas, Sourav Laha*, Anjan Banerjee*	High-Performance and Scalable Aqueous Na-Ion Batteries Comprising a Co- Prussian Blue Analogue Framework Positive and Sodium Vanadate Nanorod Negative Electrodes for Solar Energy Storage	ACS Applied Energy Materials	Volume:6 Issue No:9 Page No:4604-4617 Year:2023 Month:Apr
Manisha Samanta, Hengxin Tan, Sourav Laha, Hugo Alejandro VignoloGonzález, Lars Grunenber, Sebastian Bette, Viola Duppel, Peter Schützendübe, Andreas Gouder, Binghai Yan, Bettina V. Lotsch	The Weyl Semimetals M ₁ Te ₄ (M = Nb, Ta) as Efficient Catalysts for Dye-sensitized Hydrogen Evolution	Advanced Energy Materials	Volume:13 Issue No:24 Page No:2300503 Year:2023 Month:May
Z. Yang, L. Wang, Laha, D. Zhao, M. Luo, A. Güth, Taniguchi, K. Watanabe, B. V. Lotsch, J. H. Smet, M. Minola, H. Gretarsson, B. Keimer	Resonant Inelastic X-ray Scattering from Electronic Excitations in α RuCl ₃ Nanolayers	Physical Review B	Volume:108 Issue No: Page No:L041406 Year:2023 Month:Jul

Author(s) Name	Paper Name	Journal Name	Others Info
Pappu Naskar, Shubhrajyoti Mondal, Biplab Biswas, Sourav Laha*, Anjan Banerjee*	Low Cost & Quasi Solid State Na ₂ Mn _{0.5} Ni _{0.5} Fe(CN) ₆ // Na _x Fe ₂ O ₃ Hybrid Na-Ion Batteries for Solar Energy Storage	Sustainable Energy & Fuels	Volume:7 Issue No:17 Page No:4189–4201 Year:2023 Month:Jul
Pradeep Kumar Rout, Tarun Roy, Deb Ranjan Banerjee, Utpal Adhikari, Dipankar Sukul, Subhas Ghosal	Theoretical Investigation on the Adsorption of Phospho-Tyrosine Derivatives Over Fe (1 1 0) Surface in 1 M HCl Medium	TRANSACTIONS OF THE INDIAN INSTITUTE OF METALS	Volume:77 Issue No: Page No:1257–1263 Year:2023 Month:Nov
Pappu Naskar, Shubhrajyoti Mondal, Biplab Biswas, Sourav Laha*, Anjan Banerjee*	An Enduring Na-Ion Solar Battery Configured with Na ₂ Co _{0.5} Ni _{0.5} Fe(CN) ₆ Positive and NaTi ₂ (PO ₄) ₃ Negative Electrodes in Na ₂ SO ₄ -SiO ₂ Hydrogel Electrolyte	Journal of The Electrochemical Society	Volume:170 Issue No:9 Page No:090535 Year:2023 Month:Sep
Sivakumar Aswathappa, Lidong Dai, S. Sahaya Jude Dhas,	Acoustic Shock Wave-Induced Solid-State Fusion of Nanoparticles: A Case Study of the Conversion of One-Dimensional Rod Shape into	Inorganic Chemistry	Volume:63 Issue No:1 Page No:576–592 Year:2023 Month:Dec
S. A. Martin Britto Dhas, Sourav Laha, Raju Suresh Kumar, Abdulrahman I. Almansour	Three-Dimensional Honeycomb Nanostructures of CdO for High Performance Energy Storage Materials		
A. Rai, B.Bishayee, A.Dey, A. Kumar, S.K. Lahiri, J.Chakrabarty, S.Dutta,	Tertiary treatment of coke-oven wastewater using suspended and immobilized whole live cells of constructed bacterial-microalgal consortium: modeling and optimization using ANN-GA hybrid methodology	Water Science & Technology	Volume:87 Issue No:3 Page No:509–526 Year:2023 Month:
Tapashree Mondal, Sourav Biswas, Manoj V. Mane, Sujit Sankar Panja	Shedding Novel Photophysical Insights Toward Discriminative Detection of Three Toxic Heavy Metal Ions and a hazard class 1 nitroexplosive By Using a Simple AIEE Active Luminogen	journal of fluorescence	Volume:34 Issue No:3 Page No:1–25 Year:2023 Month:Aug
Rishika Chakraborty, Gitumoni Kalita, Mukul Pradhan*, Paresh Nath Chatterjee*	ID iron vanadate-reduced graphene oxide nanorod composite for efficient oxidative esterification of aldehydes	Journal of the Indian Chemical Society	Volume:100 Issue No:9 Page No:101074 Year:2023 Month:Sep
Sayon Satpati, Tarun Roy, Sandip Giri, Anakuthil Anoop, Venkatesan S Thimmakondur, Subhas Ghosal	Structure and Bonding Patterns in C ₅ H ₄ Isomers: Pyramidane, Planar Tetracoordinate Carbon, and Spiro Molecules	Atoms	Volume:11 Issue No:9 Page No:96 Year:2023 Month:Jun

Author(s) Name	Paper Name	Journal Name	Others Info
Aditya Suhasaria, Sanjoy Satpati, Subhas Ghosal, Sukalpa Dey, Dipankar Sukul	Effect of the heterocyclic groups on the anti-corrosion performance of heterocyclic schiff bases of benzothiazole for mild steel in 1 M Aqueous HCl	Journal of Bio-and Tribo-Corrosion	Volume:9 Issue No:2 Page No:26 Year:2023 Month:Jun
Abhisek Jana, rahul Naga, Sougata Saha, Deb Ranjan Banerjee	3D QSAR pharmacophore based lead identification of G9a lysine methyltransferase towards epigenetic therapeutics	JOURNAL OF BIOMOLECULAR STRUCTURE & DYNAMICS	Volume:41 Issue No:18 Page No:8635-8653 Year:2023 Month:Oct
Abhisek Jana, rahul Naga, Sougata Saha, Christian G-F, Deb Ranjan Banerjee	Integration of ligand and structure based pharmacophore screening for the identification of novel natural leads against Euchromatic histone lysine methyltransferase 2 (EHMT2/G9a)	JOURNAL OF BIOMOLECULAR STRUCTURE & DYNAMICS	Volume:42 Issue No:7 Page No:3535-3562 Year:2024 Month:Mar
Abhisek Jana, Aina Bellver Sanchis, Christian Griñán-Ferré, and Deb Ranjan Banerjee	Repurposing of Raltitrexed as an Effective G9a/EHMT2 Inhibitor and Promising Anti-Alzheimer's Agent	ACS Medicinal Chemistry Letters	Volume:14 Issue No:11 Page No:1531-1536 Year:2023 Month:Oct
Aina Bellver Sanchis, Qizhi Geng, Gemma Navarro, Pedro A. Ávila-López, Júlia Companys Alemany, Laura Marsal-García, Raquel Larramona-Arcas, Lluís Miró, Anna Perez-Bosque, Daniel Ortuño-Sahagún, Deb Ranjan Banerjee, Bhanwar Singh Choudhary, Francesc X Soriano, Coralie Poulard, Mercè Pallàs, Hai-Ning	G9a Inhibition Promotes Neuroprotection through GMFB Regulation in Alzheimer's Disease	Ageing and Disease	Volume:15 Issue No:1 Page No:311-337 Year:2024 Month:Feb
I. Banerjee, T. Sadhu, S. Sanyal, J. Chakrabarty	Prediction of Fatty Acid Profile of Fish Skin from the Fish Flesh Fatty Acid Composition: A Regression Modelling Approach	Proceedings of the Zoological Society	Volume:76 Issue No: Page No:179-189 Year:2023 Month:
Pradeep Kumar Rout, Tarun Roy, Deb Ranjan Banerjee, Utpal Adhikari, Dipankar Sukul, Subhas Ghosal	Theoretical investigation on the adsorption of phospho-tyrosine derivatives over Fe (110) surface in 1 M HCl medium	Transactions of the Indian Institute of Metals	Volume:77 Issue No:5 Page No:1257 (2024) Year:2023 Month:Nov
Sayon Satpati, Tarun Roy, Anakuthil Anoop, Venkatesan S Thimmakondur, Subhas Ghosal	Energetic and Spectroscopic Properties of the Low-Lying Isomers of C ₅ H ₈ : A High-Level Ab Initio Study	Atoms	Volume:11 Issue No:9 Page No:115 Year:2023 Month:Aug
Sunanda Panda, Ayusman Chiranjibi, Devesh Awasthi, Subhas Ghosal, Anakuthil Anoop	Exploring the Chemical Space of C ₂ H ₃ NO Isomers and Bimolecular Reactions with Hydrogen Cyanide and Formaldehyde: Insights into the Emergence of Life	ACS Earth and Space Chemistry	Volume:7 Issue No:9 Page No:1739-1752 Year:2023 Month:Aug

4.3.16 Conference: Published in 2023–2024 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Tithli Sadhu and Jitamanyu Chakrabarty	Improvement of Fatty Acid Based Nutritional Quality of Fish During Frying Using Artificial Intelligence	5 th Edition of Advanced Chemistry World Congress	DOI/ISBN: https:// advancedchemistry. peersalleyconferences.com/ Volume: Issue No: Page No:22– 23 Year:2024 Month:Mar Presenter:SELF

4.3.17 Conference: Published in Others in 2023–2024

Author(s) Name	Paper Name	Conference Name	Others Info
Sankar Chandra Moi and Swarup Kumar Tarai	An Avenue On The Development Of Pt(II) Based Less Toxic And More Effective Anticancer Drug	8 th International conference in World cancer congress	DOI/ISBN: NIL Volume: Issue No: Page No: Year:2023 Month:Mar Presenter:SELF
Sankar Chandra Moi, Swarup Kr. Tarai	A Road Map on Pt(II) Based Anticancer Drug Design and drug development	Global Disease Biology: Perspective Biotechnology (ICGDB-2024)	DOI/ISBN: NA Volume: Issue No: Page No:11 Year:2024 Month:Mar Presenter:SELF
Satyabhama Sahu and Rajnarayan Saha	–“A Novel Application of Degradation on Methylene Blue Using Bio- waste based activated Carbon	4 th International Conference on Emerging Smart Materials in Applied Chemistry (ESMAC–2023) & Interdisciplinary Science for Sustainability as a part of the Diamond Jubilee Celebration of Indian Photobiology Society, KIIT University, Bhubaneswar, Odisha from 18 th –20 th November 2023.	DOI/ISBN: – Volume: Issue No: Page No:– Year:2023 Month:Nov Presenter:CO–AUTHOR
Satyabhama Sahu and Rajnarayan Saha	“A Novel Application of Removal on Methylene Blue Using Agricultural WasteBased Functionalized Activated Carbon”.	Certificate of participation (Poster) in the International Conference on Functional Materials and Polymer Technology (ICFMPT–2024), Institute of chemical Technology, BBSR & Institute of Physics, Bhubaneswar, Odisha from 14 th –18 th March, 2024.	DOI/ISBN: – Volume: Issue No: Page No:– Year:2024 Month:Mar Presenter:CO–AUTHOR
Priyanka Khan, Gopinath Halder, Rajnarayan Saha	Sorptive Eradication of Ciprofloxacin using Biomass– derived Cost– effective Activated Biochar: A Mechanistic Insight	IICHe – CHEMCON 2023 (Platinum Jubilee Celebration) Organized by Indian Institute of Chemical Engineers December 27–30, 2023 Heritage Institute of Technology, Kolkata	DOI/ISBN: – Volume: Issue No: Page No:– Year:2023 Month:Dec Presenter:CO–AUTHOR

4.3.18 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Sourav Laha	Subhradeep Mistry	Nanomaterials for Energy Applications	Nano-MOFs and MOF-Derived Nanomaterials for Electrocatalytic Water Splitting	Publisher: CRC Press, Taylor & Francis Group Publication Date: 2023-1201

4.3.19 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
Workshop on "Differential Equations: Fundamentals to Applications (DEFA-2023)" (11-15 December, 2023)	Department of Mathematics, NIT Durgapur	2023-12-11	2023-12-15	India
Invited Talk: "Stochastic and Nonlinear dynamics in Chemistry and Biology" (SNDCEB-2024)	S N Bose National Centre for Basic Sciences, Kolkata.	2024-01-04	2024-01-05	India
Oral Presentation : "7 th International Conference on Complex Dynamical Systems & Applications CDSA 2024"	Physics & Applied Mathematics Unit Indian Statistical Institute, Kolkata	2024-01-25	2024-01-27	India
Workshop on " Partial Differential Equations and their Applications to Image Processing"	IIT Mandi	2024-06-03	2024-06-15	India
Recent Trends in Chemical Science and Technology 2024	Indian Institute of Technology Patna, Patna, Bihar	2024-03-01	2024-03-02	India
8 th World Cancer Congress-2024	Arjyopa Healthcare and Ministry of AYUSH	2024-03-18	2024-03-20	India
Global Disease Biology: Perspective Biotechnology (ICGDB-2024)	Global Disease Biology: Perspective Biotechnology (ICGDB-2024)	2024-03-15	2024-03-17	India
13 th International Conference on Chemistry and Chemical Process (ICCCP 2024)	Tokyo University of Science, Japan	2024-02-26	2024-02-29	Japan
Faraday RSC Joint Interest Group Conference 2023	Royal Society of Chemistry, London UK	2023-04-03	2023-04-05	United Kingdom (London)
6 th Regional DST-BT Science Congress, organized by Government of West Bengal	DST-BT, Govt. of West Bengal and Durgapur Government College, WB	2024-01-09	2024-01-10	India
International Conference on Global Disease Biology: Perspective Biotechnology (ICGDB-2024)	University of Burdwan, Department of Biotechnology The University of Burdwan	2024-03-15	2024-03-17	India
National Seminar on the Tales of New Chemistry (NSTNC-24))	Department of Chemistry, TDB College, Taniganj	2024-01-25	2024-01-25	India
5 th Edition of Advanced Chemistry World Congress (Adv. Chemistry 2024)	Advanced-Chemistry.Peers Aalley Cconferences	2024-03-25	2024-03-26	Netherland
'CI3CS-2023' Conference	Presidency University, Kolkata	2023-08-23	2023-08-24	India
31 st CRSI National Symposium in Chemistry (CRSI-NSC 2023)	NIT Rourkela	2023-07-06	2023-07-08	India
International INDO-GERMAN conference on Sustainable Chemistry-II 2024	IIT Indore & University of Regensburg, Germany	2024-02-20	2024-02-22	India
Symposium on Advanced Biological Inorganic Chemistry (SABIC) 2024	IACS Kolkata	2024-01-07	2024-01-11	India

4.3.20 Ph.D. Supervision

Topic Name	Scholar	Supervisor	Status	Status Date
Synthesis of Pharmacologically Active Heterocyclic Compounds via One Pot Three-Component Coupling Reaction Catalyzed by Bio-Inspired Nanoparticles.	Mr. Partha Sarathi Bera	Dr. Tanmoy Kumar Saha	SUBMITTED	2024-03-31
Sustainable Synthesis of Small Organic molecules from Alcohols using Homogeneous Transition Metal Catalysts.	Ms. Jharna Mahato	Dr. Tanmoy Kumar Saha	ONGOING	-
Bioactivity and anticancer property of Pt(II) & Pd(II) complexes of different bidentate chelates: their DNA/BSA binding, molecular docking and theoretical aspects	Saikat Mandal	Prof. Sankar Chandra Moi	DEGREE AWARDED	2023-09-01
Anticancer activity of Pt(II) and Pd(II) complexes with pyridine scaffold: their bio-molecular interaction, cell death mechanism and computational study	Rituparna Bhaduri	Prof. Sankar Chandra Moi	DEGREE AWARDED	2023-12-12
Materials Chemistry	Pallav Mondal	Dr. Utpal Adhikari and Dr. Sourav Laha	ONGOING	-
Materials Chemistry	Bhaskar K Brahma	Dr. Utpal Adhikari and Dr. Sourav Laha	ONGOING	-
Materials Chemistry and Catalysis	Pulak Pradhan	Dr. Jitamanyu Chakrabarty and Dr. Sourav Laha	ONGOING	-
Corrosion Inhibition of Mild Steel in Aqueous HCl Medium by Benzothiazole Derivatives: Structure Reactivity Correlation Study	Aditya Suhasaria	Dipankar Sukul	DEGREE AWARDED	2023-06-28
Corrosion inhibition of metals by organic corrosion inhibitors	Rakhi Senapati	Dipankar Sukul	ONGOING	-
Synthesis and characterisation of Pt(II) & Pd(II) complexes as anticancer drug candidates: their bio-molecular interaction, and theoretical approach	Swarup Kumar Tarai	Prof. Sankar Chandra Moi	SUBMITTED	2023-06-22
Synthesis and characterisation of Pt(II) & Pd(II) complexes as anticancer agent and comparison with recognised anticancer drugs: their kinetics, bio-activity and theoretical aspects.	Angana Pan	Prof. Sankar Chandra Moi	SUBMITTED	2023-11-17
Pt(II) based anticancer drug design and drug development	Chandrika das	Prof. Sankar Chandra Moi	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Pd(II) based anticancer drug design and drug development	Sarmistha Chatterjee	Prof. Sankar Chandra Moi	ONGOING	-
Effect of frying, freezing and sun drying on the biochemical components of fish and its nutritional impact on human health	Indrani Banerjee	Dr. J Chakrabarty and Dr. A. Bhattacharjee (BT)	SUBMITTED	2024-03-25
Exploration of Metal Oxide Nanoparticles towards Enhanced Photocatalytic Degradation of Hazardous Organic Pollutants	Pulak Pradhan	Dr. J Chakrabarty and Dr. S. Laha	ONGOING	-
Azo-linked CHEF-PET regulated 'turn-on' molecular probe for metal ion sensing	Subhabrata Mabhai	Dr Deb Ranjan Banerjee (Sole)	DEGREE AWARDED	2023-07-17
The molecular dynamics simulation studies on Thyroid hormones receptor	Soumita Mukherjee	S S Panja	SUBMITTED	2023-05-31
computational investigation on Lysine methyltransferase G9a and identification of potential inhibitors	Abhisek jana	Dr Deb Ranjan Banerjee (Sole)	ONGOING	2024-03-31
Brønsted acid catalyzed electrophilic activation of tertiary propargylic alcohols to synthesize various indenenes, benzopyrans and conjugated diene-diones	Gitumoni Kalita (registered at NIT Meghalaya)	Dr. Paresh Nath Chatterjee	DEGREE AWARDED	2023-06-12
Rational design and synthesis of functionalized Metal-Organic Frameworks for targeted remediation of heavy metal ions and organic toxins	Pallav Mondal	Utpal Adhikari, Sourav laha	ONGOING	-
"Corrosion Inhibition And Antioxidant Activities of The Extracts from The Indian Samples of Purple Knight Hedge Plant and Snap Melon"	Surajit Hazra	Utpal Adhikari	DEGREE AWARDED	2024-02-05
Insights into Metal Formate Frameworks: Synthesis, Structure, Properties and Prospectives	Bhaskar Kumar Bramha	Utpal Adhikari, Sourav Laha	ONGOING	-
Advances in mesoporous Nanomaterial-based Watertreatment approaches For remediation of aqueous contaminants	Mrs Ipsita Som	Prof. Rajnarayan Saha	DEGREE AWARDED	2024-01-09
A Novel Fabrication of the Composite of Agricultural Waste-based Activated Carbon and its application for the Photocatalytic Degradation of various dyes	Satyabhama Sahu	Prof. Rajnarayan Saha	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Removal of Ciprofloxacin from the aqueous media by the sorption and photocatalytic process.	Priyanka Khan.	Prof. Rajnarayan Saha	ONGOING	-
Growth Mechanism of Polycyclic Aromatic Hydrocarbons in the Interstellar Medium	Tarun Roy	Subhas Ghosal	SUBMITTED	2024-02-26
Understanding the corrosion inhibition properties of heterocyclic phospho-organic derivatives using density functional theory & molecular dynamics simulations	Pradeep Kumar Rout	Subhas Ghosal	ONGOING	-
Structure elucidation of astrochemically important complex organic molecules using Density Functional Theory and post-HF methods	Sayon Satpati	Subhas Ghosal	ONGOING	-
PHARMACEUTICAL COCRYSTAL SYSTEM: EXPERIMENT AND COMPUTATIONAL ORTHOGONAL CORRESPONDENCE	Raja Sekhar Voguri	Prof. Manab Chakravarty (Supervisor, BITS Pilani Hyderabad), Dr. Archan Dey (co-supervisor, Dr. Reddy's Lab), Dr. Subhas Ghosal (co-supervisor, NIT Durgapur)	SUBMITTED	2024-03-31
Design and synthesis of chromogenic and fluorogenic chemoreceptors for selective sensing of toxic anions	Amita Mondal	J. Chakrabarty, P. Banerjee (CSIR-CMERI)	DEGREE AWARDED	2022-04-06
Improvement of nutritional quality of fish during conventional frying process: A novel approach using Artificial Intelligence	Tithli Sadhu	J. Chakrabarty, Ashish Bhattacharjee (BT)	DEGREE AWARDED	2022-05-10
Protein and other biochemical components of fish and their nutritional effect	Indrani Banerjee	J. Chakrabarty, Ashish Bhattacharjee (BT)	ONGOING	-
Not registered yet	Pulak Pradhan	J. Chakrabarty,	ONGOING	-
The molecular dynamics simulation studies on Thyroid hormones receptor	Soumita Mukherjee	Sujit Sankar Panja	ONGOING	-
Chemistry of various p and d block metal complexes of Schiff bases having different N,O donor sites: Catalytic and sensor applications	Sourav Chatterjee	Dipankar Sukul, Priyabrata Banerjee, Tanmoy Chattopadhyay	DEGREE AWARDED	2022-07-28

Topic Name	Scholar	Supervisor	Status	Status Date
Anti-corrosive activity of Schiff bases involving biomolecules towards mild steel in hydrochloric acid medium	Sanjoy Satpati	Dipankar Sukul, Priyabrata Banerjee	DEGREE AWARDED	2022-11-17
Synthesis of bioactive heterocycles catalyzed by nanoparticles (preparing for submission)	Mr. Partha Sarathi Bera	Dr. T. K. Saha	ONGOING	-
Muticomponent reaction catalyzed by transition metal	Ms. Jharana mahato	Dr. T. K. Saha	ONGOING	-
Development And Photophysical Investigation Of Aggregation-Induced Emission Enhancement Active Luminogens And Their Multifarious Applications	Tapashree Mondaal	Sujit Sankar Panja	SUBMITTED	2023-03-30
Development and photo-physical study of fluorescein based fluorescent sensor and their different applications	Swapnadip Roy	Sujit Sankar Panja	DEGREE AWARDED	2022-08-03
Synthesis and reactivity studies of copper complexes relevant to biological sites	Shibaditya Kumar	Milan Maji and Apurba Kumar Patra	ONGOING	-
Advances in Mesoporous Nanomaterialbased Water Treatment Approaches for Remediation of Aqueous Contaminants	Ipsita Som	Prof. Rajnarayan Saha	ONGOING	-
Synthesis of nano Photocatalyst and its application for the degradation of dyes	Satyabhama Sahu	Prof. Rajnarayan Saha	ONGOING	-
Biological Relevance and Reactivity of Cu(II/I) Complexes Supported by N, S Donor Ligands	Saikat Mishra	Apurba K. Patra	DEGREE AWARDED	2023-01-27
carbon-Carbon bond formation via redox reactions : Green chemistry exercise and role of nano architecture	Bibhas Mondal	Utpal Adhikari, Ujjal kanti Roy	DEGREE AWARDED	2020-06-12
Studies on the extracts of some Indian plants as corrosion inhibitors of mild steel in 1M HCl medium	Shipra Mukhopadhyay	Utpal Adhikari	ONGOING	-
Corrosion inhibition and antioxidant activities of the extracts from the Indian samples of Purple Knight Hedge plant and Snap Melon	Surajit Hazra	Utpal Adhikari	SUBMITTED	2022-11-04
pH dependent synthesis and electrochemical Arsenic sensing behaviour of Fe, Co based oxides, carbonates and hydroxysulphates	Priyanka Mukherjee	Utpal Adhikari (NIT Durgapur), Mamta Mahapatra (CSIR-IMMT)	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
rational Design and synthesis of functionalized metal-organic frameworks for targeted remediation of heavy metal ions and organic toxins	Pallav Mondal	Utpal Adhikari	ONGOING	-
Azo-linked CHEF-PET regulated 'turn-on' molecular probe for metal ion sensing	Subhabrata Mabhai	Deb Ranjan Banerjee	SUBMITTED	2023-02-22
Computational Investigation on Epigenetics and Identification of potential Inhibitors	Abhisek Jana	Deb Ranjan Banerjee	ONGOING	-
Growth Mechanism of Polycyclic Aromatic Hydrocarbons (PAHs) in the interstellar medium	Tarun Roy	Subhas Ghosal	ONGOING	-
Structure Elucidation of Hydrocarbon Molecules through Global Optimization using Density Functional Theory and postHF Methods	Sayon Satpati	Subhas Ghosal	ONGOING	-
Bioactivity and cytotoxic property of Pt(II) & Pd(II) complexes with different (N, N) bidentate chelates: their bio-physical analysis on DNA/BSA binding, molecular docking and theoretical aspects	Mr. saikat Mandal	Prof. Sankar Chandra Moi (Sole)	SUBMITTED	2023-08-07
Anticancer activity of Pt(II) & Pd(II) complexes with pyridine scaffold: their biomolecular interactions, cell death mechanism and computational study	Miss. Rituparna Bhaduri	Prof. Sankar Chandra Moi (Sole)	SUBMITTED	2023-08-07
Bronsted acid catalyzed electrophilic activation of tertiary propargylic alcohols to synthesize various indenenes, benzopyrans and conjugated diene-diones	Gitumoni Kalita (roll no. PI8CH007), registered at NIT Meghalaya	Dr. Paresh Nath Chatterjee	SUBMITTED	2022-11-21
Pharmaceutical wastewater treatment by adsorption and photocatalytic Processes	Priyanka Khan	Prof. Rajnarayan Saha and Prof. Gopinath Halder	ONGOING	-

4.3.21 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount (in Rs.)	Starting Year
Synthesis and characterization of Cis-platin based Pt/Pd(II) complexes: Their kinetics, mechanism, DNA- binding property and theoretical study	Prof. sankar Chandra Moi	DST-BT, Government of West Bengal	2499100.0	2018
Transition metal oxide nanosheets for efficient and cost-effective green hydrogen production	Dr. Sourav Laha	Science and Engineering Research Board (SERB), Govt. of India	3300000.0	2023
Chemical sensors cum inhibitors of Histone PTM	Dr Deb Ranjan Banerjee (PI), Dr Sudipta Mondal (Co-PI)	SERB, Gol	3651494.0	2022
Exploring the Synergy in Ru-Sn Heterobimetallic Complexes for their Catalytic Applications in Organic Syntheses	Dr. Paresh Nath Chatterjee (PI) & Dr. Debjit Das, TDB College (Co-PI)	WBDSTBT	1740000.0	2024
Synthesis and characterization of colloidal quantum dots and investigating their suitability as photo-catalyst in organic synthesis	Dr. Amit Kumar andal, Bankura University (PI) & Dr. Paresh Nath Chatterjee (Mentor, equivalent to Co-PI)	SERB	1830000.0	2024
Structure elucidation of simple hydrocarbons through Global Optimization using Density Functional Theory and post HF methods	Subhas Ghosal (PI), Prof. Anoop Ayyapan, IIT Kharagpur (co-PI)	National Supercomputing Mission	2252000.0	2021
Ultracold Chemistry of molecular ions	Subhas Ghosal	SERB	2400959.0	2020

4.3.22 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
Bio-transformation reactions of Pt(II)/Pd(II) and Pt(IV)sulfur chelates to metal-DNA adduct with nucleobases: their kinetics, mechanistic pathway, bio-activity and theoretical aspects	Prof. Sankar Chandra Moi	DST-SERB, Govt. of India	2023
New Multi-Metal Oxide Nanosheets for Electrochemical Water Splitting and CO ₂ Reduction	Dr. Sourav Laha	Research Board (SERB), Govt. of India	2022
Design and Development of Two Stage Efficient Laboratory Wastewater Treatment (Advanced Oxidation and Activated Sludge Process) Plant for Producing Environmentally Safe and Clean Water for further uses	Prof. R.N. Saha and Dr. J. Chakrabarty	DSTBT, Govt. of West Bengal	2023
NMR studies of Lys/Arg side chain interactions in epigenetics and membrane-induced dimerization	Dr Deb Ranjan Banerjee	SERB, Gol	2023
Design and Development of Two Stage Efficient Laboratory Wastewater Treatment (Advanced Oxidation and Activated Sludge Process) Plant for Producing Environmentally Safe and Clean Water for further uses	Saha R. N. and Chakroborty J.	Department of Higher Education, Science & Technology and Biotechnology, Govt. of West Bengal	2023

4.3.23 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Sankar Chandra Moi	Chemical Research in Toxicology	American Chemical Science (ACS)	2023-05-15
Sankar Chandra Moi	RSC Advances	Royal Society of Chemistry	2023-05-03
Sankar Chandra Moi	RSC Advances	Royal Society of Chemistry	2023-04-04
Sankar Chandra Moi	Polyhedron	Elsevier	2023-08-15
Sankar Chandra Moi	J. of Molecular Structure	Elsevier	2023-05-15
Sankar Chandra Moi	J. of Molecular Liquids	Elsevier	2023-07-24
Sankar Chandra Moi	J. Molecular Liquids	Elsevier	2023-09-14
Sankar Chandra Moi	ChemistrySelect	Wiley & Sons	2023-09-15
Sankar Chandra Moi	ChemistrySelect	Wiley & Sons	2023-08-03
Sourav Laha	RSC Advances	The Royal Society of Chemistry	2023-12-12
Sourav Laha	RSC Advances	The Royal Society of Chemistry	2024-01-10
Sourav Laha	Langmuir	The American Chemical Society	2024-02-26
Dipankar Sukul	Journal of Molecular Structure	Elsevier	2024-03-20
Dipankar Sukul	Polyhedron	Elsevier	2024-02-07
Dipankar Sukul	ACS Omega	American Chemical Society	2023-06-28
Dipankar Sukul	Journal of Molecular Liquids	Elsevier	2023-12-12
Dipankar Sukul	Colloids and Surfaces A: Physicochemical and Engineering Aspects	Elsevier	2023-12-13
Dipankar Sukul	Colloids and Surfaces A: Physicochemical and Engineering Aspects	Elsevier	2023-12-08
Dipankar Sukul	Journal of Molecular Liquids	Elsevier	2023-11-21
Dipankar Sukul	Journal of Molecular Liquids	Elsevier	2023-10-29
Dipankar Sukul	ACS Omega	ACS	2023-10-28
Dipankar Sukul	Journal of Molecular Liquids	Elsevier	2023-04-05
Sujit Sankar Panja	Journal of Photochemistry & Photobiology, A: Chemistry	Elsevier	2023-07-19
Sujit Sankar Panja	Journal of Photochemistry & Photobiology, A: Chemistry	Elsevier	2024-01-31
Deb Ranjan Banerjee	ACS Omega	American Chemical Society	2023-07-26
Deb Ranjan Banerjee	3Biotech	Elsevier	2023-05-17
Deb Ranjan Banerjee	Journal of Biomolecular Structure and Dynamics	Taylor & Francis	2023-08-18
Paresh Nath Chatterjee	ChemistrySelect	Wiley	2024-03-26
Paresh Nath Chatterjee	ChemistrySelect	Wiley	2023-04-08
Paresh Nath Chatterjee	Results in Chemistry	ScienceDirect	2023-10-08
Paresh Nath Chatterjee	Results in Chemistry	ScienceDirect	2023-12-04
Paresh Nath Chatterjee	ChemistrySelect	Wiley	2024-02-15
Jitamanyu Chakraborty	Food Chemistry Advances	Science Direct (Elsevier)	2024-03-17
Jitamanyu Chakraborty	Environmental progress & sustainable Energy	WILEY	2023-04-18
Apurba Kumar Patra	Journal of the American Chemical Society AU	American Chemical Society	2023-05-29
Apurba Kumar Patra	Journal of the American Chemical Society	American Chemical Society	2023-04-11
Apurba Kumar Patra	Inorganic Chemistry	American Chemical Society	2023-10-02

Reviewer	Name of the Journal	Publisher	Date of Final Review
Apurba Kumar Patra	Inorganic Chemistry	American Chemical Society	2024-07-13
Subhas Ghosal	ChemistrySelect	Wiley-VCH	2024-02-26

4.3.24 Participation in National Committees/Visits

Name of the Faculty	Name of the Committee	Place of Visit	From Date	To Date
Sankar Chandra Moi	SC/ST nominee in HSSM Faculty selection committee in NIT Jamshedpur	NIT Jamshedpur	2023-12-18	2023-12-19
Sankar Chandra Moi	SC/ST nominee in Faculty selection committee in Basic Science in NIT Jamshedpur	NIT Jamshedpur	2023-11-27	2023-11-27
Sankar Chandra Moi	SC/ST nominee in HSSM Faculty selection committee in NIT Jamshedpur	NIT Jamshedpur	2023-11-29	2023-11-29
Sankar Chandra Moi	SC/ST nominee in Faculty selection committee of Basic Science in NIT Jamshedpur	NIT Jamshedpur	2023-12-19	2023-12-19
Sankar Chandra Moi	Member of chemistry faculty selection in IIIT Bhubaneswar	IIIT Bhubaneswar	2024-01-04	2024-01-04
Sankar Chandra Moi	Faculty selection under CAS in Burdwan University	Burdwan University	2024-02-19	2024-02-19

4.3.25 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Sourav Laha	Chemistry Practical Examination	Bankura University	2023-07-03	2023-07-03
Dipankar Sukul	External examiner for Ph.D defense seminar cum viva voce	Manipal University Jaipur	2023-04-14	2023-04-14
Sankar Chandra Moi	Moderation of Question in Chemistry for Ph. D and PG courses	Burdwan University	2023-01-10	2024-11-01
Sujit Sankar Panja	MSc practical examination	Burdwan university	2024-09-23	2024-11-27
Sankar Chandra Moi	Ph. D thesis examiner of IIT G	Indian Institute of Technology Guwahati Assam, India-781039, India	2023-06-08	2023-08-08
Sankar Chandra Moi	Ph. D thesis examiner of Ciaro University of Egypt	Chemistry Department Faculty of Science Cairo University Egypt	2023-09-06	2023-10-05
Paresh Nath Chatterjee	PhD thesis examination	IIIT Allahabad	2023-04-11	2023-04-11
Jitamanyu Chakraborty	M.Sc..	Kazi Nazrul University	2023-07-13	2023-07-13
Apurba Kumar Patra	PhD Thesis Defense	Delhi University	2024-02-04	2024-02-04
Utpal Adhikari	the Postgraduate End Semester-I & III Examinations of the A. Y. 2023 - 24.	BANKURA UNIVERSITY	2023-12-19	2023-12-19
Utpal Adhikari	M.Sc in Chemistry 4 th Semester Practical Examination, 2024	The University of Burdwan	2023-07-19	2023-07-19
Rajnarayan Saha	MSC. Conservation Biology (MSCCONBC106)	Kazi Nazrul University	2023-03-21	2023-03-21
Rajnarayan Saha	MSC. Conservation Biology (CONBC403)	Kazi Nazrul University	2023-07-25	2023-07-25

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Rajnarayan Saha	Nominated as a an external member of Board of Studies in Conservation Biology, Kazi Nazrul University, West Bengal	Conservation Biology, Kazi Nazrul University, West Bengal	2021-03-30	2024-03-30
Rajnarayan Saha	Nominated as a an external member of Board of Research Studies	Conservation Biology, Kazi Nazrul University, West Bengal	2021-06-06	2024-03-30
Rajnarayan Saha	External Expert for Thesis Assessment / Interview for enhancement of fellowship	Department of Environmental Science, Burdwan University	2024-02-23	2024-03-23
Rajnarayan Saha	External Expert to evaluate the Thesis Papers relating to enhancement of Junior Research Fellow to Senior Research Fellow	Department of Environmental Science, Burdwan University	2024-02-02	2024-02-02
Rajnarayan Saha	Evaluation of the Ph.D. thesis of Md. Atif Qaiyum,	Department of Chemistry, Central University of Jharkhand	2023-07-28	2023-07-28
Rajnarayan Saha	External Examiner for Pre-PhD Seminar	Visva-Bharati University	2024-01-10	2024-01-10

4.3.26 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Sourav Laha	Chemistry	DAV Model School, Durgapur	2023-04-08	2023-04-08
Sankar Chandra Moi	Board member in Faculty Selection committee	Burdwan University	2024-02-19	2024-02-19
Sankar Chandra Moi	Board member of Faculty selection in NIT Jamshedpur	NIT Jamshedpur	2023-12-18	2023-12-18
Sankar Chandra Moi	Board member in Faculty selection in NIT Jamshedpur	NIT Jamshedpur	2023-12-19	2023-12-19
Sankar Chandra Moi	Board member for selection committee in Faculty Selection	NIT Jamshedpur	2023-11-27	2023-11-27
Sankar Chandra Moi	Board member in Faculty selection	IIIT Bhubaneswar	2024-01-04	2024-01-04
Sankar Chandra Moi	Board member of HSSM Faculty selection in NIT Jamshedpur	NIT Jamshedpur	2023-11-29	2023-11-29
Paresh Nath Chatterjee	Chemistry	DAV Model School, Durgapur	2023-04-08	2023-04-08
Rajnarayan Saha	External Expert Member for Scrutinizing the application of the post of Assistant Professor in Environmental Science	Visva-Bharati University	2023-10-05	2023-10-05

4.3.27 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Krishnendu Pal	"Coloured Noise Induced Critical Transition in Spatial Ecological Systems: Forecasting Critical Transition"	"Stochastic and Nonlinear dynamics in Chemistry and Biology" (SNDCEB-2024)	S N Bose National Centre for Basic Sciences, Kolkata	2024-01-04	2024-01-05

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Sourav Laha	Prussian blue analogues to oxides: Exploration of transition metal-based materials for efficient and cost-effective energy applications	Recent Trends in Chemical Science and Technology 2024	Indian Institute of Technology Patna, Patna, Bihar	2024-03-01	2024-03-02
Sankar Chandra Moi	An Avenue On The Development Of Pt(II) Based Less Toxic And More Effective Anticancer Drug	8 th World Cancer Congress 2024	AIIMS & JNU, New Delhi	2024-03-18	2024-03-20
Sankar Chandra Moi	A Road Map on Pt(II) Based Anticancer Drug Design and drug development	International Conference on Global Disease Biology: Perspective Biotechnology (ICGDB-2024)	University of Burdwan, Department of Biotechnology The University of Burdwan	2024-03-15	2024-03-17
Sankar Chandra Moi	Pt(II) based anticancer drug design and drug development	6 th Regional DST-BT Science Congress, organized by Government of West Bengal	Durgapur Government College, WB	2024-01-09	2024-01-10
Sankar Chandra Moi	Bio-physical study on soft and bio-materials like; BSA & DNA for Pt(II) based anticancer drug design and drug development	Royal Society of Chemistry, London UK	Sheffield University, Sheffield, UK	2023-04-03	2023-04-05
Deb Ranjan Banerjee	Towards epigenetic therapeutics using 3-I (in silico, In vitro, In vivo)	P. C. Ray Memorial International Conference on Contemporary Ideas, Innovations & Initiatives in Chemical Sciences - 2023 (CI3CS-2023)	Presidency University, Kolkata	2023-08-23	2023-08-24
Deb Ranjan Banerjee	3D QSAR and Pharmacophore mapping: Advanced Add On to current Drug Discovery	Collaborative visit at University of Barcelona, Spain	Department of Pharmacology, University of Barcelona, Spain	2024-02-19	2024-02-29
Paresh Nath Chatterjee	1,3,5-Trimethoxybenzene as a carbon-based leaving group	National Seminar on the Tales of New Chemistry	Raniganj, West Bengal	2024-01-25	2024-01-25
Paresh Nath Chatterjee	Evolution of an Iridium-Tin Heterobimetallic Catalyst via Organometallic Approach	Amity University (online program)	Noida	2023-12-01	2023-12-01
Paresh Nath Chatterjee	1,3,5-Trimethoxybenzene as a carbon-based leaving group	International INDO- GERMAN conference on Sustainable Chemistry-II 2024	Goa, India	2024-02-20	2024-02-22

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Jitanyu Chakraborty	Improvement of Fatty Acid Based Nutritional Quality of Fish During Frying Using Artificial Intelligence	5 th Edition of Advanced Chemistry World Congress (Adv. Chemistry 2024)	Netherland (Virtual)	2024-03-25	2024-03-26
Rajnarayan Saha	Plastic pollution	Participated in a recording of discussion programme on 'World Environment Day' 2023 in Doordarshan Santiniketan Studio	Doordarshan Santiniketan Studio	2023-06-02	2023-06-02
Rajnarayan Saha	Biodegradability Enhanced by Advanced Oxidation Process for Highly Toxic Organics".	DBT STAR COLLEGE SCHEME of Durgapur Government College	Durgapur Government College	2023-03-31	2023-03-31

4.3.28 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Rajnarayan Saha	A hands-on workshop on Molecular structure prediction through global optimization and machine learning techniques	NIT Durgapur	Session Chair	2024-03-02	2024-03-02

4.4 Department of Computer Science & Engineering

4.4.1 Department at a Glance

The Department started imparting instructions with the most modern curricula and syllabus to the students for undergraduate course since 1991 and post graduate course since July, 2004. Apart from B.Tech. in CSE, the department also started one undergraduate course named 'B.Tech. in Mathematics and Computing' with an intake of 60 and one post-graduate course name 'M.Tech. in Artificial Intelligence & Data Science' with an intake of 20 from the A.Y. 2024-25. The Department maintains an excellent teaching/learning and research environment with dedicated, qualified and dynamic faculties and well-equipped laboratories.

The Department of Computer Science and Engineering (CSE) embodies the Institute's tradition of excellence in engineering education. CSE is in a period of exciting growth and opportunity. CSE Graduates capture leading academic

appointments as well as opportunities in renowned computer industries.

Apart from UG & PG S/W and H/W Laboratories, the Department has designed few specialized research Laboratories which includes highly sophisticated VLSI and Embedded Systems laboratory, Bio-medical Engineering laboratory, Systems laboratories, Data Science laboratory, Software Engineering Laboratory, etc. It also focuses research in areas like Bioinformatics, algorithms, security, natural language processing which the researchers have made a foray into in recent years. The newly built augmented space in the Department (1st floor of the Chemistry Building) department also has Software Laboratories for Undergraduate and Post Graduate Programmes, and a dedicated server room.

4.4.2 Mission & Vision

Mission:

M1. Imparting quality education through the well-designed curriculum in tune with the challenging needs of the industry and society.

M2. Providing state-of-art research facilities to generate knowledge and develop technologies in the thrust areas of Computer Science and Engineering.

M3. Developing linkages with world-class organizations to strengthen industry-academia relationships for mutual benefit.

M4. To produce quality engineers, researchers, and successful professionals who will become responsible citizens by contributing to the progress of the nation.

Vision:

Attaining global recognition in the area of Computer Science & Engineering through creating, applying, and imparting scientific and technical education, research, and training to meet the growing needs of the industry and society.

4.4.3 Faculty

Name	Designation	Email-id
Debashis Nandi	Professor	dnandi.cse@nitdgp.ac.in
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Monalisa Mandal	Assistant Professor	mmandal.cse@nitdgp.ac.in
Subhas Chandra Sahana	Assistant Professor	scsahana.cse@nitdgp.ac.in
Suvadip Batabyal	Assistant Professor	sbatabyal.cse@nitdgp.ac.in

4.4.4 Labs

Sl. No.	Name of Laboratory	Major Equipment
CSE Main building and Annex Building		
1.	Software Lab-I	(a) Server – 01 No. (b) Desktop – 75 Nos.
2.	Software Lab-II	(a) Desktop – 61 Nos.
3.	Research Lab-I	(a) Desktop – 17 Nos. (b) Workstation – 03 Nos.
4.	Research Lab-II	(a) Supermicro GPU Server – 01 No. (b) Desktop – 06 Nos. (c) Workstation – 01 No.
5.	Research Lab-III	(a) Desktop – 8 Nos.
6.	Server Room	(a) Rack Server – 01 No.
7.	VLSI Lab	(a) Desktop – 35 Nos. (b) Server – 1 No. (c) Xilinx Spartan 3E (24 nos.)
8.	Biomedical Engineering Lab	(a) Workstation – 02 Nos. (b) Server – 01 No. (c) Mobile Devices (d) Printer – 01 No. (e) EEG and fNIRS devices
9.	CoE-IoTIS Lab	(a) Workstation – 02 Nos. (b) Desktop – 02 Nos. (c) Tobii-Pro Eyetracker Device – 01 No. (d) GSR-EMG Biofeedback Device – 02 Nos. (e) Mobile Device – 01 No.
CSE Main Academic Block		
10.	Research Lab	(a) Desktops – 11 Nos.
11.	Networking Lab	(a) Desktops – 0
12.	Application Lab	(a) Desktops – 0

4.4.5 PhD degree awarded till 2023-24

One hundred twenty six.

4.4.6 Specialization

- » Compiler Design
- » Natural Language Processing
- » Digital Image Processing, Computer Vision, and Biometrics
- » Wireless Networks and Communication, Non-terrestrial networking, QoE for video streaming
- » Computer Vision
- » Game Theory and Its Applications.
- » Cryptography, Blockchain, IoT, Cybersecurity
- » Algorithms for VLSI Design and Test
- » Cryptography and Network Security
- » Computer Vision, Image Processing, Machine Learning
- » Computer Science and Engineering
- » Quantitative Data Analysis
- » Biometrics
- » Deep Learning for Image Processing
- » Compiler Design
- » Natural Language Processing (NLP) and Large Language Models for Conversational AI
- » Digital Image Processing
- » Crowd Computing, Recommender System, Data Science
- » Internet of Things
- » Wireless Communication
- » Human Computer Interaction
- » Software Engineering
- » Mobile Computing, Network, DBMS
- » Cellular Automata
- » PhD (Computer Science & Engg.)
- » Computational Geometry, Theoretical Computer Science
- » Localisation and Segmentation of Bio Medical (CT/MRI) Images using Deep Learning, Machine Learning, Software engineering
- » VLSI Design and Test
- » Theory and Applications of Cellular Automata (CA).
- » Swarm Robotics, Distributed algorithm
- » Computer Science and Engineering
- » AI and Data Science
- » System Security
- » NLP, KMS, DBMS, AI and ML applications
- » Data Security, Machine Learning, Quantum Computing
- » Cryptography, Theoretical Computation, Blockchain, Algorithm

4.4.7 Proposed Plan for Research

- » Developing Speech to Text systems for Indian language.
- » Plan to conduct research in the area of wireless networking and communication. More specifically in device-to-device communication with focus on video streaming. Real-time video surveillance and/or streaming is growing with the increase in number of cameras especially in dense urban scenarios. This calls for innovative caching, buffering and streaming strategies for smooth viewing.
- » Machine learning has become essential in computational biology, especially in studying cancer. By analyzing complex biological data, machine learning helps identify patterns in genetic mutations and cancer biomarkers, aiding early detection. Researchers use these patterns to predict how specific cancers will respond to treatments, making therapies more effective. Machine learning also assists in developing personalized medicine by understanding the unique characteristics of a patient's cancer. Additionally, it accelerates the search for new drug targets, helping scientists discover potential treatments faster. This combination of machine learning and biology is transforming cancer research, opening new possibilities in precision oncology.
- » Design and Develop Blind Assistive System
- » Developing algorithms for spatial crowdsourcing taking into account behavioural aspects of the participating agents, on how to match agents when the agents are arriving and departing in an online fashion, in the multi-armed bandit and its application scenarios.
- » Cryptography, Blockchain, IoT, Cybersecurity
- » Exploring fairness issues in automated decision making such as fair rent division, fair credit sharing etc.
- » Designing Efficient Key Agreement and Authentication schemes for IoT based health Care System
- » Development of CAD systems for automatic disease detection from bio-medical images

- » Development of new Assistive technology for VIPs.
- » This work examines advancements in Natural Language Processing (NLP), with an emphasis on developing and optimizing language models and conversational AI systems. The research seeks to enhance the performance, responsiveness, and usability of large language models (LLMs) in conversational AI, enabling applications in dialogue systems, virtual assistants, customer support automation, personalized content generation, and information retrieval. Additionally, the study emphasizes strategies to mitigate bias and improve human-computer interaction, advancing trustworthy, user-centered AI applications across diverse domains.
- » Service Oriented System, Internet of things
- » My present research interests lie in the cross section of IoT, Sensing, Pervasive computing and Sensor Networks. The focus is to identify research challenges that solve societal problems related to human activity recognition, smart home, smart living, environmental pollution monitoring, etc. The main challenge is to customize the classical ML/DL models to run them in resource-constraint-edge devices
- » (smartphones/microcontrollers/microcomputers) such that we can have Intelligence embedded in IoT Edge devices. I have already applied to the SERB-Power grant which is under review and also exploring translational research opportunities, patents and seeking collaborations from other research groups both in India and abroad
- » AI Model for Secondary Sensing in Environmental Monitoring System: s We aim to develop an AI model to enhance secondary sensing in environmental monitoring systems. This model will provide additional data validation, anomaly detection, and predictive insights to complement primary sensors, making the monitoring process more robust and accurate. A prototype of the AI-enabled secondary environmental monitoring system will also be developed to demonstrate these capabilities.
- » Capacitive-Based Humidity Sensor Development: Our project focuses on developing a capacitive-based humidity sensor specifically designed to improve agricultural applications. This sensor will offer accurate humidity measurements, supporting optimized water management and crop health monitoring in farming environment
- » AI Model for Multi-Activity Sound-Based Assistive Living Systems for Elderly Individuals Living Alone : This AI model is designed to support elderly individuals living alone by recognizing sounds related to various daily activities. It enhances safety and well-being by identifying critical sounds—such as alarms, doorbells, or calls for help—while also monitoring activity patterns for any signs of distress or unusual behavior.
- » Continue with this research field
- » Our research focus on designing algorithms for different colour spanning problems of coloured geometric objects. We also study the 2 center covering, hitting, stabbing problem for line segments.
- » Biomedical and Assistive Technology
- » Language Translation
- » Biometrics
- » Geometric Facility Location Problems
- » To continue research on Deep Learning
- » Exploring cost-effective non-invasive solution for Anaemia Detection
- » The hype in the field of aging research during the recent years indicates that healthy aging has long term societal impacts and economic consequences. The valuable knowledge which can be gained from this project along with the possibilities created by other technological developments can be considered to develop novel treatments which are very much required in society. The age-related diseases cause degradation in the quality of life and are a reason for healthcare and socioeconomic challenges. Many countries are trying to solve this problem by developing new healthcare programs and plans. Machine learning and Artificial Intelligence combined with Big Data and other novel computational approaches can be used to track and monitor disease patterns, make better healthcare systems for people, develop new drugs and design appropriate ways to lead a healthy life. These all factors are interrelated which will help us to unravel the path towards healthy aging and longevity.
- » IoT, Activity Sensing, apply for patents, transform my ongoing works to translational reaserch, apply for more research funding and intitiate further foreign collaboration, Upgrade our SRL Lab to State-of-theArt Systems Research Lab in the Department
- » PhD supervision
- » Exploring different issues in the area of D2D multicasting like resource allocation, energy management, handoff management, etc., and different issues in mobile edge computing like task offloading, energy optimization, etc.
- » Application of federated reinforcement learning in Edge Computing
- » Research on System Security

- » To successfully complete submission of thesis of my PhD research scholars
- » To incorporate fresh research scholars

4.4.8 Area of Research Interest

- » Natural Language Processing, Speech Processing, Education Technology
- » Digital Image Processing, Computer Vision, and Biometrics •1. Quality-of-experience for video streaming in 5G networks.
- » 2. Terrestrial connectivity via non-terrestrial networks.
- » 3. Object tracking in indoor/outdoor environment via adaptive neural networks
- » Computational Biology, Pattern Mining, Machine Learning
- » Stereo Vision
- » Algorithms, Game Theory, Algorithms for Data Science, Multi-Armed Bandit (Reinforcement Learning) and their Applications (Crowdsourcing, Surplus food etc.)
- » Pattern Recognition, Soft Computing, Cognitive Computing, Regularization and Robustness of ANN, Fuzzy Decision Making • Cryptography, Blockchain, IoT, Cybersecurity
- » Computer-aided design and testing of digital VLSI circuits, Algorithms for design and testing of digital microfluidic biochips, Fault-tolerant design of quantum-dot cellular automata circuits, Fairness issues in automated decision making
- » IoT security, Authentication, Privacy Preservation
- » Application of Machine Learning in Healthcare Systems
- » Hardware Security: PUF, Trojan, Assistive Technology, Cognitive Science, QCA
- » Biometrics
- » Deep Learning
- » Machine Learning
- » Computer Vision
- » Image Processing
- » Pattern Classification
- » Adaptive and Inclusive Technology, Conversational AI, and Wireless Networks & Mobility
- » Quantum Image Processing, Quantum Steganography
- » Conduct research on Multiparty Computation, Setting up research facilities on blockchain, Planning for one book writing
- » Crowd Computing, Recommender System, Data Science
- » Internet of Things
- » Computer Networks
- » Applications of artificial intelligence (AI)
- » Software Engineering, Database System
- » Human activity recognition, WBAN, WSN, IoT, Multi modal sensing
- » Cellular Automata, VLSI Testing, IOT
- » Computational Geometry, Algorithm
- » Geometric Facility Location
- » Deep Learning, Machine Learning, Software Engineering
- » VLSI Design and Test
- » Intelligent Biomedical Devices, Multi-Processor and Multi-core Architecture, Hardware Security, VLSI Design and Test, Theory and Applications of Cellular Automata (CA).
- » Swarm Robotics, Distributed algorithm
- » Bioinformatics and Computational Biology
- » IoT, Human Activity Sensing, Environment Monitoring, Applied AI & ML, Sensing Systems. HCI • A applications
- » Optical Network, D2D Communication, Mobile Edge Computing, Delay Tolerant Network, Wireless Sensor Networks.
- » Networks, Distributed Systems and Edge Computing
- » System Security
- » Data and Knowledge Management, NLP, AI and ML applications
- » Quantum Computing, Machine Learning
- » Multiparty Computation, Blockchain application

4.4.9 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
Tata Consultancy Services, Mumbai	Inclusive Technology	Project and Research
TCS	System Design	Research Work
AQAI	IoT, Environment Monitoring	Project (funded by Ai4CPS) Collaboration

4.4.10 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
BIT Mesra, Ranchi	Joint PhD Supervision	Prof. V. Bhattacharjee	Joint Reserach
Department of Computer Science, Universitat Politècnica de Catalunya, Barcelona, Spain	Game Theory and its Applications to Cloud, Fog, Healthcare, Crowdsourcing, Surplus Food Distribution etc.	Sajal Mukhopadhyay and Fatos Xhafa	Research
Indian Institute of Technology Madras	Indian Institute of Technology Madras	Dr. Ayon Chakraborty	Development of Sensors, IoT, Research Publication
Department of Mathematical Sciences, University of Alabama in Huntsville, Alabama, USA	Machine Learning	Satyaki Roy	Research Collaboration, Model Development, Publications
IIST Shibpur Howrah	Cellular Automata	B. K. Sikdar	Research Work
Jadavpur University	Biometrics	Prof. Jamuna Kanta Sing	Research & Development
GLA University	Biometrics	Prof. Phalguni Gupta	Research & Development
Czech Technical University in Prague, Universitat Politècnica de Catalunya Spain	Imprecise Facility Location	Maria Saumell, Rodrigo I. Silveira	Research Paper
University of Calcutta	Machine learning and IoT	Soumya Sen	Research
Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
Institute of Engg. & Management, Kolkata	IoT, Sensing System	Dr. Biswajit Maity	Joint Publications
IIT Kharagpur	Environment Monitoring	Sandip Charabarty	Joint Publications
Dr. B C Roy Engg. College	Network Science	Dr. Dinesh Pradhan	Joint Publications
Sikkim Manipal Institute of Technology	Edge Computing	Prof. Udit Mukherjee, Dr. Nandan Banerjee	Delivering Invited talk and paper publication

4.4.11 Innovations and Technology Transfer (Patents filed during)

Title	Inventors	Application Nos	Date of Filling
A portable apparatus for Enabling steady capture Of color transformation of finger nail-bed	Dr. Mamata Dalui, Dr. Dakshina Ranjan Kisku, Ms. Sunanda Das, Mr. Abhishek Kesarwani, Dr. Bibhash Sen, Prof. Suchismita Roy, Prof. Anupam Basu	202331017986	2023-03-16

4.4.12 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Biplab k. Sikdar, Kenichi Morita, Pabitra Pal Chaudhuri, Enrico Formenti, etc.	ASCAT 2024	0034-08-17
Tapan Gandhi	One day seminar on "Bridging Minds and Machines: Challenges and Opportunities"	2024-09-13
Dr. Ayon Chakraborty	SoCleTY 2024	2024-01-07

4.4.13 Journal: Published in 2023–2024 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Anandaprova Majumder, Sumana Kundu, Karam Kumar Sahoo, Suvamoy Changder	A two fold secure cover synthesis based data hiding approach by generating sequences	Wireless Personal Communications	Volume:132 Issue No:2 Page No:1193-1223 Year:2023 Month:Jul
Suvadip Hazra, Boppudi Avinash, and Mamata Dalui	Design, Threat Analysis and Countermeasure for a Hardware Trojan Targetting Real-Time ManyCore System	Microelectronics Journal, Elsevier	Volume:142 Issue No:105973 Page No:1-15 Year:2023 Month:Oct
Suvadip Hazra, and Mamata Dalui	Exploring NSRT Diagram for Scalable Synthesis of TACA	Journal of Cellular Automata	Volume:17 Issue No:1 Page No:125-145 Year:2023 Month:
Sunanda Das, Abhishek Kesarwani, Mamata Dalui, Dakshina Ranjan Kisku, Bibhash Sen, Suchismita Roy, and Anupam Basu	Smartphone-based Non-invasive Haemoglobin Level Estimation by Analyzing Nail Pallor	Biomedical Signal Processing and Control, Elsevier	Volume:85 Issue No:2023 Page No:1-13 Year:2023 Month:Apr
Poulomi Mukherjee, Babul P. Tewari and Tanmay De	Joint resource allocation and cluster-head selection for energy aware D2D multi-casting	International Journal of Ad Hoc and Ubiquitous Computing	Volume:44 Issue No:3 Page No:131-147 Year:2023 Month:Nov
Samriddhi Sarkar; Tuhin Biswas; Mariana Curado Malta; Deolinda Meira; Animesh Dutta	A coalition formation framework of smallholder farmers in an agricultural cooperative	Expert Systems with Applications	Volume: Issue No: Page No: Year:2023 Month:
Manas Kumar Mohanty, Parag Kumar Guha Thakurta	Multi-task learning in Healthcare service	Engineering Applications in AI	Volume: Issue No: Page No: Year:2023 Month:
Subhrabrata Choudhury, Nandan Banerjee	Design of Context-Aware Distributed Service Registry and Discovery Mechanism for IoT	IEEE Journal of Internet of Things	Volume:11 Issue No:15 Page No:26279-26290 Year:2024 Month:Aug
Anandaprova Majumder, Sumana Kundu, Suvamoy Changder	A unique database synthesis technique for coverless data hiding	Journal of Visual Communication and Image Representation	Volume:96 Issue No: Page No:103911 Year:2023 Month:Oct
Raj Kumar Paul, Dipankar Misra, Shibaprasad Sen, Saravanan Chandran	Optimization of Microscopy Image Compression using Convolutional Neural Networks and Removal of Artifacts by Deep Generative Adversarial Networks	Multimedia Tools and Applications	Volume:83 Issue No: Page No:58961-58980 Year:2023 Month:Dec

Author(s) Name	Paper Name	Journal Name	Others Info
K Thakur, S Maity, P Nielsen, T Pal, and M Maiti	A 3D multiobjective multi-item eco-routing problem for refrigerated fresh products delivery using NSGA-II with hybrid chromosome"	Computers & Industrial Engineering	Volume:198 Issue No: Page No: Year:2024 Month:Jan
K Thakur, S Maji, S Maity, T Pal, and M Maiti	Multiroute fresh produce green routing models with driver fatigue using Type-2 fuzzy logic-based DFWA	Expert Systems with Applications	Volume:229 Issue No:Part A Page No: Year:2023 Month:Nov
R Mondal, T Pal, and P Dey	"A Hybrid Regularized Multilayer Perceptron for Input Noise Immunity	IEEE Transactions on Artificial Intelligence	Volume: Vol. 1 Issue No: Page No:1-12 Year:2023 Month:
Manas Sarkar, Priyanka Sarkar Rakshit, Ujjwal Mondal, Debashis Nandi	Single image rain removal via tetrolet transform and morphological decomposition	Sādhanā	Volume:48 Issue No:124 Page No:- Year:2023 Month:Jun
Sanjib Saha, Subhadeep Dutta, Biswarup Goswami, Debashis Nandi	ADU-Net: An Attention Dense U-Net based deep supervised DNN for automated lesion segmentation of COVID-19 from chest CT images	Biomedical Signal Processing and Control	Volume:85 Issue No:- Page No:104974 Year:2023 Month:Aug
Amit Mukhopadhyay, Debashis Nandi, Umapada Pal, Baisakhi Chakraborty	CCOCSA-based multi-frame sparse coding super-resolution via mutual informationbased weighted image fusion	Multimedia Tools and Applications	Volume:83 Issue No:- Page No:2427-2471 Year:2023 Month:May
Arghya Pathak, Hrishikesh Mondal, Jayashree Karmakar, Subhashish Pal, Debashis Nandi, Mrinal Kanti Mandal	Sparse Compression-Based Image Encryption using Data Encryption Standards RC5	IETE Technical Review	Volume:41 Issue No:3 Page No:353-365 Year:2023 Month:Jul
Manas Sarkar, Ujjwal Mondal, Umapada Pal, Debashis Nandi	Image deraining via multi-level decomposition and empirical wavelet transform	Multimedia Tools and Applications	Volume:83 Issue No:- Page No:76107-76129 Year:2024 Month:Feb
Sourav Roy, Dipnarayan Das, Bibhash Sen	Secure and Lightweight Authentication Protocol Using PUF for the IoT-based Wireless Sensor Network	ACM J. Emerg. Technol. Comput. Syst.	Volume:20 Issue No:1 Page No:3:1-3:17 Year:2024 Month:
Anindan Mondal, Archisman Ghosh, Shubrojoyoti Karmakar, Mahabub Hasan Mahalat, Suchismita Roy, Bibhash Sen	Identification of Hardware Trojan in Gate-Level Netlist	J. Circuits Syst. Comput.	Volume:33 Issue No:9 Page No: Year:2024 Month:
Mahabub Hasan Mahalat, Shyam Subba, Anindan Mondal, Biplab K. Sikdar, Rajat Subhra Chakraborty, Bibhash Sen	CAPUF: Design of a configurable circular arbiter PUF with enhanced security and hardware efficiency	Integration	Volume:95 Issue No: Page No:102113 Year:2023 Month:Dec
Sandip Chakraborty, Archisman Ghosh, Anindan Mondal, Bibhash Sen:	Towards the Detection of Hardware Trojans with Cost Effective Test Vectors using Genetic Algorithm	J. Electron. Test.	Volume:40 Issue No:3 Page No: 371-385 (2024) Year:2023 Month:Nov

Author(s) Name	Paper Name	Journal Name	Others Info
Leki Chom Thungon, Subhas Chandra Sahana, Md Iftekhar Hussain	A lightweight certificate-based authentication scheme for 6LoWPAN-based internet of things	The Journal of Supercomputing	Volume:79 Issue No:11 Page No:12523–12548 Year:2023 Month:Jul
Mebanjop Kharjana, Fabiola Hazel Pohrmen, Subhas Chandra Sahana, Goutam Saha	Blockchain-based key management system in named data networking: A survey	Journal of Network and Computer Applications	Volume:220 Issue No:C Page No:103732 Year:2023 Month:Sep
PKD Pramanik, S Pal, P Choudhury	Mobile Crowd Computing: Potentials, Architecture, Requirements, Challenges, and Applications	The Journal of Supercomputing, Springer	Volume:80 Issue No: Page No:2223–2318 Year:2023 Month:Jul
Monalisa Mishra,P. Choudhury,B.Pati	IoT enabled plant leaf disease segmentation and multi-classification using mayfly bald eagle optimization-enabled machine learning	Multimedia Tools and Applications	Volume:83 Issue No: Page No:59747–59781 Year:2024 Month:Jan
Sugyan Kr.Mishra, AnirbanSarkar	An efficient clustering mechanism towards large scale service composition in IoT	InternationalJournal of Weband Grid Services,(Inderscience Publishers)	Volume:19 Issue No:2 Page No:185–210 Year:2023 Month:Jun
B Das, M Dalui, M Saha, K Ghosh, N Das, BK Sikdar	Exploring Periodic Boundary Cellular Automaton Rules for One and Two Fixed Points.	Complex System	Volume:33(1) Issue No: Page No:31–60 Year:2024 Month:
S. Das, A. Kesarwani, M. Dalui, D. R. Kisku, B. Sen, S. Roy, A. Basu	Smartphone-based non-invasive haemoglobin level estimation by analyzing nail pallor	Biomedical Signal Processing and Control	Volume:85 Issue No: Page No:1–13 Year:2023 Month:Aug
Abhishek Kesarwani, Sunanda Das, Dakshina Ranjan Kisku, Mamata Dalui	Dual mode information fusion with pretrained CNN models and transformer for video-based non-invasive anaemia detection	Biomedical Signal Processing and Control	Volume:88 Issue No: Page No:1–15 Year:2024 Month:Feb
Abhishek Kesarwani, Sunanda Das, Dakshina Ranjan Kisku and Mamata Dalui	Non-invasive anaemia detection based on palm pallor video using tree-structured 3D CNN and vision transformer models	Journal of Experimental & Theoretical Artificial Intelligence	Volume:36 Issue No: Page No:1–29 Year:2024 Month:Jan
Sukanya Maji and Sanjib Sadhu	Discrete and mixed two-center problems for line segments	Information Processing Letters	Volume: Volume 184 Issue No: Page No:106451 Year:2024 Month:Feb
Sunanda Das, Abhishek Kesarwani, Mamata Dalui, Dakshina Ranjan Kisku, Bibhash Sen, Suchismita Roy, Anupam Basu	Smartphone-based non-invasive haemoglobin level estimation by analysing nail pallor	Elsevier Biomedical Signal Processing and Control	Volume:85 Issue No:104959 Page No: Year:2023 Month:Aug
Anindan Mondal, Debasish Kalita, Archisman Ghosh, Suchismita Roy, Bibhash Sen	Towards the Generation of Test Vectors for the Detection of Hardware Trojan Targeting Effective Switching Activity	ACM Journal on Emerging Technologies in Computing Systems (JETC)	Volume:19 Issue No:4 Page No:1–16 Year:2023 Month:Sep

Author(s) Name	Paper Name	Journal Name	Others Info
Abhishek Kesarwani, Sunanda Das, Dakshina Ranjan Kisku, and Mamata Dalui	Dual mode information fusion with pretrained CNN models and transformer for video-based noninvasive anaemia detection	Biomedical Signal Processing and Control, Elsevier	Volume:88 Issue No:105592 Page No:1-15 Year:2023 Month:Nov
Som Banerjee, Suvadip Hazra, and Mamata Dalui	A Generic Framework of NSRTD for Characterization of CA Rules in Constant (0/1) Boundary Conditions	Complex Systems Journal, Complex Systems Publications, Inc	Volume:33 Issue No:1 Page No:1-26 Year:2024 Month:
Baisakhi Das Mamata Dalui Mousumi Saha Kasturi Ghosh Nilanjana Das Biplab K. Sikdar	Exploring Periodic Boundary Cellular Automaton Rules for One and Two Fixed Points	Complex Systems Journal, Complex Systems Publications, Inc	Volume:33 Issue No:1 Page No:1-30 Year:2024 Month:
Abhishek Kesarwani, Sunanda Das, Dakshina Ranjan Kisku, and Mamata Dalui	Non-invasive anaemia detection based on palm pallor video using tree-structured 3D CNN and vision transformer models	Journal of Experimental & Theoretical Artificial Intelligence, Taylor & Francis	Volume: Issue No: Page No:1-29 Year:2024 Month:Jan
Kankana Datta, Biswapati Jana, Prabhash Kumar Singh, and Mamata Dalui Chakraborty	Robust data hiding scheme for highly compressed image exploiting btc with hamming code	Multimedia Tools and Applications, Springer	Volume:83 Issue No:3 Page No:8591- 8628 Year:2023 Month:Jun
Prasenjit Mukherjee, Gokul R. S. , Sourav Sadhukhan, Manish Godse, Baisakhi Chakraborty	Detection of Autism Spectrum Disorder (ASD) from Natural Language Text using BERT and ChatGPT Models	(IJACSA) International Journal of Advanced Computer Science and Applications	Volume:14 Issue No:10 Page No:382-396 Year:2023 Month:
Kailash Pati Mandal, Prasenjit Mukherjee, Souvik Ganguly, Baisakhi Chakraborty	Bengali Query Processing System for Disease Detection using LSTM and GRU	International Journal of Computing and Digital Systems	Volume:14 Issue No:1 Page No:643-656 Year:2023 Month:
Sunil Kumar Patel, Chandran Saravanan, Purushottam Kumar	Secure Digital Academic Certificate Verification System using Blockchain	International Journal of Information and Computer Security	Volume:24 Issue No:3-4 Page No:236-257 Year:2023 Month:Sep
Raj Kumar Paul, Satyabrata Jena, Saravanan Chandran, Anjan Bandyopadhyay, Sujata Swain	Image Compression Scheme based on Optimized K-means Clustering and HigherLevel Decomposed DWT	Procedia Computer Science	Volume:235 Issue No:0 Page No:642-655 Year:2024 Month:Jan
Sanjib Saha, Debashis Nandi	LM-DNN: pre-trained DNN with LSTM and cross Fold validation for detecting viral pneumonia from chest CT	Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization	Volume:11 Issue No:07 Page No: 2875-2893 Year:2023 Month:Nov
11.2 Raj Kumar Paul, Ankit Vishwakarma, and Saravanan Chandran	An Aquatic Image Compression Scheme based on Optimized Deep Convolutional Autoencoder	IAENG International Journal of Computer Science	Volume:51 Issue No:2 Page No:83-90 Year:2024 Month:
Arunita Das, Amrita Namtirtha, and Animesh Dutta	Levy-Cauchy arithmetic optimization algorithm combined with rough K-means for image segmentation	Applied Soft Computing	Volume: Issue No: Page No: Year:2023 Month:
Chakraborty, P., Sarkar, A.	Re-configurable Business Process: A Constraint-based Approach	International Journal of Business and Systems Research (Inderscience Publishers)	Volume:18 Issue No:1 Page No:1-29 Year:2024 Month:Mar

4.4.14 Journal: Accepted for Publication in 2023–2024 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
R Mondal, T Pal, and P Dey	Discriminative Regularized Input Manifold for Multilayer Perceptron July	Pattern Recognition	Volume: Issue No: Page No: Year:2024 Month:
Praja Paramita Pradhan, Sanghita Bhattacharjee	Prediction based channel assignment for minimizing channel switching in Mobile WBANs.	Journal of Ambient Intelligence and Smart Environments	Volume:15 Issue No: Page No: Year:2023 Month:Apr
Kankana Datta, Biswapati Jana, and Mamata Dalui Chakraborty	Dual image based secured reversible data hiding scheme exploiting Huffman compression tree combining bit-reversal permutation technique	Multimedia Tools and Applications, Springer	Volume:NA Issue No:NA Page No:1-46 Year:2024 Month:Mar
Poulomi Mukherjee, Swarnabh Paul, Tanmay De	Energy Aware Handoff Management for Cluster based D2D Communications	International Journal of Ad Hoc and Ubiquitous Computing	Volume: Issue No: Page No: Year:2024 Month:
Joyita Chakraborty, Dinesh K. Pradhan, Subrata Nandi	A multiple k-means cluster ensemble framework for clustering citation trajectories	Infometrics	Volume: Issue No: Page No: Year:2024 Month:

4.4.15 Journal: Published in Others in 2023–2024

Author(s) Name	Paper Name	Journal Name	Others Info
Ratna Mandal, Prasenjit Karmakar, Soumyajit Chatterjee, Debaleen Das Spandan, Shouvit Pradhan, Sujoy Saha, Sandip Chakraborty, Subrata Nandi	Exploiting multi-modal contextual sensing for city-bus's stay location characterization: Towards sub-60 seconds accurate arrival time prediction	ACM Transactions on Internet of Things	Volume:4 Issue No:1 Page No:1-24 Year:2023 Month:Feb

4.4.16 Conference: Published in 2023–2024 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Suvadip Batabyal	On the Effect of Redundant Caching Policy on Multimedia Streaming in D2D Underlay Network	IEEE Globecom 2023	DOI/ISBN: 10.1109/ GLOBECOM54140.2023.10437940 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:SELF
S Karmakar, T Pal and C Koley,	A Fuzzy Approach Towards the Measurement of Subject-Specific Cognitive Load during Mental Task Using Hemodynamic Response",	2024 International Conference on Emerging Techniques in Computational Intelligence (ICETCI)	DOI/ISBN: 10.1109/ ICETCI62771.2024.10704153 Volume: Issue No: Page No:74 – 79 Year:2024 Month:Aug Presenter:SELF
Sanjib Saha, Debashis Nandi	DNN-ILD: a transfer learning-based deep neural network for automated classification of interstitial lung disease from CT images	International Conference on Machine Learning, Deep Learning and Computational Intelligence for Wireless Communication	DOI/ISBN: 978-3-031-47941-0 Volume: Issue No: Page No:293-309 Year:2023 Month:Jun Presenter:CO-AUTHOR

Author(s) Name	Paper Name	Conference Name	Others Info
Sanjib Saha, Abhishek Kumar, Debashis Nandi	ViT-ILD: A Vision Transformerbased Neural Network for Detection of Interstitial Lung Disease from CT Images	International Conference on Machine Learning and Data Engineering (ICMLDE 2023)	DOI/ISBN: https://doi.org/10.1016/j.procs.2024.04.074 Volume: Issue No: Page No:779-788 Year:2023 Month:Nov Presenter:CO-AUTHOR
Rohit Agarwal, Palash Ghosal, Narayan Murmu & Debashis Nandi	Spiking Neural Network in Computer Vision: Techniques, Tools and Trends	International Conference on Advanced Computational and Communication Paradigms	DOI/ISBN: https://doi.org/10.1007/978-98199-4284-8_16 Volume: Issue No: Page No:201-209 Year:2023 Month:Sep Presenter:CO-AUTHOR
Sanjib Saha, Abhishek Kumar, Debashis Nandi	AUNet-MHA: An Attention U-Net based Multi-Head Self Attention for Lung Lesion Segmentation from CT Images	International Conference on Machine Learning and Data Engineering (ICMLDE 2023)	DOI/ISBN: https://doi.org/10.1016/j.procs.2024.04.177 Volume: Issue No: Page No:1860-1869 Year:2023 Month:Nov Presenter:CO-AUTHOR
Sandip Chakraborty; Mudumba Sri Varenaya; Anindan Mondal; Bibhash Sen	Exploring the PSO-Driven Test Pattern Generation Approach for Hardware Trojan Detection	2024 IEEE International Conference on Interdisciplinary Approaches in Technology and Management for Social Innovation (IATMSI)	DOI/ISBN: 10.1109/IATMSI60426.2024.10502952 Volume: Issue No: Page No: Year:2024 Month:Mar Presenter:CO-AUTHOR
Amit Kumar Pramanik, Jayanta Pal, Bibhash Sen	Synthesis of Fault-Tolerant QCA Logic Circuit Using Cellular Automata	Third Asian Symposium Cellular Automata Technology (ASCAT 2024)	DOI/ISBN: 978-3-031-56942-5 Volume: Issue No: Page No: Year:2024 Month:Mar Presenter:CO-AUTHOR
Mebanjop Kharjana, Subhas Chandra Sahana, Goutam Saha	Study and Analysis of MultiChain Native Asset	10 th International Conference on Advanced Computing and Communication Systems (ICACCS)	DOI/ISBN: 10.1109/ICACCS60874.2024.10716890 Volume: Issue No: Page No: Year:2024 Month:Mar Presenter:CO-AUTHOR
Arko Datta, Aniruddha Pal, Ranbir Marandi, Nilanjan Chattaraj, Subrata Nandi, Sujoy Saha	Efficient Air Quality Index Prediction on Resource-Constrained Devices using TinyML: Design, Implementation, and Evaluation	The International Conference on Distributed Computing and Networking (ICDCN)	DOI/ISBN: 9798400716737 Volume: Issue No: Page No: Year:2024 Month:Jan Presenter:SELF
Arko Datta, Aniruddha Pal, Ranbir Marandi, Nilanjan Chattaraj, Subrata Nandi, Sujoy Saha	Real-Time Air Quality Predictions for Smart Cities using TinyML	The International Conference on Distributed Computing and Networking (ICDCN)	DOI/ISBN: https://doi.org/10.1145/3631461.3631947 Volume: Issue No: Page No: Year:2024 Month:Jan Presenter:CO-AUTHOR
Koushik Konar, Shailabh Suman, Diraj Chaurasia, Aniruddha Pal, Sujoy Saha	Analyzing Students' Emotion and Activities in the Classroom: A Rural Education Perspective	International Conference on Frontiers in Computing and Systems	DOI/ISBN: 978-981-97-2610-3 Volume: Issue No: Page No:259-282 Year:2023 Month:Oct Presenter:SELF
Ruma Ghosh, Arnab Mukherjee, Rangan Mukherjee, Arindam Ghosh, Partha Sarathi Paul, Sujoy Saha	OccuCon: A Context-aware Environment Sensing Approach Towards Indoor Occupancy Estimation	IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT)	DOI/ISBN: 10.1109/IC2PCT60090.2024.10486464 Volume: Issue No: Page No:1-6 Year:2024 Month:Apr Presenter:

Author(s) Name	Paper Name	Conference Name	Others Info
Rajib Mondal, Sanghita Bhattacharjee, Tandra Pal	On Coverage and Connectivity with Reduced Sensing Redundancy Based on Genetic Algorithm	COMSYS 2023	DOI/ISBN: 2367-3389 Volume: Issue No: Page No: Year:2023 Month:Oct Presenter:
Moumita Goswami, Sanghita Bhattacharjee, Suvamoy Changder and Soumya Sen	Machine Learning Based Approaches for NPK Prediction and Model Validation in Agricultural Applications	ICSTA 2023	DOI/ISBN: 123-563-324 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:
Chakraborty Priyanka, Sarkar Anirban	Quality Evaluation of Enterprise Architecture Frameworks	International Conference on Advanced Computational and Communication Paradigms	DOI/ISBN: 2367-3370 Volume: Issue No: Page No:177-186 Year:2023 Month:Apr Presenter:CO-AUTHOR
Pritisha Sarkar; Mahesh Kumar Makkena; Sujoy Saha; Mousumi Saha	Analyzing the Severity of Air Pollution in an Industrialized Suburb	2023 14 th International Conference on Computing Communication and Networking Technologies (ICCCNT)	DOI/ISBN: 10.1109/ICCCNT56998.2023.10306641 Volume: Issue No: Page No: Year:2023 Month:Nov Presenter:
Sarkar, S., Saha, M.	Synthesis of Elementary Cellular Automata for Targeted Cache Applications	ICACDS 2023:	DOI/ISBN: https://doi.org/10.1007/978-3031-37940-6_10 Volume: Issue No: Page No:109-121 Year:2023 Month:Jul Presenter:
Sukanya Maji, Supantha Pandit and Sanjib Sadhu	Red-Blue Rectangular Annulus Cover Problem	International Joint Conference on Theoretical Computer Science – Frontier of Algorithmic Wisdom	DOI/ISBN: 10.1007/978-3-031-39344-0_15 Volume: Issue No: Page No:195-211 Year:2023 Month:Aug Presenter:SELF
Biswajit Patra and Dakshina Ranjan Kisku	Precise and Faster Image Description Generation with Limited Resources using an Improved Hybrid Deep Model	10 th International Conference on Pattern Recognition and Machine Intelligence (PReMI2023)	DOI/ISBN: 10.1007/978-3-031-45170-6_18 Volume: Issue No: Page No:166-175 Year:2023 Month:Dec Presenter:CO-AUTHOR
Ankush Acharyya, Vahideh Keikha, Maria Saumell & Rodrigo I. Silveira	Computing Largest Minimum Color-Spanning Intervals of Imprecise Points	Latin American Symposium on Theoretical Informatics	DOI/ISBN: https://doi.org/10.1007/978-3031-55598-5_6 Volume: Issue No: Page No:81-96 Year:2024 Month:Mar Presenter:CO-AUTHOR
C.S.Ashwin, Vipul Poddar, Suchismita Roy	1. A Satisfiability based Watermarking Approach for Hardware Security in High Level Synthesis	INDICON 2023	DOI/ISBN: DOI: 10.1109/INDICON59947.2023.10440889 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
Kankana Datta, Som Banerjee, Biswapati Jana, and Mamata Dalui	A Dual-Image based Secured Reversible Data Hiding Scheme exploiting Weighted Matrix and Cellular Automata	Third Asian Symposium on Cellular Automata Technology (ASCAT2024). February 29- March 02, 2024	DOI/ISBN: https://doi.org/10.1007/978-3-031-56943-2_10 Volume: Issue No: Page No: Year:2024 Month:Feb Presenter:CO-AUTHOR

Author(s) Name	Paper Name	Conference Name	Others Info
Sumana Naskar, Abhishek Kesarwani, Sunanda Das, and Mamata Dalui	An Efficient, Cost-effective and Reliable Non-invasive Anaemia Detection Method by Analysing Palm Pallor	IEEE 2 nd International Conference on Advancements in Smart, Secure and Intelligent Computing (ASSIC), January 27– 29, 2024	DOI/ISBN: 10.1109/ ASSIC60049.2024.10507973 Volume: Issue No: Page No: Year:2024 Month:Jan Presenter:CO-AUTHOR
Mandal, M.Sardar, D. Das	Assembling of Swarm Robots in Distributed Envi- ronment in the Presence of Polygonal Obstacles.	Advances in Robotics (AIR 2023)	DOI/ISBN: 0.1145/3610419.3610504 Volume: Issue No: Page No:1–6 Year:2023 Month:Jul Presenter:CO-AUTHOR
Anindita Ghosh, Poulomi Mukherjee, Tanmay De	MEC-EnergySaver: Unleashing Efficiency Through D2D and Data Compression	16 th International Conference on COMmunication Systems & NETworkS (COMSNETS)	DOI/ISBN: 10.1109/ COMSNETS59351.2024.10427262 Volume: Issue No: Page No:551– 557 Year:2024 Month:Jan Presenter:SELF
Poulomi Mukherjee, Tanmay De	Interference aware D2D Multicasting using Modified Hungarian Method	2023 OITS International Conference on Information Technology (OCIT)	DOI/ISBN: 10.1109/ OCIT59427.2023.10431269 Volume: Issue No: Page No:319– 324 Year:2023 Month:Dec Presenter:SELF
Poulomi Mukherjee, Tanmay De	Interference Aware Underlay D2D Multicasting through Effective Use of Under-utilized RBs	Proceedings of the 2024 Sixteenth International Conference on Contemporary Computing	DOI/ISBN: https://doi.org/10.1145/3675888.3676126 Volume: Issue No: Page No:650– 657 Year:2024 Month:Oct Presenter:SELF
Tuhin Kumar Biswas, Avisek Gupta, Narayan Changder, Redha Taguelmimt, Samir Aknine, Samiran Chattopadhyay, Animesh Dutta	Coalition Formation for Task Allocation using Multiple Distance Metrics	Proceedings of the 38 th Annual AAAI Conference on Artificial Intelligence (2024)	DOI/ISBN: https://doi.org/10.1609/aaai.v38i21.30421 Volume: Issue No: Page No: Year:2024 Month: Presenter:CO-AUTHOR
Nilanjan Saha, Amrita Namtirtha, and Animesh Dutta	CM-GCN: Crossbred Method based-Graph Convolution Networks for identifying influential spreaders from directed networks	16 th International Conference on COMMunication Systems & NETworkS (COMSNETS). IEEE. 2024	DOI/ISBN: 10.1109/ COMSNETS59351.2024.10427097 Volume: Issue No: Page No: Year:2024 Month: Presenter:CO- AUTHOR
Suman Nandi and Animesh Dutta	Local closeness gravity model to identify the vital nodes in complex networks	16 th International Conference on COMMunication Systems & NETworkS (COMSNETS). IEEE. 2024	DOI/ISBN: 10.1109/ COMSNETS59351.2024.10426978 Volume: Issue No: Page No: Year:2024 Month: Presenter:CO- AUTHOR
Anju Bhuiya, Koyena Chowdhury, Suman Nandi, Animesh Dutta	Semi-Global Circular Centrality to find Influential Spreaders	15 th International Conference on COMmunication Systems & NETworkS (COMSNETS). IEEE. 2023	DOI/ISBN: 10.1109/ COMSNETS56262.2023.10041382 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO- AUTHOR

Author(s) Name	Paper Name	Conference Name	Others Info
Kazi Amrin Kabir, Parag Kumar Guha Thakurta	LULC Prediction in Urban Development	ICCUUD 2023	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Nov Presenter:CO-AUTHOR
Koyena Chowdhury, Amit Paul, and Animesh Dutta	CancelOut GCN Diffusion (CoutGCN): Finding the Influential Spreaders to Diffuse Information	15 th International Conference on COMMunication Systems & NETworkS (COMSNETS). IEEE	DOI/ISBN: 10.1109/ COMSNETS56262.2023.10041335 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO- AUTHOR
Arunita Das, Amrita Namtirtha, and Animesh Dutta	Membership Adjusted Superpixel based Fuzzy C-Means for White Blood Cell Segmentation	10 th International Conference on Pattern Recognition and Machine Intelligence (PReMI'23). 2023	DOI/ISBN: https://doi.org/10.1007/978-3031-45170-6_63 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO- AUTHOR
Suman Nandi, Mariana Curado Malta, Giridhar Maji, Animesh Dutta	IS-PEW: Identifying Influential Spreaders using Potential Edge Weight in Complex Networks	The 12 th International Conference on Complex Networks and their Applications. 2023	DOI/ISBN: https://doi.org/10.1007/978-3031-53472-0_26 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO- AUTHOR
Srestha Sadhu, Anju Bhuiya, and Animesh Dua	DSGCN: A Degree Strength Graph Convolution Network for Identifying Influential Nodes in Complex Networks	The 22 nd IEEE/WIC International Conference on Web Intelligence and Intelligent Agent Technology. IEEE/WIC. 2023	DOI/ISBN: 10.1109/WI- IAT59888.2023.00053 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO-AUTHOR
Srestha Sadhu; Amrita Namtirtha; Mariana Curado Malta; Animesh Dutta	STC+K: a Semi-global triangular and degree centrality method to identify influential spreaders in complex networks	The 22 nd IEEE/WIC International Conference on Web Intelligence and Intelligent Agent Technology. IEEE/WIC. 2023.	DOI/ISBN: 10.1109/WI- IAT59888.2023.00107 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO-AUTHOR
Nilanjana Saha, Amrita Namtirtha, and Animesh Dutta	Crossbred Method: A new method for identifying influential spreaders from directed network	The 12 th International Conference on Complex Networks and their Applications. 2023	DOI/ISBN: https://doi.org/10.1007/978-3031-53503-1_32 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO- AUTHOR
Joyita Chakraborty, Biswajit Maity, Dinesh K. Pradhan, Subrata Nandi	CiteDEK: A hybrid EMD-KNN- DTW model for classification of paper citation trajectories	Cods Comads 2024	Month:Jan Presenter:CO-AUTHOR
Prasenjit Mukherjee, Chandrima Chakraborty, Nandan Banerji, Kailash Pati Mandal & Baisakhi Chakraborty	Time-Related Natural Language Query Handling to Extract Autism Spectrum Disorder Information from Temporal Database	International Conference on Advanced Computational and Communication Paradigms 2	DOI/ISBN: https://doi.org/10.1007/978-98199-4284-8_11 Volume: Issue No: Page No:143-145 Year:2023 Month:Sep Presenter:CO-AUTHOR
Prasenjit Mukherjee, Nandan Banerji, Kailash Pati Mandal, Manish Godse & Baisakhi Chakraborty	Natural Language Query Processing System to Extract Autism Spectrum Disorder Information from Database	Advanced Computational and Communication Paradigms	DOI/ISBN: DOI https://doi.org/10.1007/978-981-99-42848_15 Published Volume: Issue No: Page No:187-200 Year:2023 Month:Sep Presenter:CO-AUTHOR

Author(s) Name	Paper Name	Conference Name	Others Info
Arnab Chatterjee, Subrata Sarkar, Ishan Dutta, Suvamoy Changder	Quantum Image Teleportation Based on Probabilistic Bit-Encoding Strategy	International Conference on Pattern Recognition and Machine Intelligence	DOI/ISBN: 10.1007/978-3-031-45170-6_68 Volume: Issue No: Page No:654-662 Year:2023 Month:Dec Presenter:CO-AUTHOR
Praveen Kumar Rayani, Suvamoy Changder	Enhanced Unimodal Continuous Authentication Architecture on Smartphones for User Identification through Behavioral Biometrics	2 nd International Conference on Vision Towards Emerging Trends in Communication and Networking Technologies (ViTECoN)	DOI/ISBN: 10.1109/ViTECoN58111.2023.10157803 Volume: Issue No: Page No:1-6 Year:2023 Month:May Presenter:CO-AUTHOR

4.4.17 Conference: Accepted in 2023-2024 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
S Karmakar, S Das, T Pal and C Koley	Detection of Cognitive Workload Using Optimized Number of EEG Features"organized by IEEE Kolkata Section on December 14-15,	CALCON 2024	DOI/ISBN: DOI Volume: Issue No: Page No: Year:2024 Month:Dec Presenter:
Khitish Kumar Gadnayak, Himanshu Khaitan, Mousumi Saha	Binary Pattern Classification with Cellular Automata-based Algorithms	ICDCN 2024	DOI/ISBN: https://doi.org/10.1145/3631461.3631952 Volume: Issue No: Page No:406-411 Year:2024 Month:Jan Presenter:
Biswajit Patra and Dakshina Ranjan Kisku	A multi-modal approach for efficient and contextually rich visual description generation	The 6 th International Conference on Computational Intelligence in Pattern Recognition (CIPR'24)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2024 Month:Mar Presenter:CO-AUTHOR
Sunidhi Priyadarshini and Shyantani Maiti	Deep Learning based Classification of Dietary Restricted Genes	ETTIS 2024, International Conference on Emerging Trends and Technologies on Intelligent Systems.	DOI/ISBN: 978-981-97-5702-2 Volume: Issue No: Page No: Year:2024 Month:Mar Presenter:CO-AUTHOR

4.4.18 Conference: Published in Others in 2023-2024

Author(s) Name	Paper Name	Conference Name	Others Info
S. Karmakar, C. Koley, A. Sinha, S.K. Saha, T. Pal	Fuzzy Rule-based Approach towards Cognitive Load Measurement during Mental Task Using fNIRS	Pattern Recognition and Machine Intelligence (PReMI 2023)	DOI/ISBN: Springer, Cham. https://doi.org/10.1007/9783-031-45170-6_60 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
S. S Chakraborty et al	NASA-TLX Based Workload Assessment of Learning Tasks for Primary School Children	Future Technologies Conference (FTC) 2023	DOI/ISBN: Lecture Notes in Networks and Systems, vol 814. Springer, Cham. https://doi.org/10.1007/9783-031-47451-4_33 Volume: Issue No: Page No:473-486 Year:2023 Month:Nov Presenter:SELF

Author(s) Name	Paper Name	Conference Name	Others Info
RK Mondal, S Bhattacharjee, and T Pal	On Coverage and Connectivity with Reduced Sensing Redundancy Based on Genetic Algorithm	4 th International Conference on Frontiers in Computing and Systems (COMSYS 2023)	DOI/ISBN: Proceedings of the 4 th International Conference on Frontiers in Computing and Systems (COMSYS 2023) Volume: Issue No: Page No: Year:2023 Month:Oct Presenter:CO-AUTHOR

4.4.19 Conference: Accepted in Others in 2023–2024

Author(s) Name	Paper Name	Conference Name	Others Info
A Kumar, S Karmakar, I Agarwal and T Pal	Mental Workload Classification with OneDimensional CNN Using fNIRS Signal	Pattern Recognition and Machine Intelligence (PReMI 2023)	DOI/ISBN: Springer, Cham. https://doi.org/10.1007/9783-031-45170-6_78 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
M.Sardar, D. Das, S. Mukhopadhyaya	Exploration of a Grid with Blocked Nodes using a Swarm of Autonomous Robots	4 th International Conference on Paradigms of Communication, Computing and Data Analytics (PCCDA 2024)	DOI/ISBN: – Volume: Issue No: Page No:– Year:2024 Month:Apr Presenter:CO-AUTHOR

4.4.20 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Sajal Mukhopadhyay	Surja Sanyal, Fatos Xhafa, Vikash Kumar Singh & Banhi Sanyal	Advances in Engineering and Information Science Toward Smart City and Beyond	Incentives in Surplus Food Distribution for Smart Cities and Beyond: An Activity Aware Solution	Publisher: Springer LinkPublication Date: 2023-0525

4.4.21 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
International Conference on Applied Science and Mathematics (ICASM 2023)	AAN Research Center, Malaysia	2023-05-03	2023-05-05	Malaysia
IEEE Globecom 2023	IEEE	2023-12-04	2023-12-08	Malaysia
FTC 2023 – Future Technologies Conference 2023	Science and Information (SAI) Conference	2023-11-02	2023-11-03	USA
Cyber-Attacks and Defense	Cyber Gyan Project	2023-07-31	2023-08-04	India
25 th International Conference on Distributed Computing and Networking	IIT Madras & ACM	2024-01-04	2024-01-07	India
4 th International Conference on Frontiers in Computing and Systems (COMSYS-2023)	IIT Mandi & COMSYS Foundation	2023-10-16	2023-10-17	India
International Joint Conference on Theoretical Computer Science – Frontier of Algorithmic Wisdom	University of Macau, Macau	2023-08-14	2023-08-18	Macau
ASCAT 2024	NIT Durgapur	2024-02-29	2024-03-02	India
ICDCN 2024	IIT Madras	2024-01-04	2024-01-07	India

4.4.22 Ph.D. Supervision

Topic Name	Scholar	Supervisor	Status	Status Date
Automatic Speech Recognition in Languages of Odisha	Malay Kr Majhi	Sujan Kumar Saha	ONGOING	-
Handwritten Text Recognition from Handwritten Bengali Answer Books	Moumita Moitra	Sujan Kumar Saha	ONGOING	-
Multimedia Caching and Streaming in D2D underlay Network	Moumi Das	Suvadip Batabyal	ONGOING	-
Object tracking in indoor/outdoor environment using adaptive neural network	Swarup Kumar Hazra	Suvadip Batabyal	ONGOING	-
An Integrative Approach to Understanding Stress Response Proteins through Machine Learning and Bioinformatics	Anamika Das	Monalisa Mandal	ONGOING	-
A Study on Online Matching	Pratik chowdhury	Sajal Mukhopadhyay	ONGOING	-
A Study on Crowdsourcing and Behavioral Economics	Naren debnath	Dr. Sajal Mukhopadhyay	ONGOING	-
Ensemble of Learners in AI Assisted CAD System for Medical Image Analysis	Rohit Agarwal	Prof. Debasis Nandi, Dr. Narayan Murmu	ONGOING	-
Stereo vision based assistive technology for visually impaired people	Abhisekh K Gunjan	Dr. Narayan Murmu	ONGOING	-
On Some Variants of Covering Salesman Problem in the Paradigm of Evolutionary Computing	Siba Prasada Tripathy	T pal and S Kar	ONGOING	-
Biosensor Based Cognitive Load Assessment to identify learning disabilities	Subashis Karmakar	T Pal and C Koley	ONGOING	-
Coverage and Connectivity of Wireless Sensor Network in the Paradigm of Computational Intelligence	Rajib Kumar Mondal	S Bhattacharjee and T Pal	ONGOING	-
AI in Education (Tentative)	Subhra Prokash Dutta	Sajal Mukhopadhyay	ONGOING	-
Investigation and Development of Steganography Schemes	Sunil Kumar Patel	Saravanan Chandran	ONGOING	-
Analysis and Design of Image Compression Techniques	Raj Kumar Paul	Saravanan Chandran	ONGOING	-
Facial Features Extraction for Various Applications using Neural Network	Kshitiza Vasudeva	Saravanan Chandran	ONGOING	-
Machine Learning-based Lung Disease Detection and Segmentation from Chest Computed Tomography Images	Sanjib Saha	Prof. Debashis Nandi	SUBMITTED	2024-11-07

Topic Name	Scholar	Supervisor	Status	Status Date
Lung and Liver Cancer Status Evaluation from Pre- and Post-treatment CT Images Using ML-based Image Segmentation	Tiyasa Chakraborty	Prof. Debashis Nandi	DEGREE AWARDED	2024-11-07
Rohit Agarwal 11:59 AM (0 minutes ago) to me Automatic Disease Detection and Localization from Biomedical CT/ MRI Images Using Machine Learning Algorithms	Rajib Kumar Chatterjee	Prof. Debashis Nandi	ONGOING	-
Design of Machine Learning-based CAD System for Medical Image Analysis	Rohit Agarwal	Prof. Debashis Nandi and Dr. Narayan Murmu	ONGOING	-
Development of light weight security system for resource constraint devices: A hardware security approach	Sourav Roy	Bibhash Sen (sole)	SUBMITTED	2024-11-07
Feasibility Study and Design of Gesture Based Aid for Effective HCI: A Cognitive Load Perspective	Durgesh Lohar	Bibhash Sen (Sole)	ONGOING	-
An inclusive design to enhance the usability and user experience	Hasim Ali	Abhijit Sharma	ONGOING	-
Secured information-centric networking (icn)	Mebanjop kharjana (Roll No. 4248 of 3.12.19) in my previous Institution	Dr. Subhas Chandra Sahana and Prof. G. Saha	ONGOING	-
Privacy Preservation of patients' information IoT based healthcare System	Tahmina Syeda Takshin (Roll No. 4508 of 29.10.2021) in my previous Institution	Dr. Subhas Chandra Sahana	ONGOING	-
Analysis and Design of Authentication Schemes for Telecare Medical System (Tentative)	Ananya Banerjee (Roll No. 22CS1108)	Dr Subhas Chandra Sahana	ONGOING	-
Analysis and design of Authentication Techniques for Internet of Things (IoT) based Healthcare System	Donbyntalang Dewkhaid (Roll No. 4351 of 14.12.2020) in my previous Institution	Dr. Subhas Chandra Sahana and Prof. B. Bhuyan	ONGOING	-
Personalized Recommendation in Ubiquitous Learning System	Saurabh Pal	Dr Prasenjit Choudhury	DEGREE AWARDED	2024-03-18
A Study on Recommendation for Academic & Scientific Literature	Avick Kumar Dey	Dr Prasenjit Choudhury	DEGREE AWARDED	2024-03-19
Deep Learning-based Price Forecasting for Horticulture Produce	Tumpa Banerjee	Dr Prasenjit Choudhury	DEGREE AWARDED	2024-03-28
IoT Enabled Pest and Plant Disease Detection Using Machine Learning and Deep Learning Approaches	Monalisha Mishra	Dr Prasenjit Choudhury	SUBMITTED	2023-07-07

Topic Name	Scholar	Supervisor	Status	Status Date
Designing an Efficient Framework for Hybrid Ad hoc Network Scenarios Using WiFi and VLC	Kashi Nath Datta	Sujoy Saha	SUBMITTED	2024-11-13
Context-aware intelligent framework for indoor event identification using environmental sensors.	Ruma Ghosh	Sujoy Saha	ONGOING	-
Multi-Activity Identification Using Sound and mmWave Sensors for Assistive Living Applications	Debolina Chowdhury	Sujoy Saha	ONGOING	-
Exploring Outdoor Context using Multimodal Sensor Logs	Biswajit Maity	Sanghita Bhattacharjee	SUBMITTED	2023-07-25
Design and Development of Efficient Data Transmission Methods in Wireless Body Area Networks for Improving Quality of Service	Prajna Paramita Pradhan	Sanghita Bhattacharjee	SUBMITTED	2024-01-31
Coverage and Connectivity of Wireless Sensor Network in the Paradigm of Computational Intelligence	Rajib mandal	Sanghita Bhattacharjee, Tandra Pal	ONGOING	-
Design of Secure and Robust Federated Learning Framework	Arnab Chakraborty	Sanghita Bhattacharjee	ONGOING	-
Human Activity Recognition using Multimodal Sensing in Resource Constraint Low End Devices	Soumyajit basak	Sanghita Bhattacharjee	ONGOING	-
Software Integrated Framework design for Internet of Things based Applications	Sugyan Kumar Mishra	Anirban Sarkar	SUBMITTED	2024-03-31
Functional Specification for User-Centric Service Oriented Enterprise Architecture Framework	Priyanka Chakraborty	Anirban Sarkar	SUBMITTED	2024-03-31
Functional Specification of Microservice based Framework for IoT Applications	Chouhan Kumar Rath	Anirban Sarkar, Amit Kr. Mandal	ONGOING	-
Variations of Covering Problem for Colored Geometric Objects in R^2	Sukanya Maji	Dr. Sanjib Sadhu	ONGOING	-
Geometric Inclusion Exclusion Problem	Nandana Ghosh	Ankush Acharyya	ONGOING	-
Hardware Security Issues at Synthesis Level	C.S.Ashwin	Suchismita Roy	ONGOING	-
Hardware Trojan Detection using Learning Techniques	Sitikantha Chattopadhyay	Suchismita Roy	ONGOING	-
Testing Solutions in Reconfigurable Architectures	Moumita Deb	Suchismita Roy	ONGOING	-
Design and Development of AI-enabled Noninvasive Anaemia Detection Systems by Analysing Palm Video	Abhishek Kesarwani	Dr. Mamata Dalui & Dr. D. R. Kisku	DEGREE AWARDED	2024-07-26

Topic Name	Scholar	Supervisor	Status	Status Date
Traffic Congestion Control and Data Communication in Vehicular Networks	Mr. Rangaballav Pradhan	Tanmay De	DEGREE AWARDED	2023-12-05
Location Prediction in Social Media using Hybrid Modelling	Mr. Amit Paul	Animesh Dutta	ONGOING	-
Coalition Formation of Multi-agent Systems in Heterogeneous Environment	Mr. Tuhin Kr. Biswas	Animesh Dutta	ONGOING	-
Identifying Influential Spreaders through Network Analysis	Mr. Suman Nandi	Animesh Dutta	ONGOING	-
Influential Spreaders Identification Across a Diverse Range of Networks	Ms. Srestha Sadhu	Animesh Dutta	ONGOING	-
A Smartphone-Based Low-Cost Driver Profiling System for Two-Wheeler Vehicles	Gayatree Parbat	Subrata Nandi	ONGOING	-
Studies in optical and wireless networks	Ms. Deepa Naik	Tanmay De	DEGREE AWARDED	2023-04-06
IoT Applications using Machine Learning	Subhajit Sarkar	Subrata Nandi	ONGOING	-
Outdoor Audio Monitoring	Partha Pratim Dasgupta	Subrata Nandi	ONGOING	-
Application Portability in Cloud Computing for non-cloud native Linux Applications	Sanjeet Kumar	Suvrojit Das	DEGREE AWARDED	2024-09-27
Distributed Exploration by a Swarm of Mobile Robots in Discrete Domain	Madhumita Sardar	Dr. Srabani Mukhopadhyaya	ONGOING	-
Distributed Area Coverage in Continuous Domain	Banashree Mandal	sole	ONGOING	-
Deep Learning Application in Different Types of Cancer Detection	Mousumi Saha	Dr. Suchismita Maiti	ONGOING	-
Distributed Exploration in Discrete Domain	Sujata Basu	sole	ONGOING	-
Application of AI in Mental Healthcare	Swarnali Daw	Dr. Suchismita Maiti	ONGOING	-
Computational study of Dietary Restricted Genes	Sunidhi Priyadarshini	Shyantani Maiti	ONGOING	-
Computational study of Alzheimer's disease	Amanat Ansari	Shyantani Maiti	ONGOING	-
Computational study of pancreatic cancer	Mithu Mal	Shyantani Maiti	ONGOING	-
AI in Agriculture	Manas Kumar Mohanty	Parag Kumar Guha Thakurta	SUBMITTED	2024-11-21
AI in Agriculture	Manas K Mohanty	Parag K Guha Thakurta	SUBMITTED	2024-11-21
Efficient Device-to-Device (D2D) Multicasting Approaches in Fifth Generation (5G) Cellular Networks	Ms. Poulomi Mukherjee	Tanmay De	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Integrated Optimization Framework for Enhanced Performance in Mobile Edge Environments	Ms. Anindita Ghosh	Tanmay De	ONGOING	-
Analysing the Bibliometric Dataset to Understand the Impact of Co-authorship Relations in Scientific Publications	Sovan Bhattacharaya	Subrat Nandi, Dinesh Kumar Pradhan	DEGREE AWARDED	2024-07-26
Context Aware middleware for Service oriented Computing over IoT	Nandan Banerji	Subhrabrata Choudhury	DEGREE AWARDED	2024-05-21
Time Evolving Citation Networks: Modeling, Analysis, Mining, and Applications	Joyita Chakraborty	Subrata Nandi, Dinesh Kumar Pradhan	SUBMITTED	2024-09-12
Enhancement of Partitional Clustering Techniques for Pathology Image Segmentation	Ms. Arunita Das	Animesh Dutta, Amrita Namtirtha	SUBMITTED	2024-06-19
NLP-based Knowledge Management Systems in Bengali Language Applied to Healthcare Services	Kailash Pati Mondal	Baisakhi Chakraborty	ONGOING	-
Software Approach to investigate some phenomena of dyslexia in children	Jaya Banerjee	Baisakhi Chakraborty and Prof. Anupam Basu	ONGOING	-
Secure Data Hiding with Cover Synthesis Techniques	Anandaprova Majumder	Dr. Suvamoy Changder	DEGREE AWARDED	2024-03-04
Study and Design of Continuous Authentication Algorithms for Smartphone using Behavioral Biometrics	Praveen Kumar Rayani	Dr. Suvamoy Changder	SUBMITTED	2023-07-26
An Approach to Develop Quantum Image Representation and Its Applications	Arnab Chatterjee	Dr. Suvamoy Changder	ONGOING	-
Development and Analysis of a Multimedia Based Steganographic System	Subhajit Roy	Dr. Jaydeep Howlader, Prof Goutam Sanyal	DEGREE AWARDED	2024-08-22
Study of Multiparty Computation and its Application in Private Function Evaluation	Soumen Sarkar	Dr. Jaydeep Howlader	ONGOING	-
The Study and Design of Fraud Detection System for Digital Payment in India	Somnath Bhowmik	Jaydeep Howlader	ONGOING	-
On the Study of Green Computability of Blockchain Mining Techniques	Tamoghna Mandal	Dr. Jaydeep Howlader	ONGOING	-

4.4.23 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
System for Automatic Evaluation of Handwritten Answer Books in Bengali.	Sujan Kumar Saha	SERB, ANRF	2001190.0	2022
Automatic Speech Recognition System in Santali and Nagpuri Languages: Resource Creation and System Development	Sujan Kumar Saha	SERB, ANRF	2961112.0	2022
QoE Optimized Multimedia Content Delivery through Caching in D2D underlay Networks	Suvadip Batabyal	SERB (CRG)	2159696.0	2021
Cognitive Load Assessment of Visually Impaired Person during Adaptation of New IT Product as well as Assistive Technology", Rs.29.92 L , 2 years from 2022	PI: Bibhash Sen	TCS	2992000.0	2022
Determination of Cognitive Load for Blind Children while using any assistive Technology.	Bibhash Sen, Tandra Pal, Anupam Basu, Dakshina Ranjan Kisku	TCS Mumbai	2992000.0	2021
STEM accessibility (from web) for the visually impaired	Dr. Abhijit Sharma and Dr. Suvrojit Das	TCS Mumbai	2786300.0	2021
Universal Multimodal Interface for Different Disabilities	Dr. Nilanjan Chattaraj, Dr.Sujoy Saha, Dr. Mousumi Saha	TCS	2900000.0	2022
Performance Evaluation of Open Source LID, Speaker Diarization and Speech Enhancement Algorithm	Dr. Nilanjan Chattaraj, Dr.Sujoy Saha, Dr. Suman Samui	DRDO	3000000.0	2023
Intelligent Air Pollution Monitoring System for Smart Cities using Low-Cost Sensors	Dr. Sujoy Saha, Dr. Mousumi Saha, Dr. Joydeep Hawladar	Department of Science and Technology and Biotechnology, West Bengal	12.0	2019
i-PolluSense: Intelligent Personalized Air & Noise Pollution Sensing and Alert Companion	Subrata Nandi, Sanghita Bhattacharjee, Sujoy Saha	IIT Kharagpur AI4ICPS IHub Foundation	45.66	2024
Connected Smart Health Services for Rural India	Prof. Nabendu Chaki, Dr. Anirban Sarkar (Co-PI), Mr.Rakesh Mishra, Dr.Satadal Saha	Interdisciplinary Cyber Physical Systems (ICPS)Programme, Department of Science & Technology(DST), Govt. of India.	15.27	2019
Geometric Facility Optimization Problems in Imprecise Domain	Ankush Acharyya	SERB	1345300.0	2022
AI in Education	T Pal, P Guha Thakurta	MeyIT	8100000.0	2020
Coalition Formation in Multi Agent Systems: An Algorithmic Approach	Animesh Dutta	Science Engineering & Research Board (SERB)	1660000.0	2023
i-PolluSense: Intelligent Air & Noise Pollution Sensing and Alert Companion	Subrata Nandi, sujoy Saha, Sanghita Bhattacharaya	Ai4CPS, IIT Kharagpur	4466000.0	2023
STEM accessibility (from web) for the visually impaired	Abhijit Sharma and Suvrojit Das	TCS	2786300.0	2021

4.4.24 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
Neurocomputing and Cognitive Intelligence– Developing a model for Analysing the Learning Disabilities of Dyslexic Child	Dr. Suvrojit Das, Dr. Bibhash Sen, Prof. Suchismita Roy, Prof. Anupam Basu	MeitY, Govt. of India	2024
Neuro Computing and Computational Intelligence: Developing a model for analyzing the reading disability of the Dyslexic child	B Sen, S Bhattacharjee, M Dalui, S Das, S Roy, P K Guhathakurta, A Basu	Meity	2023
A Framework for Healthcare Services using Mobile and Sensor–Cloud Technologies	Anirban Sarkar (PI), Nandini Mukherjee, Nabendu Chaki, Rakesh Kumar Mishra, Jaya Sil	Information Technology Research Academy (ITRA) Ministry of Communications and Information Technology, Govt. of India.	2018
Erasmus + ICM (International Credit Mobility)	Animesh Dutta	European Union (with Polytechnic of Porto, (Portugal)	2024

4.4.25 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Tandra Pal	Transactions on Systems, Man, and Cybernetics: Systems	IEEE	2023-09-23
Debashis Nandi	IEEE Transactions on Medical Imaging	IEEE	2024-01-23
Debashis Nandi	IEEE Transactions on Knowledge and Data Engineering	IEEE	2023-12-21
Debashis Nandi	Biomedical Signal Processing & Control	Elsevier	2023-03-29
Sajal Mukhopadhyay	Internet of Things	Elsevier	2023-04-10
Parag Kumar Guha Thakurta	EAAI	Elsevier	2024-01-31
Jaydeep Howlader	Frontiers in Applied Mathematics and Statistics Dynamical Systems	Frontiers	2024-07-11
Jaydeep Howlader	Security and Privacy	Willey	2024-10-10
Jaydeep Howlader	Security and Privacy.	Willey	2024-05-04

4.4.26 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Tandra Pal	External Examiner: PhD Enhancement Seminar	CSIR-CMERI, Durgapur	2024-02-13	2024-02-13
Tandra Pal	External Examiner: Project dissertations and viva-voce of the M.Tech students of Dual-Degree M.Tech./5 years M.Sc./2 years programmes	IIT Kharagpur	2023-05-04	2023-05-04
Tandra Pal	Member of PG-BOS of the Department of Computer Science and Engineering	The ICFAI University, Tlilipura	2023-04-15	2026-04-14
Tandra Pal	Member of PG-BOS, Department of Computer Science	University of Gour Banga, Malda, West Bengal	2021-06-06	2025-06-05

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Tandra Pal	Member of UG-BOS, Computer Science and Computer Application	Kazi Nazrul University (KNU), Asansol, West Bengal	2020-04-07	2025-04-06
Tandra Pal	Member of UG-BOS of the Department of CSE (Data Science)	Dr. B. C. Roy Engg. College, Durgapur	2024-10-28	2028-10-27
Debasis Mitra	5 th Semester Examinations 2023	Kazi Nazrul University, Asansol	2023-11-01	2024-11-17
Bibhash Sen	03 rd Board of Studies (BOS) meeting	ICFAI	2024-02-28	2024-11-07
Subhrabrata Choudhury	Member of Board of Studies	Sikkim Manipal University	2024-02-15	2024-11-21
Jaydeep Howlader	JIS University Odd Semester Examination	JIS University	2023-11-24	2023-11-24

4.4.27 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Tandra Pal	PhD. Science program of the Academy of Scientific and Innovative Research (AcSIR)	CSIR-CMERI, Durgapur	2023-10-04	2023-10-04
Tandra Pal	Faculty Selection for the post of Professor in the Department of Computer Science & Engineering	Nagaland University	2023-09-04	2024-11-04
Tandra Pal	Faculty selection	National Law University (NLU), Meghalaya	2023-06-09	2023-06-09
Tandra Pal	Admission in Ph.D. Engineering	Academy of Scientific and Innovative Research (AcSIR) at CSIR-CMERI, Durgapur	2023-05-19	2023-05-19
Tandra Pal	Admission in M.Tech & IDDP	Academy of Scientific and Innovative Research (AcSIR) at CSIR-CMERI, Durgapur	2023-05-22	2023-05-22
Tandra Pal	Admission in Ph.D. Science and PGDAMT	Academy of Scientific and Innovative Research (AcSIR) at CSIR-CMERI, Durgapur	2023-05-23	2023-05-23
Tandra Pal	ExternFaculty Recruitment in the Department of Computer Science and Engineering	NIT Silchar	2023-09-27	2024-11-27
Sajal Mukhopadhyay	Computer Science and Technology	Dr. B. C. Roy Polytechnic (A unit of Dr. B. C. Roy Engineering College, Durgapur)	2023-05-17	2023-05-17
Jaydeep Howlader	Computer Science Engineering	Sanaka Educational Trust	2024-03-22	2024-03-22

4.4.28 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Tandra Pal	Waste material classification using ML techniques	Short Term Course and Faculty Development Programme on "Applications of Machine Learning Techniques in Sustainable Technologies (AMLST-2024)"	Department of Computer Science and Engineering and Department of Electrical Engineering, NIT Rourkela	2024-01-24	2024-01-24
Tandra Pal	Generalization and Robustness of Neural Networks	High-End Workshop (Karyashala) on Stochastic Modelling Techniques	IIT (ISM) Dhanbad	2023-02-23	2023-02-23
Tandra Pal	Clustering: Soft vs. Hard	International Conference on Nonlinear Dynamics and its Applications in Physical and Biological Sciences (NDAPBS-2023)	Durgapur Government College	2023-03-16	2023-02-16
Suvdip Batabyal	Machine Learning for 5G Systems: A Perspective on Applications	Five-Day Workshop on Artificial Intelligence and Data Science: The Future of Technology	Tezpur University	2024-03-04	2024-03-08
Sanghita Bhattacharjee	City scale noise map generation using mobile sensing	Faculty Development Program on "Journey into Computing's Future: IoT, AI/ML & Beyond" hosted by Institute of Engineering and Management, Kolkata.	IEM Kolkata	2023-12-18	2023-12-22
Mamata Dalui	Transforming Healthcare: Non-invasive Anaemia Detection using Ambient Assistive Technology	seminar on "Ambient and Assistive Technology"	DIATM, Rajbandh campus	2024-07-24	2024-07-24
Deepanwita Das	Swarm Robotics: Applications, Challenges and Open Problems	Faculty development programme on "Recent Trends in Computational Approaches	Narula Institute of Technology	2024-01-02	2024-11-06
Parag Kumar Guha Thakurta	Data Mining	Conference	Kolkata	2024-02-08	2024-02-10

4.4.29 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Suvdip Batabyal	ASCAT 2024	NIT Durgapur	Organizing Chair	2024-02-29	2024-03-02
Debasis Mitra	Third Asian Symposium on Cellular Automata Technology (ASCAT 2024)	NIT Durgapur	Contributed Talks 4	2024-02-29	2024-03-02
Sujoy Saha	4 th International Conference on Frontiers in Computing and Systems (COMSYS2023)	IIT Mandi	Computer Networks	2023-10-16	2024-10-16
Suchismita Roy	Third Asian Symposium on Cellular Automata Technology ASCAT2024	NIT Durgapur	Regular	2024-02-29	2024-03-02
Suchismita Roy	37 th International Conference on VLSI Design VLSID 2024	Kolkata	Tutorial	2024-01-06	2024-01-10
Mamata Dalui	All India Seminar on Machine Learning and Soft Computing Applications in Engineering and Science (MLSC-ES'24)	IEI Durgapur Local Centre, Nehru Avenue, B-Zone, Durgapur, West Bengal (Near LIC Office)	ORAL SESSION 6	2024-04-06	2024-04-06

4.5 Department of Chemical Engineering

4.5.1 Department at a Glance:

In the academic year 2023-24, Department of Chemical Engineering at NIT Durgapur excelled in research and teaching, emphasizing innovation, and nurturing skilled chemical engineers while offering a comprehensive range of programs from B.Tech to PhD level with Dual Degree option. A total of 238 students benefitted from the cutting-edge curriculum and the expertise of sixteen dedicated faculty members. These accomplished faculty members, recognized for six awards or recognitions, have significantly elevated the department's education standard. Like the previous years, two faculty members of the Department have been recognized by Stanford University-Elsevier Science Report as within the Top 2% of the scientists worldwide. The Head of the Department Prof.P. Pal the seniormost HAG professor has been recognized for the consecutive fourth time as one within the top 0.5% of the scientists across all streams and within Top 200 Chemical Engineering Researchers as per Stanford Citation reports for years. The Department with twenty-eight significant projects is addressing critical challenges in chemical engineering. The Department has secured substantial research grants and has forged collaborations with prestigious academia within and outside India and industries. For quite long the Department has been publishing a significantly high number

of research papers every year with no exception this year with 79 publications in journals. World class books authored by faculty members (Prof. P. Pal) have been published by the most reputed and the biggest publishing house like the Elsevier Science all over the world. Research papers have been presented in twenty-six various national and international conferences. Department has to its credit around a dozen patent rights. Collaborations with industries have provided our students valuable opportunities for joint projects, internships, and industrial training, enriching their learning experiences with practical exposure. The students' outstanding performance in academics and extracurricular activities further showcased the department's excellence. Acknowledged through four awards and accolades, they demonstrated an unwavering dedication to chemical engineering. Moreover, participation in national and international competitions displayed their passion and talent, enhancing the department's reputation. In pursuing academic excellence, department has continued investment in modernizing infrastructure through DST_FIST(GOI), Centre of Excellence (Govt. of India) and several other research grants that culminated in development of state-of-the-art laboratories and advanced equipment. Furthermore, Alumni continued to be invaluable assets,

and department organized one alumni engagement events during the year, featuring lectures and mentorship programs to inspire and guide current students on their academic and professional paths. Beyond the institute's boundaries,

department actively engaged in sixteen community outreach programs and social initiatives, promoting awareness of chemical engineering's societal applications, and positively impacting the broader community.

4.5.2 Mission & Vision

Mission:

- » To produce highly qualified, well-rounded and motivated graduates possessing fundamental understanding and knowledge in Chemical Engineering who can provide service and leadership to the nation and the world.
- » To pursue creative research and new technologies in Chemical Engineering in order to serve the needs of industry, government & society.
- » To achieve visibility by active participation in conferences and technical activities.

Vision:

- » To impart quality technical education in Chemical Engineering and focus on research and innovation in thrust areas of Chemical and related areas of engineering.

4.5.3 Faculty

Name	Designation	Email-id
Parimal Pal	HAG Professor & HOD	ppal.che@nitdgp.ac.in
Kartik Chandra Ghanta	Professor	kcghanta.che@nitdgp.ac.in
Tamal Mandal	Professor	tmandal.che@nitdgp.ac.in
Anup kumar Sadhukhan	Professor	aksadhukhan.che@nitdgp.ac.in
Gopinath Halder	Professor	ghalder.che@nitdgp.ac.in
Susmita Dutta	Professor	sdutta.che@nitdgp.ac.in
Jaya Sikder	Associate Professor	jsikder.che@nitdgp.ac.in
Sandip Kumar Lahiri	Associate Professor	sklahiri.che@nitdgp.ac.in
Mrinal Kanti Mandal	Associate Professor	mkmandal.che@nitdgp.ac.in
Swapan Paruya	Associate Professor	sparuya.che@nitdgp.ac.in
Bimal Das	Assistant Professor	bdas.che@nitdgp.ac.in
Abhiram Hens	Assistant Professor	ahens.che@nitdgp.ac.in
Rajib Ghosh Chaudhuri	Assistant Professor	rgchaudhuri.che@nitdgp.ac.in
Bikash Kumar Mondal	Assistant Professor	bkmondal.che@nitdgp.ac.in
Debayan Das	Assistant Professor	ddas.che@nitdgp.ac.in
Manisha Bal	Assistant Professor	mbal.che@nitdgp.ac.in

4.5.4 Labs

Sl. No.	Name of Laboratory	Major Equipment
1.	Heat Transfer Laboratory	1. Double Pipe Heat Exchanger 2. Forced convection apparatus 3. Drop wise and Film Wise Condensation 4. Emissivity Measurement Apparatus 5. Thermal Conductivity of Metal Rod 6. Shell and Tube Heat Exchanger 7. Natural Convection Apparatus 8. Composite Wall Apparatus 9. Unsteady State Heat Transfer Unit 10. Double Effect Evaporator

Sl. No.	Name of Laboratory	Major Equipment
2.	Mass Transfer Laboratory	1. Tray Dryer 2. Open Pan Evaporator 3. Distillation Columns of different types 4. Rotary Dryer 5. Diffusion type Experimental Set up 6. Cooling Tower Experimental Set up 7. Concentric Pipe Heat Exchanger 8. Bubble cap Distillation column 9. Simple batch distillation column 10. Atmospheric and vacuum dryers 11. Solid Liquid Extraction Column 12. Liquid –Liquid Extraction in Packed column 13. Swenson walker and Vacuum Crystallizer units 14. Membrane separation Set up 15. Adsorption column
3.	Fluid Flow Laboratory	1. Packed Bed 2. Hydraulic Bench Apparatus 3. Reynolds Experiment 4. Helical Coil Apparatus 5. Bernoulli Apparatus 6. Pipe Friction Apparatus 7. Pitot Tube Apparatus 8. Parallel Friction Pipe Experiment 9. Pipe Fittings Apparatus 10. Pipes in Parallel 11. Reciprocating Pump 12. Pipe Friction apparatus
4.	Mechanical Operation Laboratory	1. Elutriator Experiment 2. Cyclone Separator Experiment 3. Vibrating Screening Experiment 4. Ball Mill Apparatus 5. Jaw Crusher Apparatus 6. Agitated Vessel Experiment 7. Kneader Mixer 8. Plate & Frame filter Press 9. Roll Crusher 10. Cone Classifier 11. Screening 12. Thickener

Sl. No.	Name of Laboratory	Major Equipment
5.	Environmental and Membrane Technology Laboratory	1. Clean Air Station (Biosafety) 2. Nanomembrane-integrated Hybrid System for treatment of As, F, Se – contaminated water 3. Flat sheet Cross-flow Membrane Modules 4. Membrane Distillation System 5. Membrane-based Bioreactor for Manufacture of organic acids/amino acid/ biofuel 6. Flame photometer 7. UV-Visible Spectrophotometer 8. HPLC system 9. Streaming Potential Set Up 10. Solar Heater, vacuum pump, high press pump 11. Thin film Applicator 12. Electronic balance 13. Microscopes 14. Colony counter 15. pH, TDS, Ion meter (Cl, F, Na) 16. Wag Tech Digital Arsenator 17. Autoclave 18. BOD incubator-shaker 19. COD analyzer 20. Air pollution apparatus
6.	Fuel Laboratory	1. ASTM Distillation 2. Pensky mortens apparatus 3. Aniline point apparatus 4. Reid vapour pressure app. 5. Able App. 6. Solar collector 7. Redwood viscometer 8. Bomb calorimeter 9. Conradson carbon residue 10. Shattering index app. 11. Dean Stark Apparatus 12. Furnace 13. Air-oven 14. Weight Balance 15. Muffle Furnace 16. Gas cylinder for Nitrogen 17. Autoclave

Sl. No.	Name of Laboratory	Major Equipment
7.	Chemical Reaction and Bio-Chemical Engineering Laboratory	1. Isothermal Batch Reactor 2. Plug-Flow Reactor 3. Continuous Stirrer Tank Reactor 4. RTD Studies CSTR 5. Removal of Methylene Blue Die Using 6. Fenton's Reagent 7. Adiabatic reactor 8. Rtd study with packed bed reactor(old) 9. Rtd study with packed bed reactor(New) 10. Cascade reactor 11. Autoclave 12. Shaker 13. DO meter 14. PH meter 15. Deep Freeze 16. Double distillation Column 17. Bio safety cabinet 18. Air compressor 19. BOD Incubator Shaker
8.	Process Control & Instrumentation Laboratory	1. Control valve characteristic 2. Intetacting non-interacting System 3. Level control trainer 4. Temp.Control Trainer 5. Damping coefficient of manometer 6. Calibration of thermocouple 7. Pressure control trainer 8. Autoclave
9.	Central Research Laboratory -I	1. Performance Liquid Chromatography System with computer Accessories (HPLC) Model: Agilent 1200 series , Make: Agilent Technologies 2. Gas Chromatograph (GC) Model: GC7700, Make: Techcomp 3. Thermo Gravimetric Analyzer Model: DTG-60, Make: Shimazu, 4. High speed Refrigerated Ultra Centrifuge with accessories 5. Rheometer with Pentium IV computer, colour inkjet printer, oil free compressor (0.5 hp) and driver software. 6. Variable band with double beam UV-VIS, Spectrophotometer 7. TOC Analyzer Make: O.I. Analytical (USA), Model: TOC 1030W 8. HPLC grade de-ionized water purifier Make: Millipore, Model: Direct-Q® 3 9. Laboratory Freezer with wheel Brand: Elanpro, Model: ECG 374

Sl. No.	Name of Laboratory	Major Equipment
10.	Central Research Laboratory –II	- Atomic Absorption Spectroscopy with Graphite furnace Model: iCE 3500 AA Spectrometer (Wide PMT), True dual Atomizer for Flame and Furnace System, (True Double Beam Optics) - Fluorescence Spectrophotometer Model: Agilent model Cary Eclipse Fluorescence Spectrophotometer with Polarizer and Accessories Make: Agilent Technologies - Gas Chromatography Mass Spectrophotometer (GC-MS) with S/SI Injector Model: Agilent model GC+5977B – High Performance Turbo QUADRUPOLE GC-MS Spectrometer, Make: Agilent Technologies - Surface area Analyzer
11.	Dry Laboratory	TGA with interconnected with FTIR Model: STA6000 Simultaneous Thermal Analyser (TGA-DTA-DSC) System, Make: PerkinElmer
12.	Combustion Engineering Laboratory	- DropTube Furnace with Thermocouple (14000C) and all other accessories. - Cylindrical mass loss furnace with micro balance and all other accessories.
13.	Multi-phase Flow Modelling Laboratory	Horizontal and vertical recirculating pipeline for flow study of solid-liquid mixture Horizontal and vertical recirculating pipeline for flow study of gas-liquid/ liquid-liquid mixture Rheometer with Pentium IV computer, colour inkjet printer, oil free compressor (0.5 hp) and driver software. Data acquisition system including computer, printer and driver software Pressure Transducer Magnetic flowmeter
14.	UG Computing Laboratory	Hardware: 30 number of Desktop Computers with windows OS Software: Matlab, Aspen Plus, Ansys, COMSOL Multiphysics etc.
15.	PG Computing Laboratory	Hardware: 15 No. of Desktop Computers and 04 number of Computing Workstations Software: Matlab, Aspen Plus, Ansys, COMSOL Multiphysics LAMMPS etc. OS: Windows and Linux

4.5.5 PhD degree awarded till 2023-24

Twelve (12)

4.5.6 Any other relevant information

Prof. (HAG) Parimal Pal of the Department has been recognized as one of the top 0.5% of the World Scientists (considering all branches) by Stanford University Report since 2020. International rank in the Chemical Engineering is 181. Stanford University, USA. Department has fetched prestigious awards under the leadership of Prof. Parimal Pal such as HIYOSHI Environment award 2018 from Hiyoshi Corporation Japan, Best research award on Clean Technology and Environmental Policy by Springer Verlag, Germany, IChE best research award in the millennium Chemical Engineering Congress etc. Prof. Pal also earned 9 copy and patent rights on several green technologies for application in process industries. Three books authored by Prof. Parimal Pal have been published by the world's

largest and most reputed publisher, the Elsevier Science. Prof. Parimal Pal has been selected Fellow of the Royal Society Chemistry, London. He is as one of the Top 200 Chemical Engineering Researchers of the world as per Research impact Report 2024. Prof. Pal has been appointed NBA Expert, USC expert, DRDO expert for scientist selection and he is in various editorial Boards of top-class Journals.

Prof. Gopinath Halder from the Department of Chemical Engineering, NIT Durgapur has been recognized as one of the top 2% of the World Scientists (considering all branches) by Stanford University Report since 2022.

Dr. Bimal Das from the Department of Chemical Engineering, NIT Durgapur has been elected as Honorary

Secretary of "The Institution of Engineers (India)", Durgapur Local Centre in October, 2023.

The Department is DST-FIST sponsored.

Successfully implemented the 1st DST-FIST project in the Institute. 2nd Phase is almost completed.

4.5.7 Specialization

- » Advance process control in chemical process industries
- » Colloids and Interface Engineering
- » Nanotechnology
- » Material Science
- » Process Development for CO₂ capture and conversion
- » Pinch Technology based process integration
- » Chemical and Biochemical Engineering
- » Thermodynamic and Kinetic Modeling of Chemical Absorption process
- » Real time Optimization
- » Process modeling and Simulation
- » AI application in chemical process industries
- » Environmental engg, Air pollution control, Separation Process, CFD
- » Pyrolysis, Gasification and Combustion
- » Computational Fluid Dynamics and Molecular dynamics simulations
- » Chemical and Biochemical Reaction Engineering
- » Membrane Separation Processes (Pervaporation, Gas Separation, Membrane Distillation, NF/UF/MF), Membrane Reactors (catalytic/bio), Nanomembrane in Energy and water , Hybrid Membrane Technology, Energy storage and Smart Material
- » Transport Phenomena
- » Mass Transfer, Petroleum refining, Membrane Technology, Green Chemical Technology, Process Intensification, Sustainable Technology, Environmental Chemical Engineering, Water Treatment
- » Multiphase flow
- » Solid-liquid flow modeling
- » Bubble dynamics, Two-phase flow, Multiphase flow
- » Membrane Technology
- » Environmental Science, Multiphase flow, Renewable Energy, Waste Treatment

4.5.8 Proposed Plan for Research

- » Development of biodegradable flexible packaging film for food industry
- » Development of desalination unit
- » Developing low cost adsorbent for liquid phase application
- » Development of real time optimizer for ethylene glycol plant
- » Process modeling and scale up of adsorption process
- » Development of real time fault diagnosis for chemical plant
- » New Solvent development for Post-Combustion CO₂ capture
- » Functional metal impregnated nanocatalyst synthesis, Bioenergy generation, Microplastics remediation, Biohydrogen
- » Production of liquid and gaseous fuels from plastic and biomass wastes
- » Process modeling and scale up of batch pyrolyzer and economic analysis
- » Research and Consultancy on CFD and MD based Process Modelling and Simulations, Hydrogen generation, Plastic waste management
- » Advanced technologies for wastewater treatment, Biodegradation of industrial wastewater, integrated wastewater treatment system, Kinetics and Reactor design for specific toxic molecules treatment.
- » Installation of Proto type domestic waste water system for reuse
- » 1. Signal Amplification on Paper Assays Objective: Optimize and analyze signal amplification strategies on paper-based assays to enhance sensitivity and enable low-concentration detection in point-of-care applications. Methodology: Literature Review: Review existing signal amplification methods on paper-based assays, such as enzyme-mediated signal amplification (HRP, ALP), nanoparticle-assisted amplification (gold nanoparticles, quantum dots), and molecular amplification methods (CRISPR-Cas, rolling circle amplification). Experimental Setup: Select a paper substrate (e.g., nitrocellulose or cellulose) and apply selected amplification strategies. Conduct experiments with varying concentrations of analytes and record signal intensities. Use quantitative techniques, such

as image analysis software or spectrophotometry, to assess signal changes. Optimization: Adjust parameters like reaction time, reagent concentration, and environmental factors to maximize signal amplification without compromising stability or reproducibility. Evaluate the use of different stabilizers or binding agents to maintain signal intensity during storage. Data Analysis: Use statistical tools to analyze signal-to-noise ratios and determine limits of detection (LOD) and quantification (LOQ) for each strategy. Expected Outcomes: A comparative understanding of signal amplification strategies' effectiveness on paper substrates. Optimized conditions for high-sensitivity, low-background signal detection on paper-based assays.

- » 2. Viscous Fingering Studies on Paper Analytical Devices Objective: Study the viscous fingering effect in paper analytical devices to understand fluid behavior and improve flow control in paper-based assays. Methodology: Theory and Simulation: Begin with a theoretical study on viscous fingering in porous media, focusing on how viscosity contrast between fluids impacts flow dynamics on paper. Run simulations to predict fingering patterns based on fluid properties and paper microstructure. Experimental Validation: Prepare paper substrates and design channels or zones where fluid interactions can be observed. Use fluids with varying viscosities (e.g., water-glycerol mixtures) to induce fingering patterns. Observe and record fingering patterns at different flow rates and under varied temperature and humidity conditions. Analysis: Quantify the fingering patterns using image processing techniques, measuring finger width, frequency, and penetration depth. Examine the impact of paper porosity, fluid viscosity, and flow rate on the extent of fingering. Correlate findings with the theoretical model and simulations. Expected Outcomes: Insights into how viscous fingering occurs in paper-based devices and affects reagent flow and mixing. Guidelines for minimizing or leveraging fingering effects to improve device design and assay performance.
- » 3. Dispersion and Dispersivity Studies on Paper Assays with Quantification Objective: Quantify dispersion and dispersivity in paper-based assays to improve analyte distribution uniformity and reproducibility in point-of-care tests. Methodology: Mathematical Modeling: Develop or adapt a mathematical model that describes the dispersion and dispersivity of analytes in a porous medium. Integrate advection-diffusion-reaction models specific to paper-based systems. Experimental Studies: Select paper substrates and apply a tracer or dye to visualize dispersion in fluid flow. Record how dispersion patterns change with flow rate, substrate porosity, and fluid properties. Use digital

image processing to quantify dispersion metrics, including plume area, concentration gradients, and dispersivity coefficients. Optimization and Parameter Tuning: Adjust flow rates and fluid properties to achieve desirable dispersivity for even analyte distribution. Experiment with different substrate modifications (e.g., pre-treatment to alter hydrophilicity) to control dispersivity. Expected Outcomes: Quantitative insights into dispersion and dispersivity in paper-based assays, supported by both experimental and theoretical data. Guidelines for optimizing flow conditions to achieve uniform analyte distribution, essential for accurate detection and quantification. Distance-Based Paper Analytical Device for the Detection of Arsenic Objective: Develop a low-cost, portable, and reliable distance-based PAD for detecting arsenic in water, capable of providing semi-quantitative results based on colorimetric distance measurement. Methodology: 1. Literature Review and Design Strategy Literature Review: Research existing colorimetric or distance-based PADs for heavy metal detection, with an emphasis on arsenic detection. Study the chemical reactions commonly used for arsenic detection, such as the Gutzeit method or other colorimetric approaches (e.g., silver diethyldithiocarbamate or molybdenum blue methods). Selection of Detection Chemistry: Choose a suitable arsenic detection chemistry that produces a visible color change. Ideal options should yield distinct color gradients to allow for distance-based measurement. Device Design: Design the PAD to include a sample inlet, reaction zone, and wicking channel that guides arsenic-specific reaction products along a set path. Incorporate indicators or color-change reagents that react with arsenic to provide a visible, quantifiable color front. 2. Fabrication of the Device Substrate Selection: Select appropriate paper substrates (e.g., cellulose or nitrocellulose) based on flow properties and compatibility with arsenic detection chemistry. Patterning and Functionalization: Use wax printing, photolithography, or other methods to pattern channels on paper and define the reaction and detection zones. Functionalize specific areas with reagents that react with arsenic to produce the color front. Lyophilization for Reagent Storage: Freeze-dry (lyophilize) detection reagents on the paper to improve stability and shelf life. Conduct stability tests to confirm the longevity of stored reagents. 3. Optimization of Device Parameters Channel Length and Width: Adjust channel dimensions to optimize the wicking rate and ensure reliable, measurable distance-based color development. Reagent Concentration: Experiment with various concentrations of colorimetric reagents to achieve a clear gradient and detectable color front. Ensure the concentration enables distinct segmentations corresponding to arsenic concentrations

of interest. Flow Rate Control: Test the flow rate across the paper by altering the porosity or pre-treatment of the substrate, to ensure reproducibility of color front movement for different arsenic concentrations. 4. Calibration and Quantification Calibration Curve: Prepare arsenic solutions of known concentrations and apply them to the PAD. Measure the distance traveled by the color front at each concentration, and record the results. Data Analysis: Plot the color front distance versus arsenic concentration to generate a calibration curve. Calculate the detection limit, linearity range, and sensitivity of the device. Image Analysis for Quantification: Develop or adapt an image analysis protocol (using software like ImageJ) to quantify color front distance for different arsenic concentrations. This allows for digital quantification of the results in field settings with mobile phones. 5. Validation and Testing in Real Samples Validation with Environmental Samples: Test the PAD with real water samples from areas known for arsenic contamination to validate the device's field applicability. Compare the results with standard lab-based arsenic detection methods, such as atomic absorption spectroscopy (AAS) or inductively coupled plasma mass spectrometry (ICP-MS). Interference Study: Assess the impact of potential interferents, such as other heavy metals (e.g., lead, mercury) and organic substances, on the detection accuracy. Modify the PAD design if necessary to minimize interference effects. 6. Field Testing and User Feedback Field Testing: Deploy the PAD in field conditions to evaluate its performance and practicality in remote or resource-limited settings. User Feedback: Collect feedback from field users (e.g., community health workers, environmental inspectors) to refine usability and interpretation of results. Make design adjustments to improve user-friendliness and accuracy as needed. Expected Outcomes: A validated, user-friendly, and cost-effective PAD for arsenic detection, which provides semi-quantitative results based on the distance-based color change. A reliable calibration

curve with clearly defined detection limits, allowing arsenic concentration estimation by measuring the color front distance. Demonstrated utility in field settings, with the device showing compatibility for use in resource-limited or rural areas, supporting water quality monitoring efforts and potential integration into health programs focused on arsenic exposure prevention

- » Extraction of white metal, development of Green technology for Chemical/Biochemical Industry, New Membrane development for Desalination of water
- » The research will focus on development of sustainable technology for microplastic remediation in aquatic system and design and development of a nanofluid based scrubbing system with magnetic fields for flue gas treatment, addressing both water and air pollution control.
- » Developing low cost adsorbent for liquid phase application
- » Process modeling and scale up of adsorption process
- » Phycoremediation of pollutants, Downstream processing of algal biomass for extraction of nutraceutical
- » Flow modeling
- » Waste water treatment
- » We usually write the FORTRAN-codes for the mathematical models, and perform high-speed visualization of two-phase boiling flow using a camera for: (1) Bubble dynamics (growth, collapse and translation of vapour bubble) (2) Two-phase boiling flow and multiphase flow (DFM4/TFM) for nuclear applications. We propose to work on highly spatially-resolved (2D/3D) FORTRAN-numerics and experiments for the complete flow fields around a translating bubble in a liquid
- » Industrial Water Treatment

4.5.9 Area of Research Interest

- » Flexible Packaging Film
- » Desalination
- » Gas Sensor
- » Digital twin development for ethylene oxide reactor in commercial plant
- » Chemical Absorption process, Thermodynamic modeling, Kinetic modeling of Bioprocess and reactor design, Design and development of low-cost adsorbent for waste water treatment.
- » Catalytic heterogeneous transesterification, Microwave-irradiated technique, Superheated alcohol injection mechanism, Biodiesel synthesis, wastewater treatment, Microplastics
- » Reaction kinetics, yield and composition analysis for thermal and catalytic pyrolysis of plastic and biomass wastes
- » CFD and Heat Transfer, Molecular Dynamics Simulation, Process modelling and Simulation, Microfluidics and Nanotechnology
- » Advanced technologies for wastewater treatment, Biodegradation of industrial wastewater, integrated

- wastewater treatment system, Kinetics and Reactor design for specific toxic molecules treatment.
- » Catalytic membrane in Energy and water • Hybrid Membrane Technology H₂ production and Smart film for food safety
- » Paper-Based Signal Amplification and Sensitivity Enhancement for Point-of-Care Diagnostics
- » Fluid Dynamics and Transport Phenomena in Porous Media for Analytical Applications
- » Distance-Based Detection and Quantification of Environmental Contaminants Using Paper Devices
- » Development of Green Process Technology, Process Intensification, Novel Separation by Membranes
- » Water treatment, air pollution control, Energy & Environment, CFD
- » Biochemical Reaction Engineering.
- » Environmental Engineering.
- » Bioremediation and Phycoremediation
- » Two-phase flow modeling
- » Bubble dynamics, Two-phase flow, Multiphase flow
- » Cost-effective membrane development
- » Environmental Science, Multiphase flow, Renewable Energy, Waste Treatment, Nanotechnology

4.5.10 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
Scientific Design Company Inc, USA	Research to develop online optimizer for ethylene glycol plant	Development of digital twin
Scientific Design Company, USA	Technical Consultancy	Development of Process software
IIT Kharagpur	Wastewater treatment	Reactor set up in Rice mill industry
Tata Chemicals Ltd	Research work	Joint Research work
Birla Jute Ltd	Joint project	joint Project
Ludlow Jute Mill Ltd	Joint project	Jute composite material
CSIR-CMERI Durgapur	Conversion of CO ₂ into useful product	Joint research and publication
University of Burdwan	Production of Bio-fuel as renewable energy source through membrane technology	research and publication
Kalinga Institute of Industrial Technology, Bhubaneswar	Carbon capture	research and publication
Department of Earth Resources and Environmental Engineering Hanyang University, Seoul Korea (Republic of)	Bioethanol production by MD	research & publication
Lappeenranta University of Technology Finland	Sustainable water resource management	research and publication
IOC Haldia	Waste water treatment	Research collaboration
IOC Haldia	Knowledge upgradation	Guest lecture & training
Haldia Petrochemicals Ltd.	Waste water treatment	Research Collaboration
Haldia Petrochemicals Ltd.	Knowledge upgradation	Guest lecture & training
ESSAR OIL	Produced Water Treatment	Membrane Integrated Technology Development

4.5.11 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
Amity University, Noida	Research collaboration	Prof. Sandip Chakraborty	Jointly working on the externally funded project
ISM Dhanbad	Research collaboration	Dr. Aditya Kumar	Jointly working on research proposal for external funding
Assam University, Silchar	Research collaboration	Dr. Sukanta Mondal	Working on research proposal for external funding and joint research publication
American University of the Middle East, Kuwait	Research collaboration	Dr. Elthosa Iype	Working on research proposal for joint research publication
National Institute of Technology Silchar	Research in heterogeneous catalyst and Biodiesel synthesis and article publications	Dr. Samuel Lalthazuala Rokhum	Joint supervision and publication
Thapar University	Research and development on Wastewater treatment	Prof. Sanghamitra Barman	Joint supervision and publication
Indian Agricultural Research Institute	Microalgal value-added products	Dr. Onkar Nath Tiwari	Technology development and publication
Cambridge University, London	Metal organic framework based catalyst	Prof. Andrew E Wheatley	Process optimisation and Research publication
Brainware University	Microplastic remediation	Dr. Shouvik Saha	Research publication
Aligarh Muslim University	Calcereous nanocatalyst development	Dr. Wasi Ur Rahman	Research publication
Universiti Teknologi Malaysia	Life cycle assessment of biodiesel manufacturing	Dr. Jeng Shiun Lim	Technology development and publication
Central Mechanical Research Institute Durgapur	Environmental Engineering	Dr. Amit Ganguli	Joint research Publication
IIT Kanpur and CMERI Durgapur	Research and publication	Prof. Gautam Biswas (IIT Kanpur), Dr. Nripen Chanda (CSIR-CMERI Durgapur), Dr. Priyabrata Banerjee (CSIR-CMERI Durgapur), Dr. Ranajit Ghosh (CSIR-CMERI Durgapur)	Joint Publications
Indian Institute of Technology Kharagpur	Joint Research in the field of CO ₂ capture solvent development	Prof Amar Nath Samanta	Joint Publication
Kabi Nazrul College, Birbhum, West Bengal, India	Environmental Biotechnology	Prof Mukesh Singh	Joint research and publication
IIT Kharagpur	Wastewater treatment	Prof. S. De	Reactor kinetics
Amity University	Research work	Prof Sandip Chakraborty	Project, Publication, Joint PhD student
IIT BHU	Research work	Dr. Jyotiprasad Chakraborty	Project, Publication, Joint PhD student

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
JNU, New Delhi	Research work	Prof Kashyap Kumar Dubey	Project, Publication, Joint PhD student
IIT-ISM	Research work	Prof Aditya Kumar	Project, Publication, Joint PhD student
University of Cincinnati, Ohio	Paper-based Analytical Devices	Prof. Aashish Priye	Have published three research articles in peer-reviewed international journal. Currently working on distance-based paper analytical devices
SGPGIMS, Lucknow	Designing a two-in-one Dry Blood Spot cum detection Card	Dr. Amit Goel	We have written two projects for submission.
Healthworld Hospital	1. Rapid on-spot Diagnosis of Hepatitis C Virus using origami based paper-card kit 2. Development of Two-Dimensional Paper-Based CRISPR/Cas Integrated LAMP Platform for the Detection of Hepatitis B Virus (HBV) 3. Aptamer based diagnostic device development for detecting Hepatitis-C virus (HCV) and HCV core Antigen	Dr. Mousumi Lodh	Writing and developing three project proposals on HCV and HBV detection – ready for submission
CSIR-CMERI Durgapur	Carbon capture	Dr. B.Ruj & Dr. Sankha Chakraborty	research & publication
University of Burdwan	Biofuel by Membrane technology	Prof.A.K.Ghosh	research and publication
KIIT Bhubaneswar	Carbon capture	DR. S,K.Tripathy and Dr. S.Chakraborty	research & publication
Hanyang University, Seoul Korea (Republic of) 04763	Biofuel through MD	Byong-Hun Jeon and Dr.R.Kumar	research and publication
LUT , Finland	Sustainable technology in water purification	Prof.L. Linnanen	research and publication
IIT Kharagpur	Paper Publication	Prof B C Meikap	Paper Publication on Optimization of effecting parameters for flue gas desulfurization in a self-priming venturi scrubber using response surface methodology
Department of Chemical Engineering, Indira Gandhi Institute of Technology, Sarang, Odisha, India	Paper Publication	Dr Ipsita Dipamitra Behera	Paper publication on Performance of Bioremediation Strategy in Waste Lubricating Oil Pollutants: A Review

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
National Institute of Technology Rourkela, SRM University, Andhra Pradesh, ICAR-National Research Centre on Litchi, CSIR-National Environmental Engineering Research Institute, Nagpur, Institute of Environmental Sciences, Nguyen Tat Thanh University, Vietnam, NIT Durgapur	Joint Publication	Lohit Kumar Srinivas Gujjala, Debajyoti Kundu , Deblina Dutta , Ankit Kumar , Aman Kumar , Ekta Singh , Rahul Mishra , Sunil Kumar , Dai-Viet N. Vo	Paper on Advances in ionic liquids: Synthesis, environmental remediation and reusability
Vilnius Gediminas Technical University (VILNIUS TECH), Vilnius, Lithuania	Environmental Engg.	Susmita Dutta, Prof. Kartik Chandra Ghanta	Join research guidance & publication

4.5.12 Innovations and Technology Transfer (Patents filed during)

Title	Inventors	Application Nos	Date of Filling
Nanotechnology Pavement Construction Based Jute Geotextile for and Method of Production Thereof	Mr. Sahinur rahaman Mandal, Dr. Supriya Pal, Dr. Rajib Ghosh Chaudhuri, Dr. Mrinal kanti Mandal, Dr. HIRAK Chaudhuri	202331056396	2023-10-20
Ethylene Oxide reactor Digital Twin	Sandip Kumar lahiri, Somnath Choudhury, Mansoor Hussain, Vikas Chalka	63/463,628	2023-05-03
Method for Estimating Selectivity and/or Activity of a Catalyst in an Ethylene Oxide Reactor	Sandip Kumar lahiri, Somnath Choudhury, Mansoor Hussain, Vikas Chalka	63/463,631	2023-05-03
Method for Estimating a Delay of a process data change with respect to a parameter change in an Ethylene Oxide Reactor	Sandip Kumar lahiri, Somnath Choudhury, Mansoor Hussain, Vikas Chalka	Sandip Kumar lahiri, Somnath Choudhury, Mansoor Hussain, Vikas Chalka	2023-05-03
Membrane-based Hybrid Method/Process for Removal of Antibiotics from Water	Dr.S. Pal, Dr.P.Pal, Dr. Z.Ahamed	202431031563A	2024-04-20

4.5.13 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Prof. S. Dutta, Prof. S. Bhattacharya, Prof. S. Bajpai , Prof. D. Deka, Prof. S. De, Prof. S. Kansal, Prof. R. Sen	Waste Treatment, Management and Valorization	2023-07-17

4.5.14 Journal: Published in 2023–2024 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Koustav Roy, Swapan Paruya	On the mechanics of thermal collapse of a vapour bubble translating in an isothermal subcooled liquid	International Journal of Multiphase Flow	Volume:171 Issue No:104691 Page No: Year:2024 Month:
Sayantana Sarkar, Deepshikha Datta, KS Deepak, Bikash Kumar Mondal, Bimal Das	Comprehensive investigation of various re-refining technologies of used lubricating oil: a review	Journal of Material Cycles and Waste Management	Volume:25 Issue No:4 Page No:1935–1965 Year:2023 Month:Jul
Deepshikha Datta, Dharmana Tejeswara Rao, Deepak KS, Mahima Mutsuddi, Bimal Das	Jute fibre reinforced unsaturated polyesters laminate preparation using eggshell filler	Asia-Pacific Journal of Chemical Engineering	Volume:18 Issue No:3 Page No: e2889 Year:2023 Month: May
Sayantana Sarkar, Deepshikha Datta, SVN Pammi, Bimal Das	Surface functionalization of synthesized sodium alginate from brown algae for maximizing the yield of re-refined used lubricating oil using extraction– flocculation–an environmentfriendly approach	Petroleum Science and Technology	Volume: Issue No: Page No:1–18 Year:2024 Month: Jan
Rohit Kumar Singh, Prithviraj Gupta, Biswajit Ruj, Anup Kumar Sadhukhan, Parthapratim Gupta	Thermal degradation of virgin and waste plastics: Estimation of kinetic and thermodynamic parameters using model-free isoconversional methods	International Journal of Chemical Kinetics	Volume: Issue No: Page No:1–20 Year:2023 Month:Sep
Rwiddhi Sarkhel, Parthapratim Gupta, Biswanath Bhunia, Tamal Mandal	Insightful analysis of cyanobacterial-assisted degradation of different polymers and their kinetics.	Algal Research	Volume: Issue No: Page No: Year:2024 Month:
S Kar, Kar S., Ghosh A., Acharya S., Bose S., Bedia R., Mandal T.	Advancement of Sustainable Dye Degradation Through Rice Husk Ash Based-Heterogenous Fenton Catalyst and Prediction of Dye Removal Through Gaussian Process Regression Study	Water Process Engineering	Volume: Issue No: Page No: Year:2024 Month:
Majee S., Sarkar K., Sarkhel R., Halder G., Mandal D.D., Rathinam N.K., Mandal T.	Bio-organic fertilizer production from industrial waste and insightful analysis on release kinetics	Environmental management	Volume: Issue No: Page No: Year:2023 Month:
Avishek Adhikary, Sandeep Kumar, Supriya Pal, Sudipta Ghosh, Hirok Chaudhuri, Mrinal Kanti Mandal	Efficacy evaluation of silty-sandy soil and Chrysopogon zizanioides to attenuate doxycycline from wastewater in a Constructed wetland system	Journal of Environmental Engineering	Volume:149 Issue No:6 Page No:04023024 Year:2023 Month:Jun
Rajneesh Anand, Mrinal Kanti Mandal, Rajib Ghosh Chaudhuri, Abhiram Hens	Optimization of geometry and surface wettability for enhanced efficiency of the solar still-based desalination unit	International Journal of Ambient Energy	Volume:44 Issue No:1 Page No:1549 Year:2023 Month:Jul
Geetika Jain, Puja Bhattacharyya, Mrinal Kanti Mandal, Rajib Ghosh Chaudhuri and Sandip Chakrabarti	pH-dependent adsorption of the sulfamethoxazole antibiotic on HKUST-1@CNS nanocomposite corroborating efficiency, mechanistic, and kinetic studies	New J. Chem	Volume:48 Issue No: Page No:1781 Year:2024 Month: Jan

Author(s) Name	Paper Name	Journal Name	Others Info
Debanik Bose, Indradev Kumar, Abhiram Hens	Performance analysis of methanol steam micro-reformers for enhanced hydrogen production using CFD	Chemical Engineering Research and Design	Volume:196 Issue No: Page No:297-308 Year:2023 Month: Jul
Nagendra Kumar Jilagam, Arnab Sau, Sanjay Varma Addepalli, Abhiram Hens, Susmita Dutta	Mitigation of oil spills from synthetic seawater using human hair – Experimentation, modeling and optimization	Chemometrics and Intelligent Laboratory Systems	Volume:224 Issue No:104998 Page No:104998 Year:2023 Month: Nov
Indradev Kumar, Anindya Kanti Roy, Abhiram Hens	Effect of pressure variations on film boiling characteristics of liquid nitrogen	Physics of Fluids	Volume:35 Issue No: Page No:101102 Year:2023 Month: Oct
Rajneesh Anand, Mrinal Kanti Mandal, Rajib Ghosh Chaudhuri, Abhiram Hens	Effect of patterned condensation surface on the performance of a newly designed basin-type solar desalination unit	Applied Thermal Engineering	Volume:249 Issue No: Page No:123399 Year:2023 Month: Jul
Debayan Das, Samaksh Gupta	Flow control and imbibition dynamics studies in paper membranes using inert additives	Chemical Engineering Science	Volume:299 Issue No: Page No:120504 Year:2024 Month:
N Majee, C Bhushan, D Das	Experimental studies on controlling dispersion and fluid flow in paper membranes/assays using hydrogel	Chemical Engineering Research and Design	Volume:208 Issue No: Page No:126-140 Year:2024 Month:
Alex Laman, Debayan Das, Aashish Priye	Miniaturized Non-Contact Heating and Transmitted Light Imaging Using an Inexpensive and Modular 3D-Printed Platform for Molecular Diagnostics	Sensors	Volume:23 Issue No: Page No:7718 Year:2023 Month:
Debayan Das, Manaswini Masetty, Aashish Priye	Paper-Based Loop Mediated Isothermal Amplification (LAMP) Platforms: Integrating the Versatility of Paper Microfluidics with Accuracy of Nucleic Acid Amplification Tests	Chemosensors	Volume:11 Issue No:3 Page No:163 Year:2023 Month:
Debanik Bose, Indradev Kumar, Abhiram Hens	Enhancing fuel-air mixing in COG-BOG non-premixed combustion: A CFD analysis with different turbulent models	Journal of the Indian Chemical Society	Volume:101 Issue No:9 Page No:101222 Year:2024 Month: Feb
S.Chakraborty, R.Kumar, J.Nayak, B.Jeon, P.Pal et al.	Green synthesis of MeOH derivatives through in situ catalytic transformations of captured CO ₂ in a membrane integrated photo-microreactor system: A state-of-art review for carbon capture and utilization	Renewable and Sustainable Energy Reviews	Volume:182 Issue No: Page No:113417 Year:2023 Month: Jun
M.Malhotra, M.Pal, S.Chakraborty, P.Pal	A single functionalized graphene nanocomposite in cross flow module for removal of multiple toxic anionic contaminants from drinking water	Environmental Science and Pollution Research	Volume:10.1007/s11356-023-26937-y Issue No: Page No: Year:2023 Month:Apr
R.Kumar, A.Basu, S. Chakraborty, P.Pal, Byong-Hun Jeon.. et al	Management of tannery waste effluents towards the reclamation of clean water using an integrated membrane system: A state-of-the-art review	Environmental Research, Elsevier	Volume:229(2023)115881 Issue No: Page No: Year:2023 Month:Oct

Author(s) Name	Paper Name	Journal Name	Others Info
Bishayee, B., Rai, A., Kumar, A., Kamila, B., Ruj, B., Dutta, S.	End-of-pipe treatment of secondary treated coke oven wastewater for removal of fluoride, cyanide, phenol, ammoniacal-N and nitrate using waste material: experiment, modelling and optimization	Chemical Engineering Research and Design	Volume:https://doi.org/10.1016/j.cherd.2023.04.047. Issue No: Page No: Year:2023 Month:
Sarkar, B., Lahiri, S.K., Dutta, S.	Application of multigene genetic programming and water evaporation optimization technique for modeling and optimization of removal of heavy metals from ash pond water using cyanobacterial consortium.	International Journal of Chemical Reactor Engineering	Volume:DOI: https://doi.org/10.1515/ijcre-2023-0105 Issue No: Page No: Year:2023 Month:
Sengupta, S. L., Chaudhuri, R. G., Dutta, S.	A critical review on phycoremediation of Pollutants from Wastewater—A Novel Algae Based Secondary Treatment with the Opportunities of Production of Value-Added Products	Environmental Science and Pollution Research	Volume:DOI: https://doi.org/10.21203/rs.3.rs-2349815/v1 Issue No: Page No: Year:2023 Month:
Kandar, B., Rai, A., Sau, A., Ghanta, K. C., & Dutta, S.	Phycoremediation of secondary treated synthetic refinery wastewater using <i>Scenedesmus valocatus</i> sp. NITD 23: Experiment and analysis	Journal of Water Process Engineering	Volume:doi.org/10.1016/j.jwpe.2024.104910 Issue No: Page No: Year:2024 Month: Feb
S Padma, Badri Srinivas, K.C.Ghanta, S Dutta	Bioremediation of Cr(VI) using indigenous bacterial strains isolated from a common industrial effluent treatment plant in Vishakhapatnam	Water Science & Technology	Volume:DOI: 10.2166/wst.2023.358 Issue No:11 Page No:2889-2904 Year:2023 Month:Nov
Swapan Paruya, Koustav Roy	Isothermal and non-isothermal growth of a vapour bubble in pool boiling – effect of translational velocity of bubble	International Journal of Heat and Mass Transfer	Volume:216 Issue No:124570 Page No: Year:2023 Month:
Nabanita Ghosh, Rhithuparna D., Rexona Khatoon, Samuel Lalthazuala Rokhum, Gopinath Halder	Sulphonic-acid functionalized novel Limonia acidissima carbonaceous catalyst for biodiesel synthesis from Millettia pinnata oil: Optimization, kinetics, thermodynamics and cost analysis	Journal of Cleaner Production	Volume:394 Issue No: Page No:136362 Year:2023 Month:Apr
Sayantana Adak, Rajib Ghosh Chaudhuri and Mrinal Kanti Mandal	Facile fabrication of embedded g-C ₃ N ₄ /MoS ₂ nano-adsorbent for the removal of persistent rhodamine B contaminant in aqueous solution	New J. Chem.	Volume: Issue No: Page No: Year:2024 Month:Jan
B Sarkar, SK lahiri, S dutta	Application of multigene genetic programming and water evaporation optimization technique for modeling and optimization of removal of heavy metals from ash pond water using cyanobacterial consortium	International Journal of Chemical Reactor Engineering.	Volume:22 Issue No:3 Page No:231-243 Year:2024 Month:Mar
Somnath Chowdhury, Aratrika Roychowdhury, Sandip Kumar Lahiri	Comparative study of artificial intelligence based multi-modelling approach and optimization of photoreactor	The Canadian Journal of Chemical Engineering	Volume: Issue No: Page No: Year:2024 Month:Jan

Author(s) Name	Paper Name	Journal Name	Others Info
Bhaskar Bishayee, Abhay Kumar, Sandip Kumar Lahiri, Susmita Dutta, Biswajit Ruj	Modeling, optimization and comparative study on abatement of fluoride from synthetic solution using activated laterite soil and fly ash	Groundwater for Sustainable Development	Volume:23 Issue No: Page No:101016 Year:2023 Month:Nov
Tithli Sadhu, Somanth Chowdhury, Shubham Mondal, Jagannath Roy, Jitamanyu Chakrabarty, Sandip Kumar Lahiri	A comparative study of metaheuristics algorithms based on their performance of complex benchmark problems	Decision Making: Applications in Management and Engineering	Volume:6 Issue No:1 Page No:341-364 Year:2023 Month:Apr
Payal Das, Gopinath Halder, Manisha Bal	A critical review on remediation of microplastics using microalgae from aqueous system	Science of the Total Environment	Volume:898 Issue No: Page No:166425 Year:2023 Month:Aug
Bisheswar Karmakar, Ayan Datta, Jyoti Ranjan Mishra, Samuel Lalthazuala Rokhum, Gopinath Halder	Catalyzed biodiesel synthesis from non-edible Nagkesar and Rubber seed oil blends using C1-C3 alcohol mixtures: Process optimization, kinetics and thermodynamics	Bioresource Technology Reports	Volume:24 Issue No: Page No:101618 Year:2023 Month:Sep
Chitrita Banerjee, Deepshikha Datta, Saira Mohanty, Sucharita Samanta, Gopinath Halder	Development of rice starch/recycled polypropylene biocomposites with jute waste nanofiber-based filler	Sustainable Chemistry and Pharmacy	Volume:33 Issue No: Page No:101101 Year:2023 Month:Apr
Wasi Ur Rahman, Rashid Imran Ahmad Khan, Sadaf Ahmad, Syed Mohd Yahya, Zahid A. Khan, Samuel Lalthazuala Rokhum, Gopinath Halder	Valorizing waste palm oil towards biodiesel production using calcareous eggshell based heterogeneous catalyst	Bioresource Technology Reports	Volume:23 Issue No: Page No:101584 Year:2023 Month:Aug
Shalma S., Dibyajyoti Halder, Gopinath Halder, Anil Kumar Patel, Reeta Rani Singhania, Ashok Pandey	Waste fish scale for the preparation of bio-nanocomposite film with novel properties	Environmental Technology & Innovation	Volume:32 Issue No: Page No:103386 Year:2023 Month:Sep
Debasish Das Sharma, Sumona Show, Sanghamitra Barman, Gopinath Halder	Elucidating facile biosorptive eradication of enrofloxacin: Equilibrium, kinetics, reusability, cost estimation and safe disposal	Environmental Progress & Sustainable Energy	Volume:12 Issue No: Page No:14231 Year:2023 Month:Jun
Joseph VL Ruatpuia, Gopinath Halder, Sakar Mohan, Baskar Gurunathan, Hui Li, Fang Chai, Sanjay Basumatary, Samuel Lalthazuala Rokhum	Microwave-assisted biodiesel production using ZIF-8 MOF-derived nanocatalyst: A process optimization, kinetics, thermodynamics and life cycle cost analysis	Energy Conversion and Management	Volume:292 Issue No: Page No:117418 Year:2023 Month:Jul
Joseph VL Ruatpuia, Bishwajit Changmai, Ayush Pathak, Lana A Alghamdi, Thomas Kress, Gopinath Halder, Andrew EH Wheatley, Samuel Lalthazuala Rokhum	Green biodiesel production from Jatropha curcas oil using a carbon-based solid acid catalyst: A process optimization study	Renewable Energy	Volume:206 Issue No: Page No:597-608 Year:2023 Month:Apr

Author(s) Name	Paper Name	Journal Name	Others Info
Rithuparna Devasan, Joseph Ruatpuia, Shiva Prasad Gouda, Pravin Kodgire, Sanjay Basumatary, Gopinath Halder, Samuel Lalthazuala Rokhum,	Microwave-assisted biodiesel production using bio-waste catalyst and process optimization using response surface methodology and kinetic study	Scientific Reports	Volume:13 Issue No: Page No:2570 Year:2023 Month: May
Supongsenla Ao, Lana A. Alghamdi, Thomas Kress, Manickam Selvaraj, Gopinath Halder, Andrew E.H. Wheatley, Samuel Lalthazuala Rokhum	Microwave-assisted valorization of glycerol to solketal using biomass- derived heterogeneous catalyst	Fuel	Volume:345 Issue No: Page No:128190 Year:2023 Month:May
Emisha L, Nishitha Wilfred, Kavitha S, Gopinath Halder, Dibyajyoti Haldar, Anil Kumar Patel, Reeta Rani Singhania, Ashok Pandey	Biodegradation of microplastics: Advancement in the strategic approaches towards prevention of its accumulation and harmful effects	Chemosphere	Volume:346 Issue No: Page No:140661 Year:2024 Month:Mar
Indrani Paul, Pritam Mondal, Dibyajyoti Haldar, Gopinath Halder	Beyond the cradle – Amidst microplastics and the ongoing peril during pregnancy and neonatal stages: A holistic review	Journal of Hazardous Materials	Volume:469 Issue No: Page No:133963 Year:2024 Month:Mar
Joseph Ruatpuia, Gopinath Halder, Da Shi, Sudipta Halder, Samuel Lalthazuala Rokhum	Comparative life cycle cost analysis of bio-valorized magnetite nanocatalyst for biodiesel production: Modeling, optimization, kinetics a thermodynamic study	Bioresource Technology	Volume:393 Issue No: Page No:130160 Year:2023 Month:Dec
Hlawancheu Zohmingliana, Joseph V. L. Ruatpuia, Jasha Momo H. Anal, Feng Chai, Gopinath Halder, and Samuel Lalthazuala Rokhum	Metal-Organic Framework- Derived Solid Catalyst for Biodiesel Production from Jatropha curcas Oil: Kinetic Study and Process Optimization Using Response Surface Methodology	International Journal of Energy Research	Volume:11 Issue No: Page No:6336617 Year:2024 Month:Mar
Nabanita Ghosh, Rhithuparna D., Samuel Lalthazuala Rokhum, Gopinath Halder	Evaluating the scale-up potential of biogenic heterogeneous catalyst for biodiesel production	ACS Sustainable Resource Management	Volume:1 Issue No:3 Page No:480–492 Year:2024 Month:Feb
Nabanita Ghosh, Mehulee Patra and Gopinath Halder	Current advances and future outlook of heterogeneous catalytic transesterification towards biodiesel production from waste cooking oil	Sustainable Energy & Fuels	Volume:8 Issue No: Page No:1105–1152 Year:2024 Month:Feb
Onkar Nath Tiwari, Md. Nazneen Bobby, Vanitha Kondi, Gopinath Halder, Hanieh Kargarzadeh, Abu Md Ashif Ikbai, Biswanath Bhunia, Sabu Thomas, Thomas Efferth, Debprasad Chattopadhyay, Partha Palit,	Comprehensive review on recent trends and perspectives of natural exo-polysaccharides: Pioneering nano-biotechnological tools	International Journal of Biological Macromolecules	Volume:265 Issue No: Page No:130747 Year:2024 Month:Feb

Author(s) Name	Paper Name	Journal Name	Others Info
Priyanka Khan, Rajnarayan Saha, Gopinath Halder,	Towards sorptive eradication of pharmaceutical micro-pollutant ciprofloxacin from aquatic environment: A comprehensive review	Science of the Total Environment	Volume:919 Issue No: Page No:170723 Year:2024 Month:Mar
Indradev Kumar, Abhiram Hens	A continuum and molecular dynamics-based simulation study of boiling in liquid nitrogen	Chemical Engineering Transactions	Volume:100 Issue No: Page No: Year:2023 Month:Jun
Rhithuparna D, Nabanita Ghosh, Samuel Lalthazuala Rokhum, Gopinath Halder	Current progress and future outlooks of microwave-irradiated biodiesel production: A holistic review	Chemical Engineering Journal	Volume:482 Issue No: Page No:149033 Year:2024 Month:Jan
Sarkar, B., Dutta, S., & Lahiri, S. K.	Multigene genetic programming approach for modelling and optimisation of removal of heavy metals from ash pond water using cyanobacterial-microalgal consortium	Indian Chemical Engineer	Volume: https://doi.org/10.1080/00194506.2023.2300142 Issue No: Page No: Year:2024 Month:
Rhithuparna D, Nabanita Ghosh, Rexona Khatoon, Samuel Lalthazuala Rokhum, Gopinath Halder	Evaluating the commercial potential of Cocos nucifera derived biochar catalyst in biodiesel synthesis from Kanuga oil: Optimization, kinetics, thermodynamics, and process cost analysis	Process Safety and Environmental Protection	Volume:183 Issue No: Page No:859-874 Year:2024 Month:Jan
Ankush Yadav · Eldon R. Rene · Mrinal Kanti Mandal Kashyap Kumar Dubey	In-vitro toxicity of cyclophosphamide and etoposide intermediates/metabolites produced by three white rot fungi	Environmental Quality Management	Volume: Issue No: Page No: Year:2023 Month:May
Rhithuparna Devasan, Shiva Prasad Gouda, Gopinath Halder and Samuel Lalthazuala Rokhum	Microwave-assisted valorization of biodiesel byproduct glycerol to solketal over Musa acuminata peel waste derived solid acid catalyst: process optimization, kinetics, and thermodynamics	RSC Energy Advances	Volume:4 Issue No: Page No:354 Year:2024 Month:Jan
Sumona Show, Ramisa Akhter, Indrani Paul, Payal Das, Manisha Bal, Riya Bhattacharya, Debajyoti Bose, Amita Mondal, Shouvik Saha, Gopinath Halder	Efficacy of exopolysaccharide in dye-laden wastewater treatment: A comprehensive review	Chemosphere	Volume:346 Issue No: Page No:141753 Year:2024 Month:Feb
Sayantan Sarkar, Deepshikha Datta, KS Deepak, Bimal Das	Parametric Optimization of Rerefining of Waste Lubricating Oil using Bio-flocculant via Taguchi Approach	Chemical Engineering Transactions	Volume:99 Issue No: Page No:295-300 Year:2023 Month:May
Manisha Bal, Payal Das, Bhim Charan Meikap	Optimization of effecting parameters for flue gas desulfurization in a self-priming venturi scrubber using response surface methodology	Clean Soil Air Water	Volume:51 Issue No:12 Page No:2300034 Year:2023 Month:Oct

Author(s) Name	Paper Name	Journal Name	Others Info
Lohit Kumar, Srinivas Gujjala, Debajyoti Kundu, Deblina Dutta, Ankit Kumar, Manisha Bal, Aman Kumar e, Ekta Singh, Rahul Mishra, Sunil Kumar, Dai-Viet N. Vo	Advances in ionic liquids: Synthesis, environmental remediation and reusability	Journal of Molecular Liquids	Volume:396 Issue No: Page No: 123896 Year:2024 Month: Feb
Deepshikha Datta, Divakar Pamanji, Bimal Das	Isolation of Nanocellulosic Fibrils from Allium cepa L. Skin Biowaste Food Residues: Extraction and Characterization	Journal of The Institution of Engineers (India): Series E	Volume:104 Issue No:1 Page No:141-151 Year:2023 Month: Jun
Paruya, S., Roy, K.	Isothermal and non-isothermal growth of a vapor bubble in pool boiling – Effect of translational velocity of bubble	International Journal of Heat and Mass Transfer	Volume:216 Issue No:124570 Page No:14 Year:2023 Month:
S.Majee, K.K. Sarkar, R. Sarkhel, G.Halder, T.Mandal	Bioorganic fertilizer production from industrial waste and insightful analysis on release kinetics	Environmental Management	Volume: Issue No:325 Page No: Year:2023 Month:

4.5.15 Conference: Published in 2023–2024 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Sirshendu Banerjee; Bikash Kumar Mondal	Artificial Neural Network Modeling of CO ₂ Vapor–Liquid Equilibrium in Tertiary Amine and Ionic Liquid Blends for Effective Removal Technologies	IICHe–CHEMCON 2023 – An International Conference on Energy Transition: Challenges and Opportunity	DOI/ISBN: 9789310000719 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO–AUTHOR
Sukhen Das, Mukesh Singh, Bikash Kumar Mondal	Assimilation of dissolved inorganic carbon (DIC) using microalgae: a biological route to tackle environmental challenges and production of essential bio-derivatives	IICHe–CHEMCON 2023 – An International Conference on Energy Transition: Challenges and Opportunity	DOI/ISBN: 9789310000719 Volume: Issue No: Page No: Year:2023 Month: Dec Presenter:CO–AUTHOR
Bulti Kandar, Rahul Kumar, Bikash Kumar Mondal, Susmita Dutta, Kartik Chandra Ghanta	Phycoremediation of Pollutants from Refinery Wastewater	IICHe–CHEMCON 2023 – An International Conference on Energy Transition: Challenges and Opportunity	DOI/ISBN: 9789310000719 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO–AUTHOR
Apurwa Runda, Surabhi Chaudhuri, Bikash Kumar Mondal, Susmita Dutta	Phycoremediation of Total Dissolved Solids from Highly Saline Water using <i>Graesiella emersonii</i>	IICHe–CHEMCON 2023 – An International Conference on Energy Transition: Challenges and Opportunity	DOI/ISBN: 9789310000719 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO–AUTHOR
Sirshendu Banerjee, Bimal Das, Bikash Kumar Mondal	Piperazine activated aqueous sodium glycinate solvent for post-combustion CO ₂ capture application	International Conference on Sustainable Energy and Environment (ICSEE)	DOI/ISBN: 297 Volume: Issue No: Page No: Year:2024 Month:Feb Presenter:CO–AUTHOR

Author(s) Name	Paper Name	Conference Name	Others Info
S kar, Mandal T	Degradation of dye using rice husk ash silica based Fenton catalyst	IICHE CHEMCON 23	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
Debayan Das	Effective Heating Solution Strategy for Building up a Paper-based DNA Amplification Detection Device	IHTC 2023	DOI/ISBN: 978-1-56700537-0, DOI: 10.1615/IHTC17.30-10 Volume: Issue No: Page No: Year:2023 Month:Aug Presenter:SELF
Chandra Bhushan, Neha Majee, Debayan Das	Study of viscous fingering phenomena in paper membranes/ pad-A point of care perspective	CHEMCON 2023	DOI/ISBN: 9789310 000719 Volume: Issue No: Page No:280-281 Year:2023 Month:Dec Presenter:CO-AUTHOR
Payal Das, Manisha Bal	Eco-Friendly Nanocellulose Synthesis for Efficient Chloramphenicol Removal from Pharmaceutical Effluent	Conference Proceedings: IICHeCHEMCON 2023 An International Conference on Energy Transition: Challenges and Opportunity	DOI/ISBN: ISBN: 9789310 000719 Volume: Issue No: Page No:235 Year:2023 Month:Dec Presenter:CO-AUTHOR
Abhay Fate , Yash Maheshwari, Shashank Shekhar Tiwari, Manisha Bal	Revolutionizing Packaging Sustainability: Harnessing Nanocellulose from Watermelon Peel Waste	IICHe-CHEMCON 2023 An International Conference on Energy Transition: Challenges and Opportunity	DOI/ISBN: ISBN: 9789310 000719 Volume: Issue No: Page No:184 Year:2023 Month:Dec Presenter:CO-AUTHOR
Arnab Sau , Samaroha Ghosh, Swagata Laxmi Sengupta , Abhiram Hens, K.C. Ghanta, Susmita Dutta	An Integrated Approach for treatment of Slaughterhouse Wastewater	IICHe-CHEMCON 2023	DOI/ISBN: ISBN: 9789310 000719 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR

4.5.16 Conference: Accepted in 2023-2024 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Sarkhel R, Majee S, Mandal T	Development of bio organic fertilizer and its diffusion kinetics	ESMOC 23	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
Neha Majee, Chandra Bhushan, Debayan Das	Flow Control on Paper Pads using Hydrogel towards Point-of-Care Diagnostic (POC) Applications	CHEMCON 2023	DOI/ISBN: 9789310 000719 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR

4.5.17 Conference: Published in Others in 2023–2024

Author(s) Name	Paper Name	Conference Name	Others Info
MousumiMaji, Rajib Ghosh Chaudhuri, Mrinal Kanti Mandal	Covalent Organic Framework for Detection of NH ₃	Energy Transition: Challenges and Opportunities, IChE–CHEMCON2023, Heritage Institute of Technology, Kolkata	DOI/ISBN: IChE–CHEMCON2023 Volume: Issue No: Page No: Year:2023 Month: Dec Presenter:CO–AUTHOR
Sinu Sanghamitra , Nishashree,Rajib Ghosh Chaudhuri, Mrinal KantiMandal	Development of Composite PolymerCoated Super Hydrophobic GlassSurface for Water Drop Manipulation	Recent Advancement in Materialsand Manufacturing (RAMM), CIPET:Institute of Petrochemicals Technology (IPT), Bhubaneswar	DOI/ISBN: Institute of Petrochemicals Technology (IPT), Bhubaneswar Volume: Issue No: Page No: Year:2023 Month: Nov Presenter:CO–AUTHOR
SayantanAdak, Rajib Ghosh Chaudhuri, Mrinal KantiMandal	Photocatalytic Dye Removal usingPdoped g–C ₃ N ₄ Nanosheet	Energy Transition: Challenges and Opportunities, IChE–CHEMCON2023, Heritage Institute of Technology, Kolkata	DOI/ISBN: IChE–CHEMCON2023 Volume: Issue No: Page No: Year:2023 Month: Dec Presenter:CO–AUTHOR
Supriya Pal, Rajib Ghosh Chaudhuri, Mrinal KantiMandal	Eco-friendly Reinforcement for Low-Volume Roads: Evaluating Nanocomposite Coated Jute Geotextile to Strengthen Subgrade Soil	Mediterranean Geosciences Union(MedGu), Istanbul	DOI/ISBN: Internationally renowned Conf Volume: Issue No: Page No: Year:2023 Month: Nov Presenter:CO–AUTHOR
P Banerjee, M K Mandal, Rajib Ghosh Chaudhuri	Development of Green and Recyclable Functionalized Polyvinyl alcohol/Starch Composite Films Incorporated with Carbon for Food Packaging	Recent Advancement in Materials and Manufacturing (RAMM)	DOI/ISBN: -- Volume: Issue No: Page No: Year:2023 Month: Presenter:CO–AUTHOR
B Mazumder, M K Mandal, R G Chaudhuri	Development of Solar Active Ag–ZnO Heterostructure Photocatalyst for Wastewater Treatment	Energy Transition: Challenges and Opportunities, IChE–CHEMCON 2023	DOI/ISBN: -- Volume: Issue No: Page No: Year:2023 Month: Presenter:CO–AUTHOR
S Sanghamitra, M K Mandal, R G Chaudhuri	Comparative Study on Efficacy of Photo thermal Materials in Water Evaporation at Air–Water Interface	Energy Transition: Challenges and Opportunities, IChE–CHEMCON 2023	DOI/ISBN: -- Volume: Issue No: Page No: Year:2023 Month: Presenter:CO–AUTHOR
Bulti Kandar, K.C.Ghanta, S. Dutta	Phyco-remediation of Pollutants from Refinery Wastewater	IChE–CHEMCON 2023	DOI/ISBN: xx Volume: Issue No: Page No:209 Year:2023 Month:Dec Presenter:CO–AUTHOR
Paruya, S., Bhati, J.	Remarks to the Potential Flow Theory of Heat and Mass Transfer between a Translating Fluid Sphere and a Continuous Phase	International Conference on Translational Materials for Sustainable Research (TransMat 2k24)	DOI/ISBN: 0 Volume: Issue No: Page No: Year:2024 Month:Feb Presenter:SELF
Paruya, S., Bhati, J., Patra, A. R.	Interfacing the heat transfer model of Fuel-Rod Bundles of a PHWR with DFM4	5 th International and 27 th National ISHMT–ASTFE Heat and Mass Transfer Conference	DOI/ISBN: 0 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:SELF

4.5.18 Conference: Accepted in Others in 2023–2024

Author(s) Name	Paper Name	Conference Name	Others Info
Paruya, S., Bhati, J., Roy, K., Naik L, J.	Growth of a Translating Fluid Sphere in a Superheated Liquid– a Revisit to Ruckenstein Theory	International Conference on Technologies and Innovations for Sustainable Development (TISD–2023)	DOI/ISBN: 0 Volume: Issue No: Page No: Year:2023 Month:Oct Presenter:SELF

4.5.19 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Bimal Das	Deepshikha Datta, Dhriti Barman, Rajat Kanti Ghosal, Esha Mandal,	Emerging Sustainable Technologies for Biofuel Production	Plant Based Biofuels: A Sustainable Energy Source	Publisher: Springer Nature Switzerland Publication Date: 2024–03–29
Gopinath Halder	Sumona Show	Biodegradation of Toxic and Hazardous Chemicals	Microbial biodegradation of anti-inflammatory non-steroidal pharmaceutical active compounds	Publisher: CRC Press, Taylor and Francis, ISBN 9781032453705 Publication Date: 2024–03–19
Gopinath Halder	Joseph V L Ruatpuia, Samuel Lalthazuala Rokhum	Recent Advances in Renewable Energy: The Production of biodiesel and related fuel additives	Waste-derived catalyst for biodiesel synthesis	Publisher: Bentham Science Publishers, 6, 2024, 340370, ISBN 978-981-519675-7 Publication Date: 202402–21
Bimal Das	Deepshikha Datta, Soheli Biswas, Dhriti Barman, Esha Mandal	Emerging Sustainable Technologies for Biofuel Production	Evolution, Challenges and Benefits of Biofuel Production and Its Potential Role in Meeting Global Energy Demands	Publisher: Springer Nature Switzerland Publication Date: 2024–03–29
Bimal Das	Rashmi Dhurandhar, Pankaj Parmar, Chandrakant Thakur, Nilambar Bariha	Sustainable Valorization of Agriculture & Food Waste Biomass: Application in Bioenergy & Useful Chemicals	Generation of Bioenergy from Industrial Waste Materials	Publisher: Springer Nature Singapore Publication Date: 2023–08–01
Sarkhel R., Gupta P., Mandal T		Microplastics in the terrestrial environment	Biodegradation of microplastics by cyanobacteria.	Publisher: CRC press Publication Date: 2024–1220
Kar S., Sarkhel R., Bedia K.R., Mandal T		Wastewater treatment in leather industry	Biological treatment of leather wastewater	Publisher: Elsevier Publication Date: 2024–11 28
Manisha Bal	Vikas B. Kabburi	Sustainable Nanomaterials for Biomedical Engineering	Graphene-Based Nanomaterial Conjugates: Importance, Classification, and Applications	Publisher: CRC Press, Taylor & Francis Group Publication Date: 2023–05–
Susmita Dutta	Seragadam Padma, Samaroa Ghosh, Badri Srinivas, Kartik Chandra Ghanta, and	Heavy Metal Remediation Sustainable Nexus Approach	Bioremediation of Heavy Metals—Its Pros and Cons	Publisher: Springer Publication Date: 2023–1214

4.5.20 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
IICHe-SCHEMCON 2023	IICHe	2023-09-22	2023-09-23	India
IICHe-CHEMCON 2023	IICHe	2023-12-28	2023-12-30	India
Green Entrepreneurs Forum- SwitchON	SwitchON	2023-07-18	2023-07-18	India
IICHe - CHEMCON 2023	Indian Institute of Chemical Engineers and Heritage Institute of Technology, Kolkata	2023-12-27	2023-12-30	India
Cost-Effective and Emerging Effluent Treatment Technologies (CEEET2023)	Institution of Engineers (India) Durgapur Local Centre	2023-10-07	2023-10-08	India
NA	NA	2024-01-30	2024-01-31	NA
Recent Advancement in Materials and Manufacturing (RAMM), CIPET	Institute of Petrochemicals Technology (IPT), Bhubaneswar	2023-11-02	2023-11-03	India
Energy Transition: Challenges and Opportunities, IICHe-CHEMCON2023	Heritage Institute of Technology, Kolkata	2023-12-27	2023-12-30	India
16 th International Conference on Chemical and Process Engineering (ICheaP 16)	AIDIC, the Italian Association of Chemical			
Engineering	2023-05-21	2023-05-24	Italy	
CUCHe Alumni Symposium 2023	Calcutta University Chemical Engg. Alumni Association	2023-12-22	2023-12-24	India
CHEMCON 2023	IICHe	2023-12-27	2023-12-30	India

4.5.21 Ph.D. Supervision

Topic Name	Scholar	Supervisor	Status	Status Date
Nanomaterials synthesis and its application in packaging materials	Paulami Banerjee	Rajib Ghosh Chaudhuri	ONGOING	-
Photocatalytic water splitting for generating green energy	Sayantana Adak	Mrinal Kanti Mandal, Rajib Ghosh Chaudhuri	ONGOING	-
Development of Photo-Thermal Desalination Unit	Sinu Sanghramitra	Rajib Ghosh Chaudhuri, Abhiram Hens	ONGOING	-
Nano-technological intervention on jute geotextile (JGT) for enhanced application in flexible pavement systems	Shahinur Rahaman Mondal	Dr. Supriya Pal, Dr. Rajib Ghosh Chaudhuri	ONGOING	-
Development of Gas Sensor	Mousumi Maji	Dr. Mrinal Kanti Mandal, Dr. Rajib Ghosh Chaudhuri	ONGOING	-
Application of Artificial Intelligence in chemical process industry	Somnath Chowdhury	Sandip Kumar Lahiri, Abhiram Hens	ONGOING	-
Process modeling and optimization in chemical process industry	Somasish Saha	SK Lahiri, A Hens	ONGOING	-
Application of Artificial intelligence in steel industries	Narottam Behera	SK Lahiri, B das	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Building digital twin for chemical industry	Pratish Pal	SK Lahiri, A Hens	ONGOING	-
Hydrodynamic Characteristics of Gas- Liquid Two-Phase Flow in a Vertical Pipe	Prantik Mondal	KC Ghanta , SK Lahiri	SUBMITTED	2024-11-08
Artificial intelligence driven modelling and optimization of phycoremediation of heavy metals from simulated ash pond water	Biswajit Sarkar	S. Dutta, SK Lahiri	SUBMITTED	2024-11-08
Fault diagnosis application in chemical industries	Sumana Roy	SK Lahiri	ONGOING	-
Investigation of cryogenic boiling under the influence of external fields	Indradev Kumar	A Hens, SK Lahiri	ONGOING	-
Application of Artificial intelligence in petrochemical industries	Rajkumar majumder	SK Lahiri	ONGOING	-
Re-refining of waste lubricating oil by an environment-friendly and non-acidic extraction-flocculation method	Sayantana Sarkar	Dr. Deepshikha datta, Dr. Bikash Kumar Mondal	DEGREE AWARDED	2024-11-10
Effect of Waste Plastics on the Physical Structure and Subsequent Anaerobic Digestion of Vegetable Waste Landfill Bed.	Anaya Ghosh	Prof (Ex) J. P. Sarkar	DEGREE AWARDED	2024-11-10
Experimental Investigation of Sorptive Riddance of Micropollutant Enrofloxacin via Biowaste derived Activated char	Debasish Das Sharma	Prof. Gopinath Halder	DEGREE AWARDED	2024-04-22
Comparative Assessment of Ibuprofen Removal through Bio-sorption and Bioremediation Technique	Sumona Show	Prof. Gopinath Halder	DEGREE AWARDED	2023-02-20
Experimental Investigation on Catalytic Transesterification of Natural Feedstocks towards Biodiesel Production	Wasi ur Rahman	Prof. Gopinath Halder	DEGREE AWARDED	2022-06-30
Biodiesel production from non-edible and waste oils through catalyzed and superheated uncatalyzed approaches	Bisheswar Karmakar	Prof. Gopinath Halder	DEGREE AWARDED	2022-07-22
Ethanol production from waste starchy biomass and its utilization	Payel Mondal	Prof. Anup Kumar Sadhukhan, Dr. Amit Ganguli, Prof. Parthpratim Gupta	DEGREE AWARDED	2023-09-20
Studies on Carbon dioxide Physisorption Behaviour of Zeolite Granules during Pneumatic Transport in Converging and Uniform Risers	Tanushree Ghosh	Prof. Anup Kumar Sadhukhan, Prof. Jyoti Prakas Sarkar	DEGREE AWARDED	2023-11-28

Topic Name	Scholar	Supervisor	Status	Status Date
Modeling and experimental investigation on pyrolysis gasification of biomass	Biswajit Kamila	Prof. Anup Kumar Sadhukhan, and Prof. Parthpratim Gupta	DEGREE AWARDED	2024-03-01
Solvent development for Post-Combustion CO ₂ capture	Sirshendu Banerjee	Dr Bikash Kumar Mondal, Dr Bimal Das	ONGOING	-
Utilization and assimilation of inorganic carbon using micro algae and production of biomass, extraction of essential value added products and biofuel	Sukhen Das	Dr Bikash Kumar Mondal, Dr Mukesh Singh	ONGOING	-
Process Development for Multi-component Adsorption in Waste Water Treatment	Anwesha Mukherjee	Dr Bikash Kumar Mondal	ONGOING	-
Studies on polymer degradation by cyanobacteria and formulating NPK biofertilizer from waste sources	Rwiddhi Sarkhel	Tamal Mandal	ONGOING	-
Experimental investigation of catalytic and adsorptive oxidative remediation of industrial wastewater	Saheli Kar	Tamal Mandal	ONGOING	-
Nano-composite coating on jeo-textile	Tapabrata Chakraborty	Mrinal K Mandal	ONGOING	-
Photo-thermal material synthesis	Geetika Jain	Mrinal K Mandal	ONGOING	-
Study of Dispersion and Viscous Fingering in paper analytical Devices	Chandra Bhushan	Debayan Das	ONGOING	-
Microbial treatment of dairy industry whey water	Anshu Kumari	DR. A. Hens and Prof. S. Dutta	ONGOING	-
Numerical investigation of electrospray	Braj Bhushan	Prof. K C Ghanta and Dr. A Hens	ONGOING	-
Sustainable Microalgae-Based Solutions For Microplastics Contamination In Aquatic Systems	Payal Das	Manisha Bal	ONGOING	-
Strategy Development for Sustainable Energy Use towards Net Zero Economy	Iman Ghosh Dastidar	Prof. P. Pal & Prof. M. Roy (DMS)	ONGOING	-
Sustainable Business Strategy for Emulsion Coating Product	Sayantana Ghosh Dastidar	Prof. M. Roy & Prof. P. Pal	ONGOING	-
Search for Safe Food preservative	Sudipta Palui	Prof. P. Pal	ONGOING	-
Removal of Organic Pollutants from Seawater using Solar Nano Photocatalysts	Varghese Manappallil Joy	Prof. Susmita Dutta, Prof. Shaik Feroz , Prince Mohammad Bin Fahd University, Saudi Arabia	DEGREE AWARDED	2023-04-13

Topic Name	Scholar	Supervisor	Status	Status Date
Layer-by-layer Fabricated Multi-layered Ultrathin Polyelectrolyte Films from Poly Styrene Sulphonate (PSS) and Poly Allylamine Hydrochloride (PAH) onto Zinc Oxide (ZnO), and Titanium Dioxide (TiO ₂) for the Photocatalytic Degradation of Refinery and Textile Mill Effluents	B.M. Sangeetha	Prof. Susmita Dutta, Dr.Geetha Devi, National University of Science and Technology Sultanate of Oman.	DEGREE AWARDED	2024-03-20
Adsorptive Removal of Phenol and Cyanide from Wastewater	Sabyasachi Pramanik	Prof. K C Ghanta and Prof. Susmita Dutta	DEGREE AWARDED	2023-04-26
Bioremediation Of Heavy Metals Using Indigenous Bacterial Strains.	Padma Seragadam	Prof. Susmita Dutta, Prof. K C Ghanta and Prof.B.SRINIVAS Department of Chemical Engineering, G.V.College of Engineering, Vishakhapatnam and	ONGOING	-
Investigation on bubble dynamics in natural circulation boiling loop: visualization technique	Jithender Naik L	Swapan Paruya	DEGREE AWARDED	2022-10-22

4.5.22 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Photo-Therm: Solar Converted Thermal Energy Harvesting Mangrove and Composite Layer Mechanistic Photothermal Material in Interfacial Water Evaporator-Collector Desalination System to Potable Water	Dr. Rajib Ghosh Chaudhuri, Dr. Mrinal Kanti Mandal, Dr. Abhiram Hens	DST, GoI	4497400.0	2021
Development of guidelines to adopt the process of height increment of overburden dumps at open cast coal mines in India using jute-geotextile as reinforcing material	Dr. Supriya Pal, Dr. RajibGhoshChaudhuri, Dr.MrinalKantiMandal, Dr. Hirak Chaudhuri	NJB, Ministry of textitle, GoI	7172200.0	2021
Nanotechnological intervention on jutegeotextile to adapt long term sustainability and enhanced durability for its cost-effective and wide application in flexible pavement systems	Dr. Supriya Pal, Dr. RajibGhoshChaudhuri, Dr.MrinalKantiMandal, Dr. Hirak Chaudhuri	NJB, Ministry of textitle, GoI	6952300.0	2021
Performance Evaluation of Fly Ash Cement Stabilized Coal Mine Overburden as a Potential Sub-base and base Course Material in Flexible Pavement System (p380-395/C)	Dr. Supriya Pal, Dr. RajibGhoshChaudhuri, Dr.MrinalKantiMandal, Dr. Hirak Chaudhuri	National Rural Infrastructure Development Agency (NRIDA), Ministry of Rural Development, GOI	1892000.0	2023

Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Development of nano-composite jutegeotextile for high-speed railway embankment system to enhance the durability and its remotely health monitoring using Internet of Things (IoT)	Dr. Supriya Pal, Dr. Rajib Ghosh Chaudhuri, Dr. Mrinal Kanti Mandal, Dr. Hirak Chaudhuri, Dr. T K. Bera	National Technical Textiles Mission (NTTM) Ministry of Textiles, Gol	9970400.0	2023
Development of an IoT Based Organic/Inorganic Contaminants Removal System (CRS) for Purifying Domestic Wastewater through Constructed Wetland using Durable, Nano-Composite Jute-Geotextile Sandwiched LECA Cartridges	Dr. Mrinal Kanti Mandal, Dr. Supriya Pal, Dr. Rajib Ghosh Chaudhuri, Dr. Hirak Chaudhuri, Dr. T K. Bera	National Technical Textiles Mission (NTTM) Ministry of Textiles, Gol	9996000.0	2023
Enabling Academic Institute in Technical Textiles (Edu-23-00056)	Dr. Supriya Pal, Dr. Rajib Ghosh Chaudhuri, Dr. Mrinal Kanti Mandal, Dr. Hirak Chaudhuri, Dr. T K. Bera	National Technical Textiles Mission (NTTM) Ministry of Textiles, Gol	84720000	2023
Microwave-Irradiated Continuous Biodiesel Production under Subcritical Condition towards Fuel Performance Assessment and Glycerol Valorization	Prof. Gopinath Halder	Department of Science and Technology, Govt. of India	4075764.0	2022
Technological frontier towards sustainable treatment of Coal bed Methane Produced Water via Integrated Desalination Contrivance	Dr. Jaya Sikder, Prof. Gopinath Halder, Prof. Dalia Dasgupta Mandal	Department of Science and Technology, Govt. of India	7436678.0	2023
Centre for Technological Excellence in Water Purification	T Mandal, S De	DST WTI	5844000.0	2019
Studies on the effect of Anammox Group of Bacteria for the Treatment of Wastewater Containing N itrogenous Contami nants	A Dey, DD Mandal, T Mandal	DST SERB	370000.0	2022
Solar Converted Thermal Energy Harvesting Mangrove and Composite Layer Mechanistic Photo-thermal Material in Interfacial Water Evaporator-Collector Desalination System to Potable Water	Dr. R. Ghosh Chaudhuri, Dr. A. Hens, Dr. M.K. Mondal	DST (GOI)	4497378.0	2021

4.5.23 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
Scientific and Technological Aspect of Electromagnetic Field (EMF) for Reducing Scaling in RO Based Water Treatment System	Dr. Rajib Ghosh Chaudhuri, Dr. Mrinal Kanti Mandal, Dr. Abhiram Hens	Eureka Fobes R & D, Bangalore	2023
Process Intensification of Biodiesel Synthesis from Nonedible Oil via Superheated Propanol Injection Technique	Prof. Gopinath Halder	Department of Science and Technology, Govt. of India	2021
Training SC/ST Community in Selected Rural Areas of Durgapur on Organic Agriculture and Biofertilizer production'	T mandal	DST-NRDMS	2017

Title of the Project	Investigator	Sponsor Authority	Complete Year
Department of infrastructure development	T Mandal, S De	DST FIST	2016
Studies on upgrading of water quality in coal mining area of Meghalaya and Eastern Coal mines by Chemisorption and Bioremediation towards mitigation of unscientific coal mining	Mandal T	DBT	2015
Development of a green technology for improvement of paper quality and to minimize the generation of genotoxic effluents.	T Mandal, DD Mandal	DBT	2012
Experimental studies and mathematical modelling of DNA Amplification Reaction	Debayan Das	DST INSPIRE	2023

4.5.24 Testing & Consultancy Services Rendered

Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
Scientific Design Company Inc, USA	Soft sensor at drying column overhead	980875.0	Ongoing
Scientific Design Company Inc, USA	Argon Purge optimization module	980875.0	Ongoing
Scientific Design Company Inc, USA	Cost based performance dashboard of ethylene glycol plant	1438618.0	ongoing
Scientific Design Company Inc, USA	Energy dashboard of ethylene glycol plant	1438618.0	ongoing
Scientific Design Company Inc, USA	Ethylene glycol reactor optimization module	1569400.0	Completed
Scientific Design Company Inc, USA	Ethylene oxide reactor optimization module	1642500.0	Completed
IISCO Burnpur	Advanced oxidation & integrated wastewater treatment	240000.0	NA
Scientific Design Company Inc, USA	Understanding the ATHENA Code for necessary upgradation and future application	1032500.0	Ongoing

4.5.25 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Gopinath Halder	Journal of Cleaner Production	Elsevier	2023-04-12
Anup Kumar Sadhukhan	Biomass Conversion and Biorefinery	Springer	2023-11-17
Anup Kumar Sadhukhan	Cellulose	Springer	2024-01-19
Abhiram Hens	Journal of Colloid And Interface Science	Elsevier	2023-04-30
Abhiram Hens	Journal of Colloid And Interface Science	Elsevier	2023-07-31
Abhiram Hens	International Journal of Hydrogen Energy	Elsevier	2023-11-04
Abhiram Hens	Journal of the Brazilian Society of Mechanical Sciences and Engineering	Springer	2023-12-27
Abhiram Hens	Chemical Engineering Research and Design	Elsevier	2023-05-17

Reviewer	Name of the Journal	Publisher	Date of Final Review
Abhiram Hens	Physics of Fluid	AIP	2023-07-21
Abhiram Hens	Physics of Fluid	AIP	2023-04-12
Abhiram Hens	Physics of Fluid	AIP	2023-10-20
Manisha Bal	Science of The Total Environment	Elsevier	2023-12-20
Manisha Bal	Science of The Total Environment	Elsevier	2024-03-02
Manisha Bal	International Journal of Environmental Science and Technology	Springer	2024-03-28
Manisha Bal	International Journal of Environmental Science and Technology	Springer	2024-03-01
Manisha Bal	International Journal of Environmental Science and Technology	Springer	2024-01-01
Manisha Bal	International Journal of Environmental Science and Technology	Springer	2023-12-12
Parimal Pal	Separation and Purification Review	Taylor and Francis	2023-06-23
Manisha Bal	International Journal of Environmental Science and Technology	Springer	2023-10-20
Manisha Bal	International Journal of Environmental Science and Technology	Springer	2023-09-18
Parimal Pal	Desalination	Elsevier Scirnce	2023-06-27
Manisha Bal	International Journal of Environmental Science and Technology	Springer	2023-06-22
Parimal Pal	Journal of Environmental Chemical Engineering, Elsevier	Elsevier Science	2023-09-10
Parimal Pal	Journal of Ionic Liquids	Elsevier Science	2023-09-25
Parimal Pal	Biochemical Engineering, Elsevier Science, 05 th NOV 2023	Elsevier	2023-11-05
Parimal Pal	International Journal of Environmental Science and Technology, Springer	Springer	2023-11-26
Parimal Pal	Journal of Ionic Liquids	Elsevier	2023-11-26
Parimal Pal	Renewable and Sustainable Energy Reviews, Elsevier	Elsevier	2023-12-20
Parimal Pal	Journal of Water Process Engineering, Elsevier	Elsevier	2023-12-20
Parimal Pal	Biochemical Engineering Journal, Elsevier	Elsevier	2023-12-26
Parimal Pal	Journal of Environmental Chemical Engineering	Elsevier	2023-12-27
Parimal Pal	Environmental Challenges, Elsevier Science	Elsevier	2024-01-12
Parimal Pal	Indian J of Chemical Technology	CSIR	2024-01-29
Parimal Pal	Separation and Purification Technology, Elsevier	Elsevier	2024-02-09
Parimal Pal	Case Studies in Chemical and Environmental Engineering, Elsevier	Elsevier	2024-02-25
Parimal Pal	Chemical Engineering Science Elsevier	Elsevier	2024-02-28
Parimal Pal	Journal of Ionic Liquid, Elsevier Sc.	Elsevier	2024-03-15
Parimal Pal	. Separation and Purification Technology	Elsevier	2024-03-18
Manisha Bal	Geomicrobiology Journal	Taylor & Francis	2023-05-17
Gopinath Halder	Chemical Engineering Journal	Elsevier	2023-12-19
Gopinath Halder	Fuel	Elsevier	2023-11-06
Gopinath Halder	Biomass Conversion and Biorefinery	Elsevier	2023-10-18

Reviewer	Name of the Journal	Publisher	Date of Final Review
Gopinath Halder	Renewable Energy	Elsevier	2023-08-31
Gopinath Halder	Energy Conversion and Management	Elsevier	2023-08-08
Gopinath Halder	Environmental Research	Elsevier	2023-06-12
Gopinath Halder	ACS Sustainable Chemistry and Engineering	American Chemical Society	2024-01-24
Gopinath Halder	Bioresource Technology Reports	Elsevier	2023-12-16
Gopinath Halder	Catalysis Communication	Elsevier	2024-03-19
Gopinath Halder	Catalysis Letters	Springer	2023-11-10
Gopinath Halder	Chemical Engineering and Technology	Wiley-Blackwell	2023-12-06
Gopinath Halder	Chemosphere	Elsevier	2024-01-17
Gopinath Halder	Chemical Engineering Research and Design	Elsevier	2023-12-25
Gopinath Halder	Canadian Journal of Chemical Engineering	John-Wiley	2023-12-28
Gopinath Halder	Catalysis Science and Technology	Royal Society of Chemistry	2024-02-02
Gopinath Halder	DeCarbon	Elsevier	2024-02-16
Gopinath Halder	Energy & Fuels	American Chemical Society	2024-02-04
Gopinath Halder	Energy Reports	Elsevier	2023-10-30
Gopinath Halder	Environmental Advances	Elsevier	2023-11-16
Gopinath Halder	Environmental Progress & Sustainable Energy	Wiley-Blackwell	2023-11-05
Gopinath Halder	Environmental Quality Management	Wiley	2023-11-14
Gopinath Halder	Environmental Science and Pollution Research	Springer	2023-12-20
Gopinath Halder	Chemical Engineering Communications	Taylor & Francis	2024-02-09
Gopinath Halder	International Journal of Coal Preparation and Utilization	Taylor & Francis	2024-02-25
Gopinath Halder	Industrial Crops and Products	Elsevier	2023-11-13
Gopinath Halder	Hazardous Materials Advances	Elsevier	2023-12-11
Gopinath Halder	Inorganic Chemistry Communications	Elsevier	2024-02-15
Gopinath Halder	Journal of the American Oil Chemists' Society	ACS	2024-02-28
Gopinath Halder	Journal of Environmental Chemical Engineering	Elsevier	2024-03-05
Gopinath Halder	Journal of Water Process Engineering	Elsevier	2024-03-14
Gopinath Halder	Energy Nexus	Elsevier	2024-03-17
Gopinath Halder	Next Sustainability	Elsevier	2023-12-19
Gopinath Halder	Polymer Engineering and Science	John-Wiley	2023-12-21
Gopinath Halder	Process Safety and Environmental Protection	Elsevier	2023-06-12
Gopinath Halder	Brazilian Journal of Water Resources	Scholarone	2023-07-12
Gopinath Halder	ACS Sustainable Resource Management	American Chemical Society	2023-07-21
Gopinath Halder	South African Journal of Chemical Engineering	Elsevier	2023-04-26
Gopinath Halder	Sustainable Chemistry for the Environment	Elsevier	2023-05-11
Gopinath Halder	Sustainable Energy & Fuels	Royal Society of Chemistry	2023-06-22
Gopinath Halder	Science of the Total Environment	Elsevier	2023-07-25
Gopinath Halder	Waste Management Bulletin	Elsevier	2023-08-17
Gopinath Halder	Vietnam Journal of Science, Technology and Engineering	Scholaone	2023-08-19
Gopinath Halder	Environmental Science Advances	Royal Society of Chemistry	2023-09-20
Gopinath Halder	Energy Sources, Part A: Recovery, Utilization, and Environmental Effects	Taylor & Francis	2023-09-29
Swapan Paruya	International Journal of Heat and Mass Transfer	Elsevier	2023-07-31

Reviewer	Name of the Journal	Publisher	Date of Final Review
Swapan Paruya	International Journal of Heat and Mass Transfer	Elsevier	2023-10-30
Swapan Paruya	Experimental Thermal and Fluid Science	Elsevier	2023-11-16
Swapan Paruya	International Journal of Heat and Mass Transfer	Elsevier	2024-01-10
Susmita Dutta	Environmental Health Insights	SAGE	2023-07-23
Susmita Dutta	Environmental Pollution	Elsevier	2023-11-25
Susmita Dutta	European Journal of Environmental and Civil Engineering	Taylor and Francis	2024-03-10
Susmita Dutta	Journal of Water Process Engineering	Elsevier	2024-02-03

4.5.26 Review of Books

Reviewer	Title of the Book	Name and Affiliation of the Author	Publisher	Date

4.5.27 Participation in National Committee

Name of the Faculty	Name of the Committee	Place of Visit	From Date	To Date
Mrinal Kanti Mandal	Bharat Tex 2024	New Delhi	2024-02-26	2024-02-29
Parimal Pal	NBA Committee	IIT KGP	2023-10-11	2023-11-21
Gopinath Halder	Advisory Committee, International Conference on "Sustainable Development in Chemical and Environmental Engineering"	Thapar Institute of Engineering and Technology, Chandigarh	2024-02-22	2024-02-24

4.5.28 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Parimal Pal	B.Tech	KIIT Bhubaneswar	2024-11-17	2023-11-17
Gopinath Halder	M.Sc in Environmental Science	Burdwan University	2023-12-29	2023-12-31
Gopinath Halder	Doctoral Thesis Examination	Cambridge University	2023-04-25	2023-04-25
Gopinath Halder	Post graduate in Chemical Engg	Haldia Institute of Technology	2023-05-15	2023-04-15
Gopinath Halder	PhD Thesis Examination	Jadavpur University	2023-07-21	2023-07-21
Susmita Dutta	M Tech	IIT Kharagpur	2024-05-06	2024-05-06
Susmita Dutta	PhD Viva-Voce	Jadavpur University	2023-10-16	2023-10-16
Susmita Dutta	Examination of Doctoral Thesis	Calcutta University	2024-02-10	2024-02-10
Susmita Dutta	Examination of Doctoral Thesis	Anna University	2023-04-30	2023-04-30
Susmita Dutta	Viva-voce Exam of PhD Doctoral Thesis	Anna University	2023-10-04	2023-10-04

4.5.29 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Gopinath Halder	Chemistry	National Institute of Technology Silchar	2023-10-11	2023-10-11

4.5.30 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Manisha Bal	Advancements in Mitigating Air Pollution: Strategies, Innovations, and Global Initiatives	One Week Online Short Term Course (STC) on Sustainable Approaches for Mitigation of Environmental Pollution	Department of Chemical Engineering National Institute of Technology Srinagar, J&K, India	2024-01-29	2024-02-02
Gopinath Halder	Waste Valorisation Towards Energy-Water Nexus	Short Term Programme	National Institute of Technology Durgapur	2023-07-17	2023-07-21
Gopinath Halder	Solutions to Plastic Pollution	World Environment Day2023	Burdwan University	2023-06-05	2023-06-05
Gopinath Halder	A Sustainable Approach towards Replacement of Conventional Petro-fuels and Mitigation of Energy Crisis	UGC-Refresher Course	Calcutta University	2023-05-15	2023-06-16
Susmita Dutta	Phycoremediation of Pollutants – A Sustainable Technology	Waste Treatment Management and Valorization	NIT Durgapur	2023-07-17	2023-07-21

4.5.31 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Sandip Kumar Lahiri	Session Chair in IICHe-SCHEMCON 2023	Kongu Engg college, tamilnadu	1	2023-09-22	2023-09-23
Sandip Kumar Lahiri	Session chair on Role of IICHe to bridge industry and academia as invited panel member at IICHe-CHEMCON 2023 An International Conference on Energy Transition: Challenges and Opportunity	HIT, Kolkata	Panel discussion	2023-12-28	2023-12-28
Tamal Mandal	CEC cell	Durgapur	2021	2021-11-08	2026-03-27
Abhiram Hens	16 th International Conference on Chemical and Process Engineering (ICheaP 16), 21-24 th May 2023	Naples, Italy	Technical Session on Fluid Dynamics	2023-05-21	2023-05-24
Gopinath Halder	International Conference by Indian Institute of Chemical Engineers, IICHe-CHEMCON 2023	Heritage Institute of Technology, Kolkata	Technical session on Renewable Energy	2023-12-27	2023-12-30
Susmita Dutta	IICHe-CHEMCON 2023	HIT Kolkata	Advanced Polymer and Composite	2023-12-28	2023-12-28

4.6 Department of Electronics and Communication Engineering

4.6.1 Department at a Glance:

The Department started its journey in the year 1983 with the introduction of an undergraduate course. Apart from the four years B. Tech, course the Department also offers two full-time M. Tech, courses, one in Next Generation Communication & Networks and another in Microelectronics and VLSI. The Department also offers Ph.D. in several areas. The faculties are engaged in diverse research on Telecommunication, Antenna and Microwave, Microelectronics and VLSI, Signal and Image processing, and Computational Systems Biology. It is well equipped with sophisticated laboratories in the areas of VLSI, Signal Processing, Microwave, Antenna, and Wireless Communication. The Department has been supported

by large-scale projects such as C2S and SMDP for VLSI, DST-FIST for Wireless Communications, and NPMAS for MEMS Research. Sponsored research from DST and SERB has been initiated over the years. The research strength has been reflected by the quality publications of the Department. Faculties of the Department are involved in outreach activities by organizing several short-term courses, and workshops. Faculty members also have academic collaborations with Universities in and outside India. The Department is committed to imparting quality education at undergraduate and postgraduate levels and promulgating quality research in diverse fields of application of electronics engineering.

4.6.2 Mission & Vision

Mission:

- » To advance and cater knowledge in the areas of Communication, Signal Processing and VLSI.
- » To teach state of the art technologies to meet the growing challenges.
- » To carry out research in frontier areas.

engineers who can perform well in varied professions.

- » To develop a strong fundamental base which enable students to explore academic and collaborative interactions with industry, academia and research organizations.
- » To develop excellent research facilities.

Vision:

- » To produce highly competent and resourceful young

4.6.3 Faculty

Name	Designation	Email-id
Choubey Arvind	Professor	achoubey.ece@nitdgp.ac.in
Bhattacharjee Anup Kumar	Professor	akbhattacharjee.ece@nitdgp.ac.in
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Kundu Sumit	Professor	skundu.ece@nitdgp.ac.in
Mahanti Gautam Kumar	Professor	gkmahanti.ece@nitdgp.ac.in
Mahapatra Rajat	Professor	rmahapatra.ece@nitdgp.ac.in
Mal Ashis Kumar	Professor	akmal.ece@nitdgp.ac.in
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Dhar Roy Sanjay	Associate Professor	sdroy.ece@nitdgp.ac.in
Kar Rajib	Associate Professor	rkar.ece@nitdgp.ac.in
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Mondal Hemanta Kumar	Assistant Professor	hkmondal.ece@nitdgp.ac.in

Name	Designation	Email-id
Ranwa Sapana	Assistant Professor	sranwa.ece@nitdgp.ac.in
Samui Suman	Assistant Professor	ssamui.ece@nitdgp.ac.in

4.6.4 Equipments

Sl. No.	Name of the equipment	Date of Purchase	Amount (INR)
1.	Laser printer(HP Laser Jet 108a) (01)	14.01.2023	10,395.36
2.	Function Generator(DG811,Rigol) (04)	15.02.2023	1,46,320.00
3.	Projector(EPSON EB-982 W) (02)	21.02.2023	1,26,694.00
4.	1 KVA UPS(Microtek) (15)	02.03.2023	70,487.86
5.	Desktop Computer(ACER) (20)	04.10.2023	11,57,800.00
6.	LG Professional large Display(Model 86TR3DK)	18.03.2024	3,74,992.00
7.	Ahuja Electronic Lectern (Model-ASL 3000R)	18.03.2024	35,959.00
8.	Function generator (MFG-2230M, GW Instek) (10)	20.04.2024	6,34,800.00
9.	Vector Signal Analyzer (Keysight 50GHZ) (01)	20.04.2024	1,49,82,000.00
10.	Projector (EPSON EB-L210SF)	28.03.2024	1,64,990.00
11.	EKIN PTZ Video Conferencing Camera	11.04.2024	58,941.09

4.6.5 Labs

Sl. No.	Name of Laboratory	Major equipment
1.	Basic Electronics Laboratory (UG)	Oscilloscope, Function generator, Multimeter, Power Supply, Electronic Component Development Board
2.	Electronic Devices and Circuit Laboratory (UG)	Oscilloscope, Function generator, Multimeter, Power Supply, Electronic Component Development Board
3.	Nano Device Laboratory (Research)	Sputtering system (RF and DC) DC probe station with high temperature system Silvaco TCAD Device Simulator Source measure unit
4.	Digital Circuits and System Lab (UG)	Oscilloscope, Function generator, Multimeter, Power Supply, Electronic Component Development Board
5.	Network Analysis and Synthesis Laboratory (UG)	Oscilloscope, Function generator, Multimeter, Power Supply, Electronic Component Development Board
6.	Electronics System Design Laboratory (UG)	Oscilloscope, Function generator, Multimeter, Power Supply, Electronic Component Development Board
7.	Cognitive Radio Networks Research Laboratory (Research)	USRP LAB View Qualnet
8.	Microwave & Antenna Laboratory (UG)	Oscilloscope, Spectrum Analyser, Power Meter
9.	ECE Research and Development Laboratory (Research)	Computer, Workstation
10.	Analog Communication Laboratory (UG)	Oscilloscope, Waveform generator, Spectrum analyser
11.	Digital Communication Laboratory (UG)	Oscilloscope, Waveform generator, Spectrum analyser
12.	Advanced Communication Laboratory (UG, PG)	Computer
13.	Computer Laboratory (UG, PG)	Computer
14.	Digital Signal Processing Laboratory (UG, PG)	Computer
15.	Computer Aided Design Laboratory (UG, PG)	Computer

Sl. No.	Name of Laboratory	Major equipment
16.	Microwave and Antenna Research Laboratory (Research)	Vector Network Analyzer (40 GHz) Spectrum Analyzer (9KHz-1.5GHz) NRP2 Power Meter Power Sensor NVR-Z51 FEKO, ANSYS HF Suite, MWO
17.	PG Lab (PG)	Computer
18.	VLSI Design Laboratory (UG, PG)	EDA Tools: Cadence, Synopsys, Siemens, Ansys Multiple FPGA Development Boards Analog Discovery Kits
19.	Smart Mechatronics & UAV Laboratory (Research)	3D Printer
20.	5G Laboratory (Research)	5G core, 5G radio, MEC & application server, 5G Evaluation board, IoT Gateway, 5G camera AI enabled

4.6.6 PhD degree awarded till 2023-24

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4.6.7 Specialization

» Wireless Communications	» Audio Signal Processing and Machine Learning based Applications
» Microwave mm Wave and THz Communication Circuits and Systems	» Antenna Optimization, Signal Processing, Soft Computing
» Wireless Communication	» Microelectronics and VLSI
» Communication Engineering	» Signal Processing
» Electromechanical Devices and systems	» VLSI
» Semiconductor device	» Biological Signal Processing
» VLSI Design	» Antenna, Optimization
» Wireless Communication	» Communication Engineering
» Analog and Mixed Signal VLSI	» Semiconductor devices
» Microstrip Antenna	» Mechatronics
» Antenna Array Synthesis	» Structronics
» Microprocessors and Microcontrollers	» Signals, Systems, and Transmission
» Microelectronics & VLSI	

4.6.8 Proposed Plan for Research

» To develop mm wave and THz circuit design laboratory	» Circuit Design for Low Power Analog / Mixed Signal Systems
» Vehicular communication, 6G	» Investigation of Microwave Antenna for Next Generation Wireless Applications
» Studies on radio resource management and mobility issues in future Heterogenous Wireless Network	» Array antenna failure detection and Correction
» HCI systems using multidisciplinary mechanisms	» Antenna Array Synthesis using Evolutionary Algorithms
» 3D On-Chip Interconnection Architecture for next generation 3D SoC	» On-Chip Antenna Design and Fabrication
» Hybrid Satellite Terrestrial Network, Spiking Neural Networks	» Development of 2D Transition Metal Dichalcogenides based environmental sensor

- » Implementation of quantum optical logic system using photonic crystal
- » Meta materials based mm wave based devices
- » Design of Advanced Antenna Arrays for 5G and B5G
- » 1. Self-Supervised Learning based Noise Reduction for Hearing-Impaired Listeners 2. Development of an AI-powered Voice-enabled Virtual Assistant in the Indian Language for a Smart Remote Healthcare System
- » Electronic Materials and Devices
- » Signal processing in Medical Domain
- » Design of Sub-nm Semiconductor Device for Enhanced Sensitivity in Biosensing Applications
- » Understanding the role of protein-protein or gene protein interaction networks in cancer therapy
- » Communication Engineering
- » Smart Mechatronics
- » Structronics
- » UAV systems
- » Semiconductor devices

4.6.9 Area of Research Interest

- » Integrated Circuits for Transceivers, Fractal antenna, metamaterials, application of evolutionary algorithms to electromagnetic optimization problems, RFID and computational electromagnetics and wideband microwave component design
- » Cross layer optimization for wireless networks, Statistical signal processing
- » Vehicular communication, 6G
- » D2D Communication, Het Net, Relay networks, Handoff algorithms, Cognitive Radio Networks etc.
- » Multidisciplinary Mechanisms
- » Simulation and modeling of sub-nm semiconductor devices
- » VLSI Design, High-performance computing, Energy-efficient interconnect architectures for manycore systems, Heterogeneous System Architecture (HSA) and AI-ML.
- » IRS-UAV NOMA Networks, Energy Harvesting, Symbiotic Communication, Physical Layer Security, D2D Networks
- » Low Power Analog CMOS, ADC/DAC Design
- » RF and Microwave
- » Antenna Array Synthesis
- » On-Chip Antenna
- » 2D Materials
- » Semiconductor Devices based Sensors
- » Nanotechnology
- » Optical logic gates using Photonic crystals
- » mm wave based devices
- » Antenna Optimization, Signal Processing, Soft Computing
- » Speech Enhancement, Spoken Language Identification, Computational Intelligence, Digital System Design
- » Resistive Memory, Sensors, Synaptic Devices
- » Bio medical Signal Processing
- » Computational Biology and Bioinformatics
- » Machine learning and Artificial Intelligence
- » Communication Engineering
- » Semiconductor devices
- » Smart Mechatronics
- » Structronics
- » UAV systems
- » Broadband Communication

4.6.10 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
TCS	Assistive Technology	Sponsored Project
DRDO	Speech Processing	Sponsored Project
TCS Research	5G mm wave radio design	development of transceivers, radiating systems as well as intelligent surfaces

4.6.11 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
University of Parma, Italy	Communication and Networks	Prof. S. Kundu	Joint Research in the field of wireless communication
Military University of Technology, Warsaw, Poland	mmWave channel modelling	A. Chandra	Research visit, joint measurement
NIT Patna	Collaborative sponsored project and research work	Dr. Rajarshi Bhattacharya	Jointly in Collaboration with NIT Patna, a project proposal has been accepted by ISRO. A JRF will be employed under this project and the JRF will be working with joint supervisions.
Kalyani University	RF and Microwave	Dr. P P Sarkar	Design and Measurement
IIT Jodhpur, India	VLSI Design	Dr. Dip Sankar Banerjee	Research and Development
BIT Sindri, India	Mining Application	Dr. Sumanta Mukharjee	Research and Development
University of North Texas, USA	AI for Biomedical application	Prof. Saraju Mohanty	Research and Development
IIT Goa, India	VLSI Design	Dr. Shirshendu Das	Research and Development
IIT Patna, India	AI-ML based forest event monitoring	Dr. Kailash Chandra Ray	Research and Development
NIT Patna, India	VLSI Design	Dr. Bal Chand Nagar	Research and Development
NIT Surat	GaN Devices	Dr. P Das	Joint research works
Liverpool University, UK	GaN Devices	Dr. I. Mitrovic	Joint Publication
IIT Guwahati	Mobile Edge Computing	Dr. Arghyadip Roy	Published a conference and a journal paper
IIT Bhubaneswar and NIT Silchar	Integrated Terrestrial and NonTerrestrial Networks	Dr. Atri Mukhopadhyay and Dr. Sucharita Chakraborty	Submitted a journal paper for review
NIT Warangal	Antenna optimization for 5G Communication	Dr. Gopi Ram	Research publication and Guidance of PhD students
IIT Jodhpur	Nano Technology	Prof. Mahesh Kumar	Sensor Material characterization

4.6.12 Innovations and Technology Transfer (Patents filed during)

Title	Inventors	Application Nos	Date of Filling
Topologically Overlapped Fused Lasso Measure For Reconstructing Gene Regulatory Pathways	Dr. Aurpan Majumder	202431019709 A	2024-03-17
Time Variant Differential	Dr. Aurpan Majumder	202431019787 A	2024-03-17

4.6.13 Journal: Published in 2023–2024 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Debabrata Bej, Nilanjan Chattaraj, and Rishiv Sahu	Design of an Economic, Portable, Compact, and Indigenous Instrument Setup for Measuring Sensing Characteristics of Thin Film Gas Sensors	Review of Scientific Instruments	Volume:95 Issue No:3 Page No:1–10 Year:2024 Month:
D. Bepari, S. Mondal, A. Chandra, R. Shukla, Y. Liu, M. Guizani, A. Nallanathan	A survey on applications of cacheaided NOMA	IEEE Communications Surveys and Tutorials	Volume:25 Issue No:3 Page No:1571–1603 Year:2023 Month:Jul
A. Ghosh, A. Chandra, T. Mikulasek, A. Prokes, J. Wojtun, J. M. Kelner, C. Ziolkowski	Vehicle to vehicle path loss modeling at millimeter wave band for crossing cars	IEEE Antennas and Wireless Propagation Letters	Volume:22 Issue No:9 Page No:2125–2129 Year:2023 Month:Sep
Aprajita Kumari and Rajashree Das	Sensitivity Analysis on Stack Gate–Dielectric GaAs Tri Gate FinFET based Oxygen Gas Sensor	Applied Physics A	Volume:130 Issue No:422 Page No:1–7 Year:2024 Month:May
R. Shukla, A. N. Sarkar, A. Chandra, J. M. Kelner, C. Ziolkowski, T. Mikulasek, A. Prokes	A simple ANN– MLP model for estimating 60–GHz PDP inside public and private vehicles	EURASIP Journal on Wireless Communications and Networking	Volume:2023 Issue No:47 Page No:1–16 Year:2023 Month:Jun
Mukherjee A, Mandal S, Mandal SK, Ghatak R.	Trapezoidal pulse–switching strategy for failure correction of multi–pattern time–modulated linear array	International Journal of Microwave and Wireless Technologies	Volume:15 Issue No:7 Page No:1188–1204 Year:2023 Month:Jul
Banerjee J, Gorai A, Ghatak R.	A novel isolation improvement technique using fractal neutralization line with dual band rejection attributes in a compact UWB MIMO antenna	International Journal of Microwave and Wireless Technologies	Volume:15 Issue No:8 Page No:1361–1372 Year:2023 Month:Aug
Banerjee J, Gorai A, Ghatak R.	A novel isolation improvement technique using fractal neutralization line with dual band rejection attributes in a compact UWB MIMO antenna	International Journal of Microwave and Wireless Technologies	Volume:15 Issue No:8 Page No:1361–1372 Year:2023 Month:Aug
Goswami, M., Mahato, S., Ghatak, R. Bose A	Potential of Satellite–Based Augmentation Systems (SBAS) in Test and Evaluation of Missiles in Indian Test Range Applications	Indian Soc Remote Sens	Volume:51 Issue No: Page No:2537–2547 Year:2023 Month:Dec
Ghosh, P., Gorai, A., Behera, S., & Ghatak, R.	Design of Compact UWB antenna using characteristic mode analysis and its quad–port MIMO realization with novel isolation technique	Journal of Electromagnetic Waves and Applications	Volume:38 Issue No:4 Page No:443–459 Year:2024 Month:Feb
Gorai, Abhik, Panda, Jyoti Ranjan, Bhowmik, Wridhi, Deb, Arindam and Ghatak, Rowdra	Integration of two dual–port substrate integrated waveguide based MIMO antennas on a common substrate for 5G millimeter wave applications	Frequenz	Volume:78 Issue No:7–8 Page No:371–380 Year:2024 Month:Mar
Sujoy Mandal and Sujit Kumar Mandal	Effect of Pulse–Shifting on Calculating Sideband Power Losses in Non–uniform Time–Modulated Array	Electromagnetics	Volume:43 Issue No:6 Page No:375–387 Year:2023 Month:Oct
Prajit Paul, Bappadittya Roy, Anup Kumar Bhattacharjee	A novel Block Bi–diagonalization based pre–coding scheme for bit error reduction in mutiple input multiple output–orthogonal frequency division multiplexing	International Journal of Communication Systems	Volume:36 Issue No:8 Page No:e5469 Year:2023 Month:May

Author(s) Name	Paper Name	Journal Name	Others Info
Subhadra Deb Roy, Bappaditya Roy, Surajit Batabyal, Anup Kumar Bhattacharjee	Compact antenna for higher order harmonic reduction using efficient defected ground structure	Physica Scripta	Volume:99 Issue No:4 Page No:045504 Year:2024 Month:Mar
Partha Banerjee, Aritra Acharyya, Rajib Das, Arindam Biswas, Anup Kumar Bhattacharjee, Saurav Mallik, Haya Mesfer Alshahrani, E Elshiekh, Mohamed Abbas, Ben Othman Soufiene	Mutually Injection Locked Multi- Element Terahertz Oscillator Based on AlGaIn/GaN High Electron Mobility Avalanche Transit Time Devices	IEEE Access	Volume:12 Issue No: Page No:123656 – 123677 Year:2024 Month:Jul
Paromita De, Sapana Ranwa, Sourangshu Mukhopadhyay	Alternative scheme for implementation of 3 qubit Fredkin gate with photonic band gap crystal	Optics & Laser Technology	Volume:167 Issue No: 109804 Page No: Year:2023 Month:Dec
Bej, Debabrata; Chattaraj, Nilanjan; Mahapatra, Rajat; Mondal, Manas Kumar; Ghosh, Chiranjib;	Fabrication of a CO gas sensor based on ZnO thin film from the perspective of sensing vehicle tailpipe-emitted pollution	Journal of Electronic Materials	Volume:52 Issue No:6 Page No:3983 Year:2023 Month:Apr
Sahoo, Jagamohan; Mahapatra, Rajat;	Effect of Dummy Gate Bias on Breakdown Voltage and Gate Charge of a Novel In 0.53 Ga 0.47 As/InP Trench-Gate Pentode Power Device	IEEE Transactions on Device and Materials Reliability	Volume:23 Issue No:2 Page No:269 Year:2023 Month:Jun
Arghyadip Roy and Nilanjan Biswas	Robust & Low-Complexity Task Scheduling Algorithms for a Mobile Edge Computing System	IEEE Transactions on Green Communications and Networking	Volume:NA Issue No:NA Page No:NA Year:2024 Month:Nov
Aurpan Majumder, Prolay Sharma	Topologically Overlapped Fused LASSO Measure for Reconstructing Gene Regulation Networks	IETE Journal of Research	Volume: Issue No: Page No: Year:2023 Month:Nov
P. Ghosh, S. Dhar Roy, S. Kundu	Outage of cooperative NOMA with an energy harvesting relay in an underlay cognitive radio network	International Journal of Communication Systems	Volume:37 Issue No:8 Page No: Year:2024 Month:Mar
Soumen Mondal, Luca Davoli, Sanjay Dhar Roy, Sumit Kundu, Gianluigi Ferrari, Riccardo Raheli	Throughput and delay analysis of cognitive M2M communications	Journal of Network and Computer Applications, Elsevier	Volume:225 Issue No:http://dx.doi. org/10.1016/j. jnca.2024.103856 Page No: Year:2024 Month:Mar
A. Baranwal, S. Dhar Roy, S. Kundu	Outage and ergodic capacity analysis of a full-duplex energy-harvesting cooperative non-orthogonal multiple access network	International Journal of Communication Systems, Wiley	Volume:37 Issue No:6 Page No: Year:2024 Month:Jan
S. Ghosh, A. Bhowmick, S. Dhar roy, S. Kundu	UAV-RIS Enabled NOMA Network for Disaster Management with Hardware Impairments	IEEE Transactions on Aerospace and Electronic Systems	Volume:99 Issue No:doi: 10.1109/ TAES.2024.3421177 Page No:1-13 Year:2024 Month:Jan
A. Baranwal, S. Sharma, S. Dhar Roy, S. Kundu	On performance of a full duplex SWIPT enabled cooperative NOMA network	Wireless Networks, Springer	Volume:30 Issue No:3 Page No:1-14 Year:2023 Month:Dec

Author(s) Name	Paper Name	Journal Name	Others Info
AA Shaikh, AK Mukhopadhyay, S Poddar, S Samui	Towards Robust and Accurate Myoelectric Controller Design based on Multi-objective Optimization using Evolutionary Computation	IEEE Sensors Journal	Volume: Issue No: Page No: Year:2024 Month:Jan
Chakraborty, Avishek; Ram, Gopi; Mandal, Durbadal;	Time modulation based unconventional phased antenna arrays for monopulse and multifunction radar systems	International Journal of Numerical Modelling: Electronic Networks, Devices and Fields	Volume: Issue No: Page No: Year:2023 Month:
Dhali, Madhab; Chakraborty, Avishek; Ram, Gopi; Mandal, Durbadal;	Mutual coupling compensation of linear antenna array using evolutionary optimization technique	International Journal of Communication Systems	Volume: Issue No: Page No: Year:2023 Month:
Yadav, Shubham; Saha, Suman Kumar; Kar, Rajib; Mandal, Durbadal;	Noise confiscation from sEMG through enhanced adaptive filtering based on evolutionary computing	Circuits, Systems, and Signal Processing	Volume: Issue No: Page No: Year:2023 Month:
Chakraborty, Avishek; Ram, Gopi; Mandal, Durbadal;	Phase center motion based time modulated arrays with preprocessed time schemes for selective harmonic beamforming in B5G communication systems	Transactions on Emerging Telecommunications Technologies	Volume:34 Issue No:5 Page No: Year:2023 Month:
Raj, Arun; Dhubkarya, Devi Charan; Srivastava, Dinesh Kumar; Mandal, Durbadal;	Design and analysis of square shape slot cut high gain Sierpinski carpet fractal antenna for wireless applications	Microwave and Optical Technology Letters	Volume:65 Issue No:8 Page No:2337-2343 Year:2023 Month:
Chakraborty, Avishek; Singh, Indrasen; Gupta, Sumit; Ram, Gopi; Mandal, Durbadal;	Sideband power control in timemodulated antenna arrays for bidirectional harmonic beamforming and beam scanning	AEU-International Journal of Electronics and Communications	Volume:170 Issue No: Page No: Year:2023 Month:
Chakraborty, Avishek; Saxena, Ravi Shankar; Verma, Anshoo; Juyal, Ashima; Gupta, Sumit; Singh, Indrasen; Ram, Gopi; Mandal, Durbadal;	Multi-pattern synthesis in fourthdimensional antenna arrays using BGM-based quasi-Newton memetic optimization method	International Journal of Microwave and Wireless Technologies	Volume:16 Issue No: Page No: Year:2024 Month:
Dash, Sandeep K; De, Bishnu Prasad; Samanta, Pravin K; Appasani, Bhargav; Kar, Rajib; Mandal, Durbadal; Bizon, Nicu;	Optimal Design of Voltage Reference Circuit and Ring Oscillator Circuit Using Multiobjective Differential Evolution Algorithm	Journal of Electrical and Computer Engineering	Volume: Issue No: Page No: Year:2023 Month:
Saha, Rajrup; Das, Avishek; Mandal, Durbadal; Kar, Rajib;	An optimal linear and elliptical antenna array design using black widow optimisation for 5G communication	International Journal of Communication Systems	Volume:36 Issue No: Page No: Year:2023 Month:
Bera, Prabin Kumar; Sahoo, Rashmi Rekha; Kar, Rajib; Mandal, Durbadal;	Design and Sensitivity Investigation of Dielectric Modulated and Electrolyte-Based pH Sensing of Vertical TFET Biosensor	IEEE Transactions on Nanotechnology	Volume: Issue No: Page No: Year:2023 Month:
Raj, Arun; Mandal, Durbadal;	Comparative analysis of fractal antennae for sub-6 GHz and 5G bands for wireless and IoT applications	Mobile Networks and Applications	Volume:28 Issue No:6 Page No: Year:2023 Month:

Author(s) Name	Paper Name	Journal Name	Others Info
Raj, Arun; Mandal, Durbadal;	Design and experimental analysis of fractal antennae with ground-defected structure for expected 6G and 5G mm-wave communication and wireless applications	Transactions on Emerging Telecommunications Technologies	Volume:35 Issue No:1 Page No: Year:2023 Month:
Saha, Rajrup; Das, Avishek; Mandal, Durbadal; Kar, Rajib;	An efficient linear and elliptical antenna array design using sail fish optimization	International Journal of Microwave and Wireless Technologies	Volume:16 Issue No:3 Page No: Year:2023 Month:
Raj, Arun; Mandal, Durbadal;	Design and implementation of hybrid fed array antennae for Sub-6 GHz and 5G mm-wave communication and wireless applications	International Journal of Microwave and Wireless Technologies	Volume: Issue No: Page No: Year:2024 Month:
Janjanam, Lakshminarayana; Saha, Suman Kumar; Kar, Rajib; Mandal, Durbadal;	Adaptive recursive system identification using optimally tuned Kalman filter by the metaheuristic algorithm	Soft Computing	Volume: Issue No: Page No: Year:2024 Month:
Kumar, Satish; Ram, Gopi; Mandal, Durbadal; Kar, Rajib;	Optimal pattern synthesis of circular antenna arrays with improved effective aperture and beam area	International Journal of Microwave and Wireless Technologies	Volume: Issue No: Page No: Year:2024 Month:
Amartya Banerjee, Dr. Amartya Banerjee, Soumya Chakravarty, Tapas Chakravarty, Rowdra Ghatak	A Multi-Layer Metasurface-Enabled Design of Bandpass Filter Screens with Reconfigurable Transmission Bandwidth	Progress In Electromagnetics Research C	Volume:Vol. 136, Issue No: Page No:229-244 Year:2023 Month:Sep

4.6.14 Conference: Published in 2023–2024 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
J. M. Kelner, C. Ziolkowski, M. Kryk, J. Wojtun, L. Nowosielski, R. Przesmycki, M. Bugaj, A. Chandra, R. Shukla, A. Ghosh, A. Prokes, T. Mikulasek	Power angular spectrum versus Doppler spectrum – Measurements and analysis	European Conference on Antennas and Propagation (EuCAP)	DOI/ISBN: 10.23919/ EuCAP57121.2023.10133231 Volume: Issue No: Page No:1–5 Year:2023 Month:Apr Presenter:CO-AUTHOR
J. Das, P. Das, A. Chandra, B. P. S. Sahoo, S. K. Vankayala, S. Yoon	Reducing pilot overhead for channel estimation in RIS-assisted millimeter-wave systems	IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT)	DOI/ISBN: 10.1109/ CONECCT57959.2023.10234783 Volume: Issue No: Page No:1–6 Year:2023 Month:Jul Presenter:CO-AUTHOR
R. Zavorka, A. Prokes, J. Vychodil, T. Mikulasek, P. Horky, A. Chandra, C. Mecklenbrauker, J. M. Kelner, C. H. Ziolkowski	Comparative analysis of clustering methods for power delay profile in MMW bands and in-vehicle scenarios	IEEE Conference on Antenna Measurements & Applications (CAMA)	DOI/ISBN: 10.1109/ CAMA57522.2023.10352767 Volume: Issue No: Page No:260–265 Year:2023 Month:Nov Presenter:CO-AUTHOR
P. Horky, A. Prokes, R. Zavorka, J. Vychodil, J. M. Kelner, C. Ziolkowski, A. Chandra	Channel impulse response peak clustering using neural networks	International Conference on Advanced Communication Technologies and Networking (CommNet)	DOI/ISBN: 10.1109/ CommNet60167.2023.10365265 Volume: Issue No: Page No:1–7 Year:2023 Month:Dec Presenter:CO-AUTHOR

Author(s) Name	Paper Name	Conference Name	Others Info
Sujit Kumar Mandal	Synthesis of Unequally Spaced Antenna Array with Reduced Design Complexity and Computational Cost	IEEE Microwave and Antenna Propagation Conference (MAPCON 2023)	DOI/ISBN: DOI: 10.1109/MAPCON58678.2023.10464089 Volume: Issue No: Page No:4 Year:2023 Month:Dec Presenter:SELF
Maji, P., Patra, R., Dhibar, K., Mondal, H.K.	SNN Based Neuromorphic Computing Towards Healthcare Applications	IFIPIoT 2023	DOI/ISBN: https://doi.org/10.1007/978-3031-45878-1_18 Volume: Issue No: Page No: 261–271 Year:2023 Month:Nov Presenter:CO-AUTHOR
P. Maji, K. Dhibar and H. K. Mondal	Revolutionizing and Enhancing Medical Diagnostics with Conditional GANs for Cross-Modality Image Translation	IEEE 11 th International Conference on Computing for Sustainable Global Development (INDIACom)	DOI/ISBN: 10.23919/INDIACom61295.2024.10498844 Volume: Issue No: Page No:645–650 Year:2024 Month:Mar Presenter:CO-AUTHOR
Aparna Panja; Arnab De; Bappaditya Roy; Partha Pratim Sarkar; Anup Kumar Bhattacharjee	A Letter Box shaped UWB monopole antenna for future 5G communication systems	2023 3 rd International conference on Artificial Intelligence and Signal Processing (AISP)	DOI/ISBN: 10.1109/AISP57993.2023.10134995 Volume: Issue No: Page No:1–5 Year:2023 Month:Mar Presenter:CO-AUTHOR
Aparna Panja, Arnab De, Koyndrik Bhattacharjee, Somnath Maity, Ankan Bhattacharya, Bappaditya Roy, Partha Pratim Sarkar, Anup Kumar Bhattacharjee	A miniaturized UWB monopole antenna for sub-6 GHz 5G wireless applications	2023 IEEE Silchar Subsection Conference (SILCON)	DOI/ISBN: 10.1109/SILCON59133.2023.10405231 Volume: Issue No: Page No:1–6 Year:2023 Month:Nov Presenter:CO-AUTHOR
Abhishek Raj; Arnab De; Bappaditya Roy; Ankan Bhattacharya; Koyndrik Bhattacharjee; Anup Kumar Bhattacharjee	Control of LED using BOLT Wi-Fi Module through Bubble web app over Internet	2024 International Conference on Computational Intelligence for Green and Sustainable Technologies (ICIGST)	DOI/ISBN: 10.1109/ICIGST60741.2024.10717524 Volume: Issue No: Page No:1–5 Year:2024 Month:Jul Presenter:CO-AUTHOR
Sayani Bindai; Sapana Ranwa; Rowdra Ghatak	Modified Minkowski fractal shaped metamaterial absorber for THz Sensing and Detection Systems	2023 3 rd International Conference on Range Technology (ICORT), Chandipur, Balasore, India	DOI/ISBN: 10.1109/ICORT56052.2023.10249103 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO-AUTHOR
Shreerupa Biswas; Sapana Ranwa	Fabrication of SnS ₂ nanomesh based energy efficient NO ₂ gas sensor using CVD	2023 4 th IEEE Global Conference for Advancement in Technology (GCAT)	DOI/ISBN: 10.1109/GCAT59970.2023.10353482 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO-AUTHOR
Shreerupa Biswas, Sapana Ranwa	CVD-Grown MoS ₂ Nanosheets-Based Gas Sensor for Low-Limit Detection of NO ₂ Gas	Proceedings of the 4 th International Conference on Communication, Devices and Computing	DOI/ISBN: https://doi.org/10.1007/978981-99-2710-4_36 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO-AUTHOR

Author(s) Name	Paper Name	Conference Name	Others Info
Anisha Sengupta, Nilanjan Biswas, Ivan Stupia, Luc Vandendorpe	Joint Scheduling and Mobile Edge Computing for Inband NB-IoT Networks	2024 International Conference on Signal Processing and Communications (SPCOM)	DOI/ISBN: 10.1109/SPCOM60851.2024 Volume: Issue No: Page No:1-5 Year:2024 Month:Jul Presenter:CO-AUTHOR
Imam Mahdi, Nilanjan Biswas	On Uplink Throughput Analysis for LEO Satellite Communications	International Conference on Computers and Devices for Communication (CODEC)	DOI/ISBN: 10.1109/CODEC60112.2023 Volume: Issue No: Page No:1-2 Year:2023 Month:Dec Presenter:CO-AUTHOR
S. Ghosh, A. Bhowmick, S. D. Roy and S. Kundu	Outage and Ergodic Capacity Analysis in UAV-RIS Assisted NOMA-D2D Network	IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), Jaipur, India,	DOI/ISBN: doi: 10.1109/ANTS59832.2023.10469588. Volume: Issue No: Page No:762-767 Year:2023 Month:Dec Presenter:CO-AUTHOR
Soumen Garai and Suman Samui	Exploring TinyML Frameworks for Small-Footprint Keyword Spotting: A Concise Overview	International Conference on Signal Processing and Communications (SPCOM),	DOI/ISBN: 10.1109/SPCOM60851.2024.10631631 Volume: Issue No: Page No: Year:2024 Month:Jul Presenter:CO-AUTHOR
Suman Samui, Soumen Garai	Time-Frequency Domain Speech Enhancement Framework using Audio Spectrogram Transformer with Masked Multi-head Attention	8 th International Conference on Computers and Devices for Communication (CODEC), Dec.14-16	DOI/ISBN: 10.1109/CODEC60112.2023.10465846 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:SELF
Bhanuprakash Reddy PeddasubbannaGari, Suman Samui, and Soumen Garai	VLSI Architecture of High Throughput Processing Unit for Efficiently Executing 2DConvolution for Deep Neural Network based Applications	8 th International Conference on Computers and Devices for Communication (CODEC),	DOI/ISBN: 10.1109/CODEC60112.2023.10465738 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:SELF
Suman Samui, Soumen Garai, Anindya Ghosh, and Anand Kumar Mukhopadhyay	Heterogeneous Stacked Ensemble Framework for Surface Electromyography Signal Classification	10 th International Conference on Pattern Recognition and Machine Intelligence (PReMI'23), Dec. 12-15	DOI/ISBN: 10.1007/978-3-031-45170-6_70 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:SELF
Suman Samui, Swagata Mandal	A Fast and Efficient Speech Enhancement Framework using Audio Spectrogram Transformer with Attention Layer Free Encoders	3 rd International Conference on Data Electronics and Computing (ICDEC 2023), Dec.15-17, 2023	DOI/ISBN: ISSN: 2367-3389 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:SELF
Bera, Prabin Kumar; Kar, Rajib; Mandal, Durbadal;	Design and performance assessment of GaSb/Si heterojunction vertical TFET with delta doped layer for enhanced DC and AF/RF characteristics	2023 International Conference for Advancement in Technology (ICONAT)	DOI/ISBN: 10.1109/ICONAT57137.2023.10080244 Volume: Issue No: Page No: Year:2023 Month:May Presenter:CO-AUTHOR

Author(s) Name	Paper Name	Conference Name	Others Info
Saha, Rajrup; Das, Avishek; Mandal, Durbadal; Kar, Rajib;	An optimal circular and concentric circular antenna array design using a meta-heuristic optimisation	2023 International Conference on Recent Advances in Electrical, Electronics, Ubiquitous Communication, and Computational Intelligence (RAEEUCCI)	DOI/ISBN: 10.1109/RAEEUCCI57140.2023.10134153 Volume: Issue No: Page No: Year:2023 Month: Presenter:SELF
Kumar, Satish; Ram, Gopi; Mandal, Durbadal; Kar, Rajib;	Optimal Design of Time-Modulated Linear and Circular Antenna Array for Feed Network Efficiency Using PSO	2023 International Conference on Recent Advances in Electrical, Electronics, Ubiquitous Communication, and Computational Intelligence (RAEEUCCI)	DOI/ISBN: 0.1109/RAEEUCCI57140.2023.10134328 Volume: Issue No: Page No: Year:2023 Month: Presenter:SELF
Saha, Rajrup; Das, Avishek; Mandal, Durbadal; Kar, Rajib;	An Efficient Concentric Circular Antenna Array Synthesis Using a Meta-Heuristic Optimisation	2023 International Conference on Microwave, Optical, and Communication Engineering (ICMOCE)	DOI/ISBN: 10.1109/ICMOCE57812.2023.10166703 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO-AUTHOR
Raj, Arun; Mandal, Durbadal;	Design of Slot Cut Modified Rectangular Shape and Square Shape Antenna for L band and 5G Applications	2023 First International Conference on Microwave, Antenna and Communication (MAC)	DOI/ISBN: 10.1109/MAC58191.2023.10177084 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO-AUTHOR
Saha, Rajrup; Das, Avishek; Mandal, Durbadal; Kar, Rajib;	An optimal circular antenna array design for an efficient 5G communication system using krill herd optimization	International Conference on Communication, Devices and Computing	DOI/ISBN: https://doi.org/10.1007/978981-99-2710-4_51 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO-AUTHOR
Kumar, Satish; Ram, Gopi; Mandal, Durbadal; Kar, Rajib;	Far-Field Radiation Pattern Synthesis of Elliptical Antenna Arrays Using GA and PSO	International Conference on Communication, Devices and Computing	DOI/ISBN: https://doi.org/10.1007/978981-99-2710-4_35 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO-AUTHOR
Raj, Arun; Mandal, Durbadal;	Design and Fabrication of High-Gain Array Antenna for 5G Communication and Wireless Applications	International Conference on Communication, Devices and Computing	DOI/ISBN: https://doi.org/10.1007/978981-99-2710-4_31 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO-AUTHOR
Kumar, Satish; Ram, Gopi; Mandal, Durbadal; Kar, Rajib;	Analysis of feed network efficiency in time-modulated linear and circular array	2023 IEEE Wireless Antenna and Microwave Symposium (WAMS)	DOI/ISBN: 10.1109/RAEEUCCI57140.2023.10134328 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO-AUTHOR
Raj, Arun; Mandal, Durbadal;	A Novel Substrate Cylindrical Cavity 4× 4 Fractal inspired MIMO Antenna for 5G-n258 Satellite Communication	2023 IEEE International Conference on Recent Advances in Systems Science and Engineering (RASSE)	DOI/ISBN: 10.1109/RASSE60029.2023.10363453 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO-AUTHOR

Author(s) Name	Paper Name	Conference Name	Others Info
Kumar, Prakhar; Raj, Arun; Mandal, Durbadal;	Design and Fabrication of Sierpinski Fractal-Based MIMO Antenna for Sub 6GHz and IOT Applications	2023 2 nd International Conference on Futuristic Technologies (INCOFT)	DOI/ISBN: 10.1109/INCOFT60753.2023.10425370 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO-AUTHOR
Verma, Diksha; Raj, Arun; Mandal, Durbadal;	Design and Analysis of UWB Fractal Array Antenna for 5G and Millimeter Wave Communication	2023 9 th International Conference on Signal Processing and Communication (ICSC)	DOI/ISBN: 10.1109/ICSC60394.2023.10441321 Volume: Issue No: Page No: Year:2023 Month: Presenter:CO-AUTHOR
Kumar, Satish; Ram, Gopi; Mandal, Durbadal; Kar, Rajib;	Side Lobe and Side Band Reduction of Time Modulated Circular Antenna Array Using Novel Particle Swarm Optimization Algorithm	2024 IEEE Wireless Antenna and Microwave Symposium (WAMS)	DOI/ISBN: 10.1109/WAMS59642.2024.10527914 Volume: Issue No: Page No: Year:2024 Month: Presenter:CO-AUTHOR
Debabrata Bej, Nilanjan Chattaraj.	Design of a portable, customizable device with GPS integration to track location-specific real-time outdoor PM2.5 pollution	IEEE International Conference on Emerging Trends in Information Technology and Engineering (icETITE'24)	DOI/ISBN: 10.1109/icETITE58242.2024.10493428 Volume: Issue No: Page No:1-7 Year:2024 Month: Presenter:CO-AUTHOR

4.6.15 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
K. Ghosal, A. Paul, A. Acharya, S. Roy, M. Barman, P. Panda, R. I. Han, A. Chandra	M. S. J. Hashmi (Ed.)	Encyclopedia of Materials: Electronics	Nanobots: Self-regulated electronics for health care	Publisher: Elsevier Publication Date: 2023-0412
Hemanta Kumar Mondal	Kunal Dhibar, Prasenjit Maji, Swadhin Kumar	Investigations in Pattern Recognition and Computer	Accelerating Industry 4.0 Using Computer Vision	Publisher: IGI Global Publication Date: 2023-07-
Hemanta Kumar Mondal	Prasenjit Maji, Ramapati Patra, Kunal Dhibar	Internet of Things. Advances in Information and Communication Technology	SNN Based Neuromorphic Computing Towards Healthcare Applications	Publisher: Springer Publication Date: 2023-0929
Aparna Panja, Arnab De, Koyndrik Bhattacharjee, Partha Pratim Sarkar, Anup Kumar Bhattacharjee		Advances in Microwave Engineering	Design and Performance Analysis of a Miniaturized UWB Monopole Antenna with Embedded Octagonal Slot and DGS for Various Wireless Applications	Publisher: CRC Press Publication Date: 0027-0516
Shreerupa Biswas, Sapana Ranwa		Lecture Notes in Electrical Engineering, vol 1046. Springer, Singapore.	CVD-Grown MoS ₂ Nanosheets-Based Gas Sensor for Low-Limit Detection of NO ₂ Gas.	Publisher: Springer, Singapore. Publication Date: 2023-07-28

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
S. Dhar Roy	Amitesh Das, S. Ghosh, S. Nallagonda, A. Bhowmick, S. Kundu	Digital Transformation Modernization and Optimization of Wireless Networks	An Analysis of D2D Network Modeling and Its Performance	Publisher: NOVA Science Publishers Publication Date: 2023-10-24
S. Dhar Roy	S. Ghosh, S. Kundu	Advanced Wireless Communication and Sensor Networks Applications and Simulations	Network Recovery in Dense and Emergency Areas Using a Temporary Base Station and an Unmanned Aerial Vehicle	Publisher: Chapman and Hall/CRC Publication Date: 2023-07-12

4.6.16 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
IC2E3	NIT Uttarakhand	2024-06-06	2024-11-07	India
VLSI to System Design: Silicon to End Application Approach	AICTE, ARM and STMicroelectronics	2023-07-31	2023-08-04	India
IEEE Microwave and Antenna Propagation Conference (MAPCON 2023)	IEEE AP/MTT JOINT CHAPTER, AHMEDABAD	2023-12-10	2023-12-14	India
Meity-NSF Workshop	MeitY	2023-11-02	2023-11-03	India
Virtual faculty workshop on "VLSI to System design: Silicon-to-end application approach"	All India Council for Technical Education (AICTE), Arm Education and STMicroelectronics with support from Cadence	2023-07-31	2023-08-04	India
Machine Learning for Data Science using Python	Department of CSE, National Institute of Technology, Warangal	2023-10-16	2023-10-29	India
14 Days National Level Faculty Development Programme on "Innovative Teaching Strategies and Tools in the Digital Age"	Ministry of Education's Institution Innovation Council (IIC GGI Ludhiana) Gulzar Group of Institutes Ludhiana (Punjab)	2023-12-11	2023-12-24	India
Professional Development online Course on "Introduction to Device and System Packaging"	BITS Palani, Goa and Georgia Tech, USA	2023-09-23	2023-12-16	India
Live Online Training FDP/Internship on Machine Learning and Artificial Intelligence	EduLakes Solutions LLP In Association with National Service Scheme (NSS) - IIT Roorkee	2023-07-10	2023-08-18	India
Workshop on '5G Use Case Lab'	National Telecommunications Institute for Policy Research, Innovation and Training (NTIPRIT), an apex institute of DoT, Ministry of Communications, Government of India	2024-02-12	2024-02-13	India
FDP in 5G Technology	Ministry of Communications, Department of Telecommunications, Gol	2024-03-27	2024-04-25	India
5G Awareness Workshop at IIT Guwahati	NTIPRIT, DoT	2024-02-12	2024-02-13	India

Name of the Programme	Organized By	From Date	To Date	Organizing Country
Faculty Development Program (FDP) on 5G Technology	DoT	2024-03-27	2024-04-25	India
FDP on "Blockchain Technology"	Electronics and ICT Academy, NIT Patna	2023-06-19	2023-06-24	India
International Conference on Computers and Devices for Communication (CODEC)	IEEE	2023-12-14	2024-11-16	India

4.6.17 Ph.D. Supervision

Topic Name	Scholar	Supervisor	Status	Status Date
Performance analysis of free space optical communication channel with transmit and receive diversity	Akinchan Das	A. Chandra, C. Bose (JU)	SUBMITTED	2023-05-08
FinFET	Aprajita Kumari	Rajashree Das	ONGOING	-
FinFET	Subarna Mandal	Rajashree Das	ONGOING	-
Studies on Broadband and Multiband Planar Antennas Based on Reactive Impedance Surface and Composite Right/Left- Handed Transmission Line	Shyam Sundar Jash	Rowdra Ghatak	ONGOING	-
Some Studies on Compact UWB MIMO Antenna Systems for Wireless Devices	Jeet Banerjee	Rowdra Ghatak	ONGOING	-
Studies on Multi-GNSS Signal Environment from India Towards Test Range Applications	Mrinal Goswami	Rowdra Ghatak	ONGOING	-
Studies on Multi Mode Filters and Filter Integrated Antennas for Wireless Transceivers	Riya Chakraborty	Rowdra Ghatak	ONGOING	-
Metasurface Enabled Components for THz communication	Sayani Bindai	Rowdra Ghatak, Sapana Ranwa	ONGOING	-
An Intelligent ECG Device for Smart Healthcare	Prasenjit Maji	Hemanta Kumar Mondal	ONGOING	-
Machine learning-driven performance assessment of network-on-chip architectures	Ramapati Patra	Hemanta Kumar Mondal	ONGOING	-
ML for VLSI Circuits	Dipti Sakshi Srivastava	Hemanta Kumar Mondal	ONGOING	-
3D Network-on-Chip for High Performance Computing	Debabrata Kumar Das	Hemanta Kumar Mondal	ONGOING	-
Power and Performance Aware Memory Design	Suman Kalyan Porel	Hemanta Kumar Mondal	ONGOING	-
MI Enabled Memory Design	Subhadeep Nag	Hemanta Kumar Mondal and Aniruddha Chandra	ONGOING	-
Design and fabrication of fully digital MODEM	Sadanand Singh Choudhary	Hemanta Kumar Mondal, and Ashis Kumer Mal	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Studies on Designing On-chip Antennas in Silicon IC for Short Range Communication	SANJUKTA MANDAL	DR. SUJIT KUMAR MANDAL, DR. RAJAT MAHAPATRA, DR. ASHIS KUMAR MAL	DEGREE AWARDED	2023-06-12
Studies on Sideband Radiation Characteristics towards Improving Time-Modulated Antenna Array Performances	SUJOY MANDAL	Dr. Sujit Kumar Mandal	DEGREE AWARDED	2023-06-21
Studies on Design of Multiband Microstrip Patch Antenna for Wireless Communication	Sujit Goswami	Dr. Sujit Kumar Mandal, ECE, and Dr. Soumen Banerjee, Narula Institute of Technology Agartara, Kolkata - 700109	SUBMITTED	2024-04-18
Exploration of time-modulated antenna array for the secured next-generation communication	Shrabani Sarkar	Dr. Sujit Kumar Mandal	ONGOING	-
Investigation of Low Profile Microwave Antenna for Next Generation Wireless Communication	APARNA PANJA	Prof Anup Kr. Bhattacharjee	ONGOING	-
Effect of Magnetic Field on the Large-scale-Characteristics of Millimeter wave IMPATT Sources	Partha Banerjee	Prof Anup Kr. Bhattacharjee, Dr. Arindam Biswa	ONGOING	-
Estimation of Different Parameters for an ARQ Protocol in a Fading Network through Various Codes.	PRAJIT PAUL	Prof Anup Kr. Bhattacharjee	ONGOING	-
Implementation of some Quantum Optical Logic systems using the switches made of Photonic Band-gap crystal	Paromita De	Sapana Ranwa, Sourangshu Mukhopadhyay	SUBMITTED	2024-09-11
Studies on 2-D Transition Metal Dichalcogenides Nanostructures Synthesized Using Chemical Vapour Deposition for gas sensing	Shreerupa Biswas	Sapana Ranwa	ONGOING	-
Studies on 2D Materials Augmented Metasurface Absorbers for THz Applications	Sayani Bindai	Sapana Ranwa and Rowdra Ghatak	ONGOING	-
Metasurface based beam forming antenna array for next generation communication	Soumita Halder Chakraborty	Dr. Sujit Kumar Mandal and Dr. Sujoy Biswas, NITMAS, Sarisa, Diamond Harbour	ONGOING	-
Selector-less Resistive Switching Devices for Flexible Electronics Applications	Sameen Azhar	Rajat Mahapatra	ONGOING	-
Switching Characteristics of Transition Metal Oxide Based Multilayer Flexible ReRAM Devices.	Saikat Biswas	Rajat Mahapatra	ONGOING	-
Studies on Designing On-chip Antennas in Silicon IC for Short Range Communication	Sanjucta Mandal	S. K. Mandal, A. K. Mal and R. Mahapatra	DEGREE AWARDED	2023-06-12
Scheduling for 5G Networks	Ms. Anish Sengupta	Nilanjan Biswas	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Mobility Management in Integrated Heterogeneous Networks	S. Reddy Vamshidhar Reddy	Dr. S. Dhar Roy	SUBMITTED	2023-06-13
UAV-assisted Energy-aware Multi-hop D2D Networks for Disaster Management	S. Ghosh	Dr. S. Dhar Roy	DEGREE AWARDED	2024-05-20
Energy harvesting Enabled NOMA Networks with Half/Full Duplex Cooperative Relaying for Secured Transmission	A. Baranwal	Dr. S. Dhar Roy, Prof. S. Kundu	DEGREE AWARDED	2024-05-21
Secrecy and reliability study of IRS enabled cognitive cooperative Communication for D2D network	Amitesh Das	Dr. S. Dhar Roy	ONGOING	-
Performance Optimization of Double-Gate MOSFETs for Nano-Electronics Circuit Design Using Evolutionary Techniques	Dibyendu Chowdhury	R Kar D. Mandal, B P Dey	DEGREE AWARDED	2024-03-07
Analysis and Performance Optimization of Innovative Nanowire Tunnel FET for Low Power Sensors Design	Navaneet Kumar Singh	R Kar, D. Mandal	SUBMITTED	2024-03-09
Optimal Far-Field Radiation Pattern Synthesis of Antenna Array Design for 5G Communications	Rajrup Saha	D. Mandal, R Kar Avishek Das	ONGOING	-
Optimal Design and Implementation of Time-Modulation Based Planar Array Antenna Structures using Evolutionary Optimization Techniques	Satish Kumar	D. Mandal, R Kar Gopi Ram	ONGOING	-
Design and Implementation of Advanced Antenna Arrays For 5G and Future Generation Wireless Communication Systems	Arun Raj	D. Mandal	ONGOING	-
Air Pollutant Sensing and its Embedded Measurement System Development with Smart Interface	Debabrata Bej	Nilanjan Chattaraj	SUBMITTED	2024-11-22
Design and development of piezoelectric transducer for high deflection applications.	Neha Kumari	Nilanjan Chattaraj	ONGOING	-
Fault diagnosis of analog circuits using AI/ML	Suman Biswas	Gautam Kumar Mahanti, Nilanjan Chattaraj	ONGOING	-
Multilingual Speaker Diarization Frameworks for Multimodal HCI or HMI Applications	Al mamun Sheikh	Nilanjan Chattaraj, Suman Samui	ONGOING	-

4.6.18 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Design and fabrication of fully digital MODEM and FIFO buffer for Indian long range (i-LoRa) application	H. K. Mondal, A. Chandra	MeitY, Gol	9600000.0	2023
Multi-band prediction of millimeter-wave propagation effects for dynamic and fixed scenarios in rugged time-varying environments	A. Prokes, J. M. Kelner, A. Chandra	NCN Poland	50052365	2023
Development of Multi-Pattern Time-Modulated Array for Multi-objective Tracking Cognitive Radar	Dr. SUJIT KUMAR MANDAL, ECE and Dr. Rajarshi Bhattacharya, NIT Patna	ISRO	2167560.0	2024
Learning aided Coexistence Strategy and Scheduling Designing for Next Generation Satellite Internet-of-Things	Nilanjan Biswas	SERB, DST	737000.0	2023
Design and Implementation of Advanced Antenna Arrays for 5G and Future Generation Wireless Communication Systems	Durbadal Mandal	SERB, DST; Gol	3463417.0	2022
Universal multimodal human-computer interface	Nilanjan Chattaraj, Sujay Saha	Tata Consultancy Services	2986500.0	2021
Capacity building for human resource development in Unmanned Aircraft System (Drone and related Technology) (Multi Institute Project)	Nilanjan Chattaraj, Jayati Dey, Aritro Dey, Deepak Kumar	Meity	15091000	2021

4.6.19 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
28 GHz mmWave for 5G wireless in tropical region: shortrange propagation and channel modeling	A. Chandra	SERB, Gol	2022
Centimeter wave channel measurement and modelling	A. Chandra	NIT Durgapur	2020
Mobile channel analysis and modelling in millimeter wave band	A. Prokes, A. Chandra	Czech Science Foundation	2019
Research into wireless channels for intra-vehicle communication and positioning	A. Prokes, A. Chandra	Czech Science Foundation	2016
Localization via UWB	A. Chandra	European Research Council	2016
Development of Novel Time Modulated Antenna Arrays for the Present Communication Systems	Dr. Sujit Kumar Mandal	DST, SERB	2020
Performance evaluation of open source LID, speaker diarization and speech enhancement algorithms	Nilanjan Chattaraj, Sujoy Dey, Suman Samui	DRDO	2024

4.6.20 Testing & Consultancy Services Rendered

Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
TCS Research	mm Wave Radio Engineering	1050000.0	Ongoing

4.6.21 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Aniruddha Chandra	Nature Scientific Reports	Nature	2023-12-29
Aniruddha Chandra	IEEE Transactions on Intelligent Vehicles	IEEE	2024-02-06
Aniruddha Chandra	IEEE Transactions on Intelligent Vehicles	IEEE	2024-02-07
Aniruddha Chandra	IEEE/OSA Journal of Optical Communications and Networking	IEEE/OSA	2023-11-15
Aniruddha Chandra	IEEE Communications Letters	IEEE	2023-11-06
Aniruddha Chandra	IEEE Communications Letters	IEEE	2024-01-24
Aniruddha Chandra	IEEE Antennas and Wireless Propagation Letters	IEEE	2023-09-04
Aniruddha Chandra	IEEE Antennas and Wireless Propagation Letters	IEEE	2023-10-02
Aniruddha Chandra	IEEE Antennas and Wireless Propagation Letters	IEEE	2024-02-08
Aniruddha Chandra	IEEE Antennas and Wireless Propagation Letters	IEEE	2024-03-05
Hemanta Kumar Mondal	IET Computers & Digital Techniques	IET	2024-06-02
Hemanta Kumar Mondal	The Journal of Engineering	Wiley	2023-08-31
Hemanta Kumar Mondal	IEEE Transactions on Very Large Scale Integration Systems	IEEE	2023-09-29
Hemanta Kumar Mondal	The Journal of Supercomputing	Springer	2024-02-21
Hemanta Kumar Mondal	ACM Journal on Emerging Technologies in Computing Systems	ACM	2024-02-28
Sapana Ranwa	Materials Research Express	IOP Science	2023-04-12
Rowdra Ghatak	Transactions on antennas & propagation	IEEE	2023-05-18
Rowdra Ghatak	Transactions on antennas & propagation	IEEE	2023-06-04
Rowdra Ghatak	Transactions on antennas & propagation	IEEE	2023-06-10
Rowdra Ghatak	Transactions on antennas & propagation	IEEE	2023-07-26
Rowdra Ghatak	Transactions on antennas & propagation	IEEE	2023-08-03
Rowdra Ghatak	Transactions on antennas & propagation	IEEE	2023-08-10
Rowdra Ghatak	Transactions on antennas & propagation	IEEE	2023-09-24
Rowdra Ghatak	Microwave and Wireless Technology Letters	IEEE	2023-04-26
Rowdra Ghatak	Microwave and Wireless Technology Letters	IEEE	2023-07-16
Rowdra Ghatak	Microwave and Wireless Technology Letters	IEEE	2023-08-01
Rowdra Ghatak	Microwave and Wireless Technology Letters	IEEE	2023-09-26
Rowdra Ghatak	Microwave and Wireless Technology Letters	IEEE	2023-04-16
Rowdra Ghatak	Microwave and Wireless Technology Letters	IEEE	2023-05-16
Rowdra Ghatak	Microwave and Wireless Technology Letters	IEEE	2023-11-30
Rowdra Ghatak	Microwave and Wireless Technology Letters	IEEE	2024-02-13
Rowdra Ghatak	Microwave and Wireless Technology Letters	IEEE	2024-03-22
Rowdra Ghatak	Microwave and optical technology Letters	Wiley-Blackwell	2023-04-03
Rowdra Ghatak	Microwave and optical technology Letters	Wiley-Blackwell	2023-05-24
Rowdra Ghatak	Microwave and optical technology Letters	Wiley-Blackwell	2023-06-13
Rowdra Ghatak	Microwave and optical technology Letters	Wiley-Blackwell	2023-07-17
Rowdra Ghatak	Microwave and optical technology Letters	Wiley-Blackwell	2023-08-10
Rowdra Ghatak	Microwave and optical technology Letters	Wiley-Blackwell	2023-10-09
Rowdra Ghatak	Microwave and optical technology Letters	Wiley-Blackwell	2024-02-01
Rowdra Ghatak	Transactions on antennas & propagation	IEEE	2023-09-26
Rajat Mahapatra	Journal of Physics and Chemistry of Solids	ScienceDirect	2023-04-17
Rajat Mahapatra	Sensors and Actuators: A. Physical	ScienceDirect	2023-05-02

Reviewer	Name of the Journal	Publisher	Date of Final Review
Rajat Mahapatra	Material Science and Engineering Technology	Wiley	2023-06-27
Rajat Mahapatra	Applied Physics Letters	American Institute of Physics	2023-07-05
Rajat Mahapatra	Micromachines	MDPI	2023-07-06
Rajat Mahapatra	Materials Science in Semiconductor Processing.	ScienceDirect	2023-11-13
Rajat Mahapatra	Applied Surface Science	ScienceDirect	2023-12-04
Sujit Kumar Mandal	Microwave and Optical Technology Letters	Wiley	2023-04-20
Sujit Kumar Mandal	Microwave and Optical Technology Letters	Wiley	2023-05-20
Sujit Kumar Mandal	Microwave and Optical Technology Letters	Wiley	2023-11-26
Sujit Kumar Mandal	IEEE Access	IEEE	2023-05-07
Sujit Kumar Mandal	IEEE Access	IEEE	2023-05-28
Sujit Kumar Mandal	IETE Journal of Research	Taylor & Francis	2024-02-15
Sujit Kumar Mandal	IETE Journal of Research	Taylor & Francis	2023-12-29
Nilanjan Biswas	IEEE Transactions on Aerospace and Electronic Systems	IEEE	2023-09-21
Nilanjan Biswas	IEEE Transactions on Communication	IEEE	2023-05-03
Nilanjan Biswas	IEEE Transactions on Vehicular Technology	IEEE	2023-08-15

4.6.22 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Aniruddha Chandra	ME Thesis Viva	Jadavpur University	2023-09-21	2023-09-21
Rajat Mahapatra	Ph D Thesis Evaluation	SMIT, Sikkim	2023-08-16	2023-08-16
Rajat Mahapatra	Ph D Thesis Evaluation	NIT Manipur	2024-01-15	2024-01-15
Rajat Mahapatra	M Tech Thesis Evaluation	NIT Silchar	2023-05-16	2023-05-19
Sujit Kumar Mandal	International Innovative Hardware Model Making Competition	Asansol Engineering College	2024-03-08	2024-03-08

4.6.23 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Aniruddha Chandra	JRF Selection for SERB Project	Jadavpur University	2024-03-15	2024-03-15

4.6.24 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Aniruddha Chandra	The Risk of 6G: Myth, Reality, and State-of-the-Art	FDP on Thinking and Innovation – Wireless Commun. & Antenna Tech.	VIT Vellore	2023-10-16	2023-10-20
Aniruddha Chandra	Coding information: The secure way	Webinar	SR University, Warrangal	2024-03-27	2024-03-27
Rajashree Das	How FinFET came into Existence	VLSI	The Institution of Engineers (India), West Bengal	2023-05-20	2023-05-20
Hemanta Kumar Mondal	VLSI Chip Design: RTL-toGDSII	Institute of Engineers, Kolkata Section, West Bengal	Virtual	2023-05-20	2023-05-20

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Nilanjan Biswas	Sharing is Caring: A Mobile Edge Computing Perspective	5 Days Hands-On Workshop on "Machine Learning: An Industry Academia Initiative"	NIT Rourkela (virtual talk)	2023-12-15	2023-12-15
Nilanjan Chattaraj	The Hardware Based Approach of Smart Healthcare System Embedded with IoT and AI/ML	Smart Healthcare System using IoT and AI/ML	NIT Sikkim	2024-02-27	2024-03-02

4.7 Department of Electrical Engineering

4.7.1 Department at a Glance

The Electrical Engineering department was established in the year 1960. Presently the department offers B. Tech in Electrical Engineering, with intake capacity of 100 students, M. Tech in Power Systems, Power Electronics & Machine Drives and Instrumentation & Control having intake of 20, 20 and 15 students respectively. The Department also has a PhD program. The students from different states of India and also from different countries are presently

studying in the department. The department has 25 Nos. of qualified and highly motivated faculty members with various specializations; is equipped with 19 different laboratories, and among these, 8 laboratories have modern state of the art facilities for research and consultancy work. The department also has strong regional and foreign collaboration.

4.7.2 Mission & Vision

Mission:

- » To impart quality education for producing qualified and motivated Engineers and Researchers who will contribute meaningfully to the growth and development of the country.
- » To encourage the faculties and the students for research-oriented teaching-learning environment in the department with a focus on excellence and innovation.
- » To pursue creative research and consultancy developing

new technologies in Electrical Engineering in order to serve the needs of industry and country as a whole.

- » To create congenial atmosphere for collaborative research, consultancy and other technical activities

Vision

- » To impart quality education and focus on research and innovation in Electrical Sciences to cater to the need of the country.

4.7.3 Faculty

Name	Designation	Email-id
Dr. N. K. Roy	Professor-HAG	nroy.ee@nitdgp.ac.in
Dr. S. S. Thakur	Professor	ssthakur.ee@nitdgp.ac.in
Dr. S. Banerjee	Professor	sbanerjee.ee@nitdgp.ac.in
Dr. P. Acharjee	Professor	pacharjee.ee@nitdgp.ac.in
Dr. Chiranjib Koley	Professor	ckoley.ee@nitdgp.ac.in
Dr. S. N. Mahato	Professor	snmahato.ee@nitdgp.ac.in
Dr. T. K. Saha	Professor	tsaha.ee@nitdgp.ac.in
Dr. P. S. Bhowmik	Associate Professor	psbhowmik@ee.nitdgp.ac.in
Dr. (Smt.) Jayati Dey	Associate Professor	jdey.ee@nitdgp.ac.in
Sri Avinandan Das	Assistant Professor	adas.ee@nitdgp.ac.in
Dr. Supriya Sarkar	Assistant Professor	ssarkar.ee@nitdgp.ac.in

Name	Designation	Email-id
Sri J. C. Barman	Assistant Professor	jcbarmen.ee@nitdgp.ac.in
Dr. Suman Halder	Assistant Professor	shalder.ee@nitdgp.ac.in
Dr. Tushar Kanti Bera	Assistant Professor	tkbera.ee@nitdgp.ac.in
Dr. Biman Kumar Saha Roy	Assistant Professor	bksroy.ee@nitdgp.ac.in
Dr. A. Bhattacharya	Assistant Professor	abhattacharya.ee@nitdgp.ac.in
Dr. Aritro Dey	Assistant Professor	adey.ee@nitdgp.ac.in
Dr. Ashis Kumar Dhara	Assistant Professor	akdhara.ee@nitdgp.ac.in
Dr. Irfan Ahmed	Assistant Professor	airfan.ee@nitdgp.ac.in
Dr. Aashish Kumar Bohre	Assistant Professor	akbohre.ee@nitdgp.ac.in
Dr. Manika Saha	Assistant Professor	msaha.ee@nitdgp.ac.in
Dr. Soumya Chatterjee	Assistant Professor	s chatterjee.ee@nitdgp.ac.in
Dr. Santanu Paul	Assistant Professor	spaul.ee@nitdgp.ac.in
Dr. Omkar Yadav	Assistant Professor	oyadav.ee@nitdgp.ac.in
Dr. Rajdip Dey	Assistant Professor	rdey.ee@nitdgp.ac.in

4.7.4 Equipments

Sl. No.	Name of the equipment	Date of Purchase	Amount
1.	Single Phase Inductive load	13.04.22	23,925.00
2.	Electrical Bridge Trainers	12.05.22	26,460.00
3.	Sensor Trainer Kit	28.06.22	53,235.00
4.	DSO	20.06.22, 07.03.23, 15.03.23	1,29,456.00
5.	Motor Protection Relay	28.06.22	14,850.00
6.	Frequency Drive	05.07.22	24,499.00
7.	DC Position Control	28.07.22	62,475.00
8.	Induction Motor	25.07.22	29,950.00
9.	Partial Discharge Test Cell	21.07.22	7,493.00
10.	Point Sphere Electrode	21.07.22	7,434.00
11.	Voltmeter	11.08.22, 19.09.22, 21.09.22, 23.09.22, 11.11.22, 23.11.22	70,673.00
12.	Watt hour Meter	26.08.22	2,199.00
13.	Clamp Meter	26.08.22	2,300.00
14.	Wattmeter	19.09.22, 21.09.22, 23.09.22	58,513.00
15.	Analog Panel Meter	21.09.22, 23.09.22	72,496.00
16.	Power Factor Meter	23.11.22	9,660.00
17.	Variac	06.01.23	24,780.00
18.	DC Power Supply	11.11.22, 09.03.23	83,970.00
19.	Insulation Tester	21.02.23	21,000.00
20.	Clamp Meter	29.11.22	7,770.00
21.	LCR Meter	30.09.22, 25.01.23	35,876.95
22.	PLC I/O Card	11.11.22	79,945.00
23.	RLC Load	18.11.22	79,900.00
24.	Relay & Contractor	10.01.23	58,175.00
25.	Digital Panel wattmeter	23.11.22	3360.00
26.	Optical Connectors	30.08.22	8968.00
27.	MFD Printer	27.01.23	24113.00

Sl. No.	Name of the equipment	Date of Purchase	Amount
28.	DC Regulated Power Supply	07.02.23	42480.00
29.	Measurement of Temp of RTD	15.03.2023	7800.00
30.	LVDT Trainer Kit	15.03.2024	9200.00
31.	Measurement of Temp by Thermocouple	15.03.2023	7800.00
32.	Strain Gauge	15.03.2023	14500.00
33.	Thermistor	15.03.2024	4800.00
34.	LCD Monitor	07.02.23	35000.00
35.	Laptop	13.02.23	79999.00
36.	Desktop Computer	15.03.2023	264900.00
37.	Desktop Computer	22.02.2023	971300.00
38.	Angular displacement Trainer	15.03.2023	12500.00
39.	UPS	27.03.2023	55869.41
40.	Accessory 2 for single ph energy meter phantom	21.06.2023	24000.00
41.	Accessory for single ph energy meter phantom	21.06.2023	24000.00
42.	Measurement of speed by Magnetic Pickup	09.06.2023	21500.00
43.	Measurement of speed by Photo Electric Pickup	09.06.2023	21500.00
44.	Study of Pizeo Electric Transducer Trainer	09.06.2023	19500.00
45.	Digital Storage Oscilloscope	9.03.2023	308200.00
46.	Relay Control System	28.06.2023	23836.00
47.	Compensating Network Setup	28.06.2023	24662.00
48.	Magnetic Levitation System	28.06.2023	42598.00
49.	Digital Control System	28.06.2023	42598.00
50.	Graphics Card	31.03.2023	66,078.00
51.	Measurement of Torque by Torque Transducer	15.03.2023	30,000.00
52.	Function Generator	15.03.2023	32200.00
53.	HIL Breakout Board with sensors	27.03.2023	249570.00

4.7.5 Labs

Sl. No.	Name of Laboratory	Major equipment
1.	Electrical Technology Laboratory	Setup for Open Circuit and Short Circuit Test of Single Phase Transformer, Three Phase Wattmeter for power measurement in three phase circuit Setup, Test Energy Meter and Standard Energy Meter for Energy Meter Calibration Setup, Setup for RL, RC, RLC analysis, Set up for determining characteristics of Fluorescent Lamp, Set up for determining Characteristics of Incandescent Lamp, Setup ups for verification of Superposition Theorem, Thevenin's Theorem, Norton Theorem and Maximum Power Transfer Theorem
2.	Electrical Networks Laboratory	Setups of RL, RC and RLC transient set Low Pass, High Pass Filter, Frequency response each comprising of Function Generators and Digital Storage Oscilloscopes, Setup for understanding the basics of Magnetic Coupling, Set up for Two port Network
3.	Electrical Measurements Laboratory	Setup for Power measurement by three Voltmeter and three ammeter, Setup for DC Crompton Potentiometer, Setup for Power measurement by Instrument Transformer, Setup for Kelvin Double Bridge, Set up for Linear Variable Differential Transformer, Digital Earth Resistance Meter, Setups for Anderson Bridge, Schering Bridge and Wien Bridge, Set up for calibration of Digital Energy Meter

Sl. No.	Name of Laboratory	Major equipment
4.	Electrical Machines Laboratory	Single-phase transformer, Three-phase transformer, DC shunt machine, DC series machine, DC compound machine, Three-phase induction motor, Single-phase induction motor, Three-phase alternator, Three-phase synchronous motor, Single-phase variac, Three-phase auto-transformer, Resistive load box.
5.	Control Systems Laboratory	DC Servo Position Control System, DC Servo Speed Control System, AC Servomotor Speed Control System, Linear System Simulator, Temperature Control System, Lead-Lag Network, DC Machine Set-up for Identification of Transfer Function for DC Motor, Two Phase AC Servomotor Set-up for Determination of Transfer Function, P-I-D Controller Set-up for Control of LTI Systems
6.	Embedded System Laboratory	Microcontroller kit, Computer, Function Generator, Interfaces, PCB Prototyping Machine, Keil C Compiler
7.	Power Electronics Laboratory	Single Phase Bridge Inverter (IGBT), Three Phase SCR module, 3-phase 5-level Cascaded H-bridge inverter power module, Speed Control of 3-phase induction motor with IPM and Micro-2407, Four-quadrant operation of DC-DC chopper with IGBT, Speed Control of DC motor with single phase triggering and device module, DC-DC SEPIC Converter, DC-DC FORWARD Converter, DC-DC Flyback Converter Trainer, Single phase step-down cycloconverter.
8.	Power Systems Laboratory	IDMT over-current relay experiment setup, Directional over-current relay (inverse) type CDD experiment setup, Numerical Distance Protection Relay MiCOM P442 experiment setup, Parallel Feeder Protection experiment setup, Negative sequence protection of three-phase induction motor experiment setup, Study of over-voltage relay experiment setup, Biased Differential Relay experiment setup, Biased Differential Protection of a single phase Transformer experiment setup, Restricted E/F Protection of 3-phase Transformer experiment setup, Over-current and Earth fault protection scheme for three phase system experiment setup, Cable Fault Locator, Power Quality Analyzer
9.	Power Systems Laboratory II	IDMT over-current relay experiment setup, Directional over-current relay (inverse) type CDD experiment setup, Numerical Distance Protection Relay MiCOM P442 experiment setup, Parallel Feeder Protection experiment setup, Negative sequence protection of three-phase induction motor experiment setup, Study of over-voltage relay experiment setup, Biased Differential Relay experiment setup, Biased Differential Protection of a single phase Transformer experiment setup, Restricted E/F Protection of 3-phase Transformer experiment setup, Over-current and Earth fault protection scheme for three phase system experiment setup, Cable Fault Locator, Power Quality Analyzer
10.	Advanced Power System Laboratory	Relay Test Set, Directional Overcurrent relay, Cable fault locator, Oscilloscope, Function Generator, Power Quality Analyzer, Parallel Feeder Protection Test Kit, Directional overcurrent relay, Non-directional over current relay, Test Bench for ratio, polarity, magnetizing characteristic of CT and PT, Numerical Distance protection kit, Ferranti Effect and Parameter Measurement Kit, Transmission line simulation kit, Solar Photovoltaic Training and Research Kit
11.	Power System Simulation Laboratory	Computers, MATLAB, MiPower software.
12.	Computational Laboratory	Computers, MATLAB, MiPower software, PSIM software, OrCAD PSpice software, PSCAD
13.	High Voltage and Liquid Insulation Laboratory	AC High Voltage Test System, Impulse Voltage Test System, Partial Discharge Test System, 100 kV oil BDV Tester, C and Tan Delta test set up, 100 kV AC Test set up, Kinematic Viscometer bath, Digital C, tan Delta and resistivity test set, Pen-sky martens closed cup flash point tester
14.	Machine Drives Laboratory	TMS 320F2812 DSP Processor, TMS 320F28335 DSP Processor, Multilevel Inverter, Intelligent Power Module, Three phase induction motor, Brushless DC Motor, Permanent Magnet Synchronous Machine with Spring Balance Loading Arrangement

Sl. No.	Name of Laboratory	Major equipment
15.	Advanced Control System Laboratory	Digital Pendulum Control System with Personal Computer, Magnetic Levitation System with Personal Computer, Twin Rotor MIMO System with Personal Computer, Precision Modular Servo Workshop with Personal Computer
16.	Advanced Power Electronics Laboratory	Single Phase Bridge Inverter (IGBT), Three Phase SCR module, 3-phase 5-level Cascaded H-bridge Inverter power module, Speed Control of 3-phase induction motor with IPM and Micro-2407, Four-quadrant operation of DC-DC chopper with IGBT, Speed Control of DC motor with single phase triggering and device module, DC-DC SEPIC Converter, DC-DC FORWARD Converter, DC-DC Flyback Converter Trainer, Single phase step-down cycloconverter
17.	Instrumentation Laboratory	SOLAR PANEL SETUP comprising of crystalline solar cell; Liquid Level Measurement Setup comprising of Ultrasonic level sensor, Sump tank, Solenoid valve, Water pump, Overhead tank , DCS (HC900 hardware) DCS (SCADA Software); Flow Measurement Setup comprising of Electrical actuator, control valve , Differential pressure transmitter, Solenoid valve, DCS (HC900 hardware) DCS (SCADA Software); Temperature Measurement Setup comprising of RTD, Thermocouple & Thermistor; Speed Measurement Setup Comprising Of Tachometer & Stroboscope ; 3 Phase Power Measurement Setup
18.	Biomedical Instrumentation Laboratory	Two Channel MP45 BIOPAC Signal Acquisition System Comprising of ECG Electrodes, Respiration Sensor, GSR Sensor, SPO2 Sensor, Computers, MATLAB
19.	Intelligent System Laboratory	Computers, MATLAB

4.7.6 PhD degree awarded till 2023-24

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4.7.7 Any other relevant information:

- » IEEE 6th International Conference on Condition Assessment Techniques in Electrical Systems (IEEE CATCON 2022) was organized by the Department of Electrical Engg., NIT Durgapur and technically, co-sponsored by IEEE Dielectrics and the Electrical Insulation Society (DEIS), Kolkata Chapter during 17th -19th December, 2022 at National Institute of Technology Durgapur. Prof. Chiranjib Koley and Dr. Partha Sarathee Bhowmik of Department of Electrical Engg., NIT Durgapur, were the Conference Chair.
- » Prof. Subrata Banerjee awarded prestigious IETE-BIMAL BOSE AWARD-2022 for some pioneer work in Power Electronics in 65th Annual IETE Convention on 26th September, 2022.
- » Prof. Subrata Banerjee, Prof. P. Acharjee and Dr. Aniruddha Bhattacharya have been placed within top 2% of scientists in the world by a survey conducted by a team of scientists at Stanford University in 2022.
- » Prof. Subrata Banerjee organized a special session on 'Advancement in Power Electronics for E-mobility' in India Council International Conference 2022 (INDICON 2022) held at Cochin University of Science and Technology (CUSAT), Kochi, Kerala during 24 – 26 November 2022.
- » Prof. Subrata Banerjee delivered lecture in NaMPET sponsored Online Short Term Course on "Applications of Power Electronics in Renewable Energy Systems (APERES-2022)", on 20.07.2022 at NIT Jamshedpur.
- » Prof. S. N. Mahato delivered a talk on 15th July, 2022 in the one-week Virtual mode FDP on "Recent Advancement and Research Opportunities in Electrical Engineering" organized by Department of Electrical Engineering, Gargi Memorial Institute of Technology, Kolkata during July 11-15, 2022.
- » Dr. Tushar Kanti Bera delivered an invited talk on "Recent Trends in The Battery Charging Technology for Electric Vehicles (EVs) and Plugged-In-Hybrid Electric" in the DST-SERB Sponsored High End Workshop "KARYASHALA" on "Present and Future Trends of Electric Vehicle Technologies" organized by the CSIR-Central Mechanical Engineering Research Institute (CSIR-CMERI), Durgapur, During September 07-13, 2022.
- » Dr. Irfan Ahmed delivered an expert lecture on "Power Electronic Converters in AC and DC Microgrids" at DST-SERB sponsored two-days National Seminar on "AC-DC Microgrid: Configuration, Controls and Applications" organized by the Department of

Electrical Engineering, Yeshwantrao Chavan College of Engineering, Nagpur, on November 11, 2022.

- » The paper entitled “Static and Dynamic Analysis of IGBT Power Modules for Low and High-Power Range Electric Drives” by Ananthammagari Bharathsimha Reddy, Sankar Narayan Mahato and Nilanjan Tewari has been awarded as a Best Paper in session “PE-3” in

3-rd Electric Power and Renewable Energy Conference (EPREC 2022), May 27-29, 2022 organized by Department of Electrical Engineering, NIT Jamshedpur.

- » Prof. Subrata Banerjee chaired a technical session in international conference IEEE-iSSSC 2022 in GIET University(online) Odisha on 16th Dec, 2022.

4.7.8 Specialization

- » PowerElectronics
- » Electrical Engineering (Power System)
- » Power System
- » Power Systems
- » Control Systems
- » Electrical Engineering
- » Power & Energy Systems (Renewable Energy)
- » Electrical Engineering
- » Image Processing and Machine Learning
- » Electrical Engineering (Power System Operation and Control)
- » Electrical Engineering / Power System
- » Control
- » High Voltage Engineering, Power System, ICT and IoT enabled High Voltage Laboratory test facilities,

Conditioned and Health monitoring of High Voltage power apparatus, e Governance, rural e Governance

- » Power Systems
- » Electrical Machines and Drives
- » Control System
- » High voltage engineering
- » Power System
- » Electrical Engineering
- » Electrical Engineering
- » Power electronics application in power system
- » Machines Drives
- » Power Electronics, Machines, Drives
- » Power Systems
- » Electrical Measurement & Instrumentation

4.7.9 Proposed Plan for Research

- » Space vector modulation techniques for cascaded H-bridge multilevel inverters
- » Pulse-width modulation techniques for modular multilevel converters
- » Circulating current suppression in modular multilevel converters with embedded energy sources
- » Supervision of Research Scholars, B.Tech and M.Tech students, Learning new research area on Renewable Energy,
- » Electric Vehicle, Sponsored Project Works, Paper Publications, Review of papers ,
- » PMU placement considering communication and uncertainty issues in Distribution network
- » To carry out research in the Area of Power System Planning, stability using Machine Learning Algorithm
- » To develop necessary hardware set up to detect Electrical Corona in Insulators
- » Bayesian Filtering, Nonlinear Control for Aerospace Applications

- » Development of a non-contact method for condition assesment of high voltage assets.
- » Offshore Wind Plant Design, Operation & Control
- » Multi-carrier Energy Storage Application to Power System
- » Modern Power System Operation & Control with Very High Share of Renewable Energy
- » Instrumentation and Measurement
- » Affordable AI for Computer-aided Diagnosis of Retinopathy of Prematurity (ROP) using Retinal Fundus Images
- » The proposed plan for research includes the analysis of the dynamic interactions of offshore wind farms with on-shore AC grids connected via MTDC grid, which would be further equipped with adaptive droop control. The impact of different control modes (e.g. droop control mode, constant power control mode) within the MTDC grid towards power sharing will be analysed. The performance of control modes at VSC

terminal against set of low voltage ride through (LVRT) mode in some of the DFIGs in the entire windfarm will be investigated.

- » Apply for sponsored project in my research area in SERB, DST CSIR etc. Try to get patent in my area. Also submit the paper for publication in journals and conferences.
- » More Collaboration with industries related to the innovation and creativity for development of new equipment and materials
- » Signal Processing, Soft Computing, Power Systems stability, FACTS Devices, Smart Grid / Micro Grid, Renewable Energy, Measurement & Instrumentation
- » (i) Energy management and Control of Unmanned Ground Vehicle for Combat Use, (ii) Control of Converters, (iii) Control, Guidance, Navigation of

Unmanned Aerial Vehicle, (iv) Periodic Control, (v) Fractional Order Control, (vi) Control of Multi Input Multi Output Systems

- » Development of Condition monitoring system for high voltage power apparatus
- » Operation, Control and Protection of Distribution Systems
- » Completing R&D Project and Guiding PhD, M.Tech, B. Tech students
- » Converter modeling and control, Multilevel Inverter
- » Converter design of Multifrequency microgrid, hardware realization of multifrequency microgrid
- » Application of Multi phase Machines
- » Biomedical Instrumentation

4.7.10 Area of Research Interest

- » Pulse-width modulation techniques for multilevel converters
- » Circulating current model and its suppression in modular multilevel converters
- » Soft-Computing Techniques such as GA, PSO, DE, Fuzzy, ANN and its application in Power System
- » Power system dynamics & stability
- » FACTS Devices
- » Smart Grid and Micro Grid
- » Economic Load Dispatch and Optimal Power Flow
- » Renewable Energy
- » Electric Vehicle
- » Power system monitoring, PMU applications
- » Power System Planning
- » Power System Stability and Security
- » State Estimation, Nonlinear Control
- » Condition monitoring of high voltage equipment, Insulation diagnosis, Graph theory and complex networks, signal processing applications in condition monitoring.
- » Offshore Wind Plants
- » Collection System Design of Offshore Hybrid Power Plants
- » Multi-carrier Energy Storage
- » Grid Level Battery Storage Application
- » Distribution System Operation with high share of PHEV
- » Instrumentation and Measurement
- » Electrical Impedance Tomography (EIT)
- » Electrical Impedance Spectroscopy (EIS)
- » Structural Health Monitoring (SHM)
- » Medical Imaging
- » Computed Tomography (CT)
- » Image Reconstruction
- » Inverse Problems
- » Biomedical Image Analysis and Machine Learning
- » Electric Vehicles (EVs)
- » Sensor Development
- » Operation and Control of Multi-terminal HVDC System with Offshore Wind Farm
- » Power System Stability, Renewable Energy, Power System Optimization, Distribution System Planning, Microgrid Planning, Electric Vehicle, Planning of FACTS Devices, Power System Deregulation & Restructuring, Distributed Generation, Optimization Techniques, Application of Soft Computing Techniques in power system dynamics and control.
- » Target Tracking, Nonlinear Control & Estimation
- » High Voltage Engineering, Power System, ICT and IoT enabled High Voltage Laboratory test facilities, Conditioned and Health monitoring of High Voltage power apparatus, e Governance, rural e Governance
- » Signal Processing, Soft Computing, Power Systems stability, FACTS Devices, Smart Grid / Micro Grid, Renewable Energy, Measurement & Instrumentation

- » Analysis and Control of Induction Generators
- » Condition monitoring and high voltage engineering
- » Distributed Generations, Microgrid
- » Power Electronics and Machine Drives, Non Conventional Energy Resources
- » Modeling & Control of Switch-mode converters and Inverters, Multilevel Inverters & Different Modulation techniques, Electromagnetic Levitation, Active Magnetic Bearing, controller design, Intelligent control, Power Electronics & Machine Drives.
- » Power electronics applications in Microgrid system, Microgrid architecture and control, Power balancing techniques of microgrids, Multifrequency microgrid, DC and induction Machine Drives
- » Multi phase machines
- » Power Electronics, Machines, Drives
- » Power systems estimations, line outage detection, load forecasting etc.
- » Feature Extraction from Biopotential

4.7.11 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
National Thermal Power Institute, DURGAPUR	Training and consultation of engineers from different utilities like State Electricity Board Engineers and professionals	Training and Consultation of engineers from different utilities like State Electricity Board Engineers and professionals
RED(E) Pune, DRDO	Energy Management and Control of Unmanned Ground Vehicle for Combat Use	Control topolog Development, Prototype Development of Electric Vehicle with Hybrid energy sources
National Hydroelectric Power Corporation	Condition Monitoring	Device development
National Hydro Power Corporation (NHPC), Haryana	Development of PD SENORS and its analyser	Development of PD SENORS and its analyser

4.7.12 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
KIIT Bhubaneswar	Electrical Engineering	Dr. Sriparna Roy Chowdhury	Joint PhD Supervision
School of Energy Studies, Jadavpur University	Power quality and monitoring in grid-connected renewable energy systems.	Prof. Ratan Mandal	Research and Ph.D. supervision
IIT Bombay	Renewable Energy	Prof. Zakir Hussain Rather	Research
CSIR – Institute of Minerals and Materials Technology (CSIRIMMT), Bhubaneswar, Odisha	Electrical Impedance Tomography (EIT)	Dr. Tushar Kanti Bera	Electrical Impedance Tomography (EIT) Based Slurry Pipe Line Monitoring
Uppsala University, Sweden	Diagnostic Neuroradiology	Dr. Robin Strand	Diagnostic neuroradiology screening tool
Sankara Nethralaya, Chennai, India	Diabetic retinopathy	Dr. Rajiv Raman	Diabetic retinopathy screening tool
Madras Diabetic Research Foundation, Chennai, India	Diabetic retinopathy	Dr. R. Rajalakshmi	Diabetic retinopathy screening tool
PGIMER Chandigarh, Chandigarh, India	Diagnostic Neuroradiology	Dr. Chirag K Ahuja	Diagnostic neuroradiology screening tool
Uppsala University Hospital, Sweden	Diagnostic Neuroradiology	Dr. Johan Wikstrom	Diagnostic neuroradiology screening tool
Calcutta National Medical College, Kolkata, India	Diabetic retinopathy	Dr. Sambudda Ghosh	Diabetic retinopathy screening tool

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
University of Iowa, USA	BMD estimation	Dr. Punam K Saha	BMD estimation from X-Ray
University College of London, London, UK	Microscopy image analysis	Dr. Hirak Patra	Microscopy image analysis
NIT Silchar	State and Health Estimation of Supercapacitor	Dr. Munmun Khanra	ph.D guidance
1. National Thermal Power Institute, DURGAPUR, 2. National Hydro Power Corporation, Faridabad, Haryana	Training and consulation of engineers from different utilities like State Electricity Board Engineers and professionals, Innovative Projefts like Development of a PD detection system for High Voltage Power Apparatus	Prof N K Roy, Prof C Koley, Dr A Bhattacharya, Dr P S Bhowmik	Training and consulation of engineers from different utilities like State Electricity Board Engineers and professionals, Innovative Projefts like Development of a PD detection system for High Voltage Power Apparatus
IIT Kanpur, IIT Bombay, IIT Madras, IISc Bangalore, CDAC Patna, IIIT Kurnool	Human Resource Development for UAV and Related Technology	Dr. Jayati Dey, Dr. Nilanjan Chattaraj (EC), Dr. Aritro Dey (EE), Dr. Deepak Kumar (ME)	(i) Workshop organization, (ii) Training on UAV related technology, , (iii) Project Development and Execution, (iv) Laboratory Development, (v) IPR generation
Jadavpur University	High Voltage	Prof. Sivaji Chakravorti	Research
IIT Kharagpur	Authored book from IET as co author	Prof. D. Kastha	Published two books from IET
National Institute of Technology Silchar	Condition monitoring of High voltage Equipment	Dr. Asish Paramane	Joint research work
National Institute of Technology Calicut	Condition monitoring of High voltage Equipment	Dr. Nasirul Haque	Joint research work
National Institute of Technology Warangal	Condition monitoring of high voltage equipment	Dr. Palash Mishra	Joint research work
Birla Institute of Technology Mesra	Power quality monitoring	Dr. Pankaj Mishra	Joint research work
Jadavpur University	Condition monitoring of High voltage equipment	Prof. Sivaji Chakravorti, Prof. Biswendu Chatterjee and Prof. Sovan Dalai	Joint research work
IIT Kharagpur	Power system monitoring and protection	Prof. A.K.Pradhan	Submitted joint project to DST, Govt. of India and WBDST
CSIR-CMERI	Power Electronics	Prof. Subrata Banerjee	Joint Research & Guidance
IIT Kharagpur	Power Electronics	Prof. Subrata Banerjee	Joint Research & Guidance
Ontario-Institute of Technology	Power Electronics	Prof. Subrata Banerjee	Joint Research
MNNIT Allahabad	Applications of Control Systems in Power Systems	Prof. Subrata Banerjee	Joint Research, Book writing
National Thermal Power Institute, DURGAPUR	Training and consulation of engineers from different utilities like State Electricity Board Engineers and professionals	Prof N K Roy, Prof C Koley	Training and Consultation of engineers from different utilities like State Electricity Board Engineers and professionals

4.7.13 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Prof. N. Chakraborty	Gian Programme on Computational Modelling of Turbulent Flow and Scalar Transport	2023-03-31

4.7.14 Journal: Published in 2023–2024 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
S. Maity, M.Saha, P. Saha and M. Khanra	Fractional calculus–based modeling and state–of–charge estimation of supercapacitor	Journal of Energy Storage	Volume:81 Issue No:3 Page No: Year:2024 Month:Mar
Manoj Saha, Sidhartha Dankar Thakur, Aniruddha Bhattacharya	Bilevel planning of electric vehicle charging station and battery swapping station considering real-time uncertainty	International Journal of Green Energy. Taylor & Francis	Volume:21 Issue No:12 Page No:2724–2752 Year:2024 Month:Mar
D. Guha, P.K. Roy, and S. Banerjee	Improved Fractional-order Sliding Mode Controller for Frequency Regulation of a Hybrid Power System with Nonlinear Disturbance Observer	IEEE Transactions on Industry Applications	Volume:59 Issue No:4 Page No:4964–4979 Year:2023 Month:
S. Kundu, S. Panda & S. Banerjee	Fulfillment of Some Important Voltage Harmonic Standards in a FPGA Controlled CHB Multilevel Inverter Utilizing Improved SHM–PAM Technique	IEEE Transactions on Industry Applications	Volume:59 Issue No:5 Page No:6051–6067 Year:2023 Month:
K. Majumdar, P.K. Roy, and S. Banerjee	Calculation of Available Transfer Capability Using Hybrid Chaotic Selfish Herd Optimizer and 24 Hours RES–thermal Scheduling	Chinese Journal of Electrical Engineering	Volume:9 Issue No:4 Page No:54–72 Year:2023 Month:
Rani, N., Aashish Kumar Bohre & Bhattacharya, A.	VO2–driven Polarization–Insensitive Conformal Meta–structure Unlocking the Reconfigurability in Terahertz Regime.	Springer Plasmonics	Volume:2024 Issue No:NA Page No:9 Year:2024 Month:Mar
Maiti, Souvik, Debasis Maji, Ashis Kumar Dhara, and Gautam Sarkar	An attention enriched encoder–decoder architecture with CLSTM and RES unit for segmenting exudate in retinal images	Signal, Image and Video Processing	Volume:18 Issue No:9 Page No:3329–3339 Year:2024 Month:
Banerjee, Subhashis, Fredrik Nysjö, Dimitrios Toumpanakis, Ashis Kumar Dhara, Johan Wikström, and Robin Strand	Streamlining neuroradiology workflow with AI for improved cerebrovascular structure monitoring	Scientific Reports	Volume:14 Issue No:1 Page No: Year:2024 Month:
Das, Deboleena, Ishan Chakraborty, Aashish Kumar Bohre, Prince Kumar, and Raja Agarwala	Sustainable Integration of Green Hydrogen in Renewable Energy Systems for Residential and EV Applications	International Journal of Energy Research	Volume:2024 Issue No:NA Page No:20 Year:2024 Month:Jan
Rani, Niti, Aashish Kumar Bohre, and Aniruddha Bhattacharya	An Ultra–Thin Substrate–Based Conformal Meta–Absorber for EMI Shielding and RCS Minimization in C and X Band	Springer Plasmonics	Volume:2023 Issue No: Page No:1–10 Year:2023 Month:Dec

Author(s) Name	Paper Name	Journal Name	Others Info
Prince Kumar, Kunal Kumar, Aashish Kumar Bohre, Nabanita Adhikary, Eshet Lakew Tesfaye	Intelligent planning of controllers for improved resilience in multi-area systems involving nuclear power	Springer Scientific Reports	Volume:13 Issue No:14906 Page No:1-17 Year:2023 Month:Sep
Shukla Karmakar, Tushar Kanti Bera, Aashish Kumar Bohre	Novel PI Controller and ANN Controllers-Based Passive Cell Balancing for Battery Management System	IEEE Transactions on Industry Applications	Volume:59 Issue No:6 Page No:7623-7634 Year:2023 Month:Dec
Kunal Kumar, Prince Kumar, Susmita Kar, Aashish Kumar Bohre, and Samuel Amde Gebereselassie	A Static State Estimation Scheme in Microgrid Utilizing μ PMU Measurements	Wiley International Transactions on Electrical Energy Systems	Volume:2023 Issue No:NA Page No:1-13 Year:2023 Month:May
Sumit Kumar Pandey, Jayati Dey, Subrata Banerjee	On Internal Model Control (IMC) of MIMO Systems	IETE Journal of Research, Taylor & Francis	Volume:69 Issue No:7 Page No:4360-4377 Year:2023 Month:
Dibyendu Sen, Ruman Kalyan Mahapatra, Tapas Kumar Saha, Jayati Dey	Bifurcation of Double-Input DC-DC Buck Buck-Boost Fused Converter	Journal of Control, Automation and Electrical Systems	Volume:34 Issue No: Page No:578-587 Year:2023 Month:
D. Sen, P. Acharjee	Optimal allocation of UPFC based on healthy and stressed zones for critical power systems	Engineering Science and Technology	Volume:40 Issue No: Page No: Year:2023 Month:Apr
S. Nandi, S. R. Ghatak, P. Acharjee	Non-Iterative, Unique, and Logical Formula-Based Technique to Determine Maximum Load Multiplier and Practical Load Multiplier for Both Transmission and Distribution Systems	Energies	Volume:16 Issue No:12 Page No: Year:2023 Month:Jun
Prasenjit Dey, Phumin Kirawanich, Chaiyut Sumpavakup, Aniruddha Bhattacharya	Tuning of controller parameters for suppressing low frequency oscillations in electric railway traction networks using meta-heuristic algorithms	IET Electrical Systems in Transportation	Volume: https://doi.org/10.1049/els2.12075 Issue No: Page No:1-16 Year:2023 Month:Apr
P. Das, S. Chatterjee and C. Koley	Recurrence Plot Aided Partial Discharge Detection Framework Employing HFCT Sensor and Customized Convolutional Neural Network	IEEE Transactions on Dielectrics and Electrical Insulation	Volume:1 Issue No:1 Page No:1 Year:2024 Month:Mar
S. Mitra and C. Koley	Multisensor-Based Bearing Fault Diagnosis Using Bag-of-Correlated-Time-Frequency Features Under Harsh Industrial Background,	IEEE Sensors Letters	Volume:8 Issue No:1 Page No:1-8 Year:2024 Month:Mar
Sourav Dhara, Chiranjib Koley, Sivaji Chakravorti	UHF Sensors Based Localization of Partial Discharge Sources in Air-Insulated Electrical Substation Using TDOA and Relative RSS Information	IEEE Transactions on Instrumentation and Measurement	Volume:72 Issue No:1 Page No:1-9 Year:2023 Month:Dec
IEEE Sensors Journal	Early and Intelligent Bearing Fault Detection Using Adaptive Superlets	IEEE Sensors Journal	Volume:23 Issue No:7 Page No:7992-8000 Year:2023 Month:Apr

Author(s) Name	Paper Name	Journal Name	Others Info
S. Mitra and C. Koley	Real-time robust bearing fault detection using scattergram-driven hybrid CNN-SVM	Electrical Engineering	Volume:106 Issue No:1 Page No:3615-3625 Year:2023 Month:Dec
S. S. Roy, A. Paramane, J. Singh, A. K. Das, S. Chatterjee and X. Chen	Automated Space Charge Classification Inside ± 500 -kV HVDC Cable Insulation Using Fusion of Superpixel and Deep Features for Remote Condition Assessment	IEEE Transactions on Instrumentation and Measurement	Volume:72 Issue No: Page No:1-8 Year:2023 Month:Apr
M Mukherjee, and B K Saha Roy,	Optimal μ PMU Placement in Radial Distribution Networks Using Novel Zero Injection Bus Modelling	SN Computer Science	Volume:4 Issue No:575 Page No: Year:2023 Month:Jul
R. Das, A.K. Das, S. Chatterjee, S. Biswas, A.K. Pradhan, S. Dalai, B. Chatterjee and K. Bhattacharya	A Novel Deep Learning Framework to Identify and Locate Single and Multiple Partial Discharge Events	IEEE Transactions on Dielectrics and Electrical Insulation	Volume:30 Issue No:6 Page No:2633-2641 Year:2023 Month:Dec
S. Das, A. Paramane, U. Mohan Rao, S. Chatterjee and K. Sathish Kumar	Corrosive Dibenzyl Disulfide Concentration Prediction in Transformer Oil Using Deep Neural Network	IEEE Transactions on Dielectrics and Electrical Insulation	Volume:30 Issue No:4 Page No:1608-1615 Year:2023 Month:Aug
S. S. Roy, A. Paramane, J. Singh, S. Chatterjee, Z. Hong and X. Chen	Characterization and Identification of Electrical Tree Growth Stages Inside High-Voltage Cable Insulation	IEEE Transactions on Instrumentation and Measurement	Volume:72 Issue No: Page No:1-9 Year:2023 Month:Jul
S. Kundu, M. Alam , B. K. Saha Roy, S. S. Thakur	An Improved FDIA Approach for PMU-Assisted Linear Power System State Estimation	Scientia Iranica	Volume: Issue No: Page No: Year:2023 Month:May
N. Modal, S. Chatterjee, N. Haque, S. Dalai, B. Chatterjee and S. Chakravorti	Sensing the Thermal Ageing of Rotating Machine Insulation Using a Unique Parameter Extracted from Dielectric Spectroscopy Measurement	IEEE Sensors Journal	Volume:23 Issue No:20 Page No:24637-24644 Year:2023 Month:Sep
R. Das, A.K. Das, B. Chakraborty, S. Chatterjee, S. Dalai, B. Chatterjee and K. Bhattacharya	Mathematical Morphology Aided Bi-directional Long Short-term Memory Network Based Partial Discharge Pulse Sequence Classification	IEEE Transactions on Plasma Science	Volume:51 Issue No:12 Page No:3454-3461 Year:2023 Month:Nov
A. Chakraborty, S. Chatterjee and R. Mandal	Power Quality Recognition in Noisy Environment Employing Deep Feature Extraction from Cross Stockwell Spectrum Time-Frequency Image	Electrical Engineering, Springer	Volume:106 Issue No: Page No:443-458 Year:2023 Month:Aug
SOURAV GHOSH, TAPAS KUMAR SAHA	PROGRESSIVE STEP MAXIMUM POWER TRACKER FOR CASCADED INVERTER INDUCTION MOTOR DRIVE	REVUE ROUMAINE DES SCIENCES TECHNIQUES—SÉRIE ÉLECTROTECHNIQUE ET ÉNERGÉTIQUE	Volume:69 Issue No:1 Page No:3-8 Year:2024 Month:Feb
Rupa Mishra, Tapas Kumar Saha	Predictive Power Control of PMSG based WECS: Development and Implementation for Smooth Grid Synchronisation, Balanced and Unbalanced Grid	Mathematics and Computers in Simulation	Volume:215 Issue No: Page No:323-337 Year:2024 Month:Jan

Author(s) Name	Paper Name	Journal Name	Others Info
Dibyendu Sen, Ruman Kalyan Mahapatra, Tapas Kumar Saha, Jayati Dey	Bifurcation of Double-Input DC-DC Buck Buck-Boost Fused Converter	Journal of Control, Automation and Electrical Systems	Volume:34 Issue No:3 Page No:578-587 Year:2023 Month:Jun
Ved Prakash Dubey, Joydeb Saha, Shovan Bhaumik, Aritro Dey	Tracking an Underwater Target in a Large Surveillance Region with Sensor Location Uncertainty	IEEE Access	Volume:11 Issue No: Page No:140007 - 140021 Year:2023 Month:Dec
Sayantana Chatterjee; Arindam Chowdhury; Aritro Dey; S. S. Thakur	Adaptive Divided Difference Filter for Power Systems Dynamic State Estimation With Outliers and Unknown Noise Covariance	IEEE Transactions on Industry Applications	Volume: Issue No: Page No: Year:2023 Month:
R. T. Arun Ram Prasath, S. N. Mahato, N. K. Roy, T. Paramanandam, M. A. Ansari, and J. C. Biswas	Natural Ester Oil-Based High Permittivity CaCu ₃ Ti ₄ O ₁₂ (CCTO) Nanofluids an Eco-Friendly Insulating Medium for Power Transformer	IEEE Transactions on Dielectrics and Electrical Insulation	Volume:30 Issue No:5 Page No: Year:2023 Month:
Tushar Kanti Bera, Ankur Yadav	A Novel, Honeycomb-Magnetic Coupler for WPT in EVs: 3D-Computational Modeling and Validation	Springer	Volume:49 Issue No: Page No:17001-17021 Year:2024 Month:Aug
Tushar Kanti Bera, Ankur Yadav	Ferrite shielding thickness and its effect on electromagnetic parameters in wireless power transfer for electric vehicles (EVs)	Springer	Volume:70 Issue No:132 Page No: Year:2023 Month:Nov
Subashis Karmakar a, Supreeti Kamilya a, Prasenjit Dey c, Parag K. Guhathakurta a, Mamata Dalui a, Tushar Kanti Bera b, Suman Halder b, Chiranjib Koley b, Tandra Pal a, Anupam Basu	Real time detection of cognitive load using fNIRS: A deep learning approach	Biomedical Signal Processing and Control	Volume:80 Issue No:1 Page No:104227 Year:2023 Month:Feb
Surajit Sannigrahi, Sriparna Roy Ghatak, Parimal Acharjee	Coordinated framework for active distribution system planning integrating active system management schemes	International Journal of Numerical Modelling: Electronic Networks, Devices and Fields	Volume:36 Issue No:6 Page No: Year:2023 Month:Apr
Sayak Mondal, Parimal Acharjee & Aniruddha Bhattacharya	Determination of maximum additional load for EV charging station considering practical security limits	Journal of Engineering and Applied Science, Springer	Volume:70 (42) Issue No:1 Page No:1-17 Year:2023 Month:May
Sourav Das, Parimal Acharjee, Aniruddha Bhattacharya	Frequency Regulation-Based Optimal Charging Scheduling of EV Clusters Based on Strategical Bidding in Power Market	SN Computer Science	Volume:4 Issue No: Page No: Year:2023 Month:Aug
Bikash Kumar Saw, Aashish Kumar Bohre	Techno-Economic and Environmental Benefit Analysis of PV and D-FACTS Enriched Modern Electric Distribution Grid with Practical Loads	International Journal of Computing and Digital Systems (IJCDs)	Volume:15 Issue No:1 Page No:91-97 Year:2024 Month:Feb
Kumar, Kunal, Prince Kumar, and Aashish Kumar Bohre	Performance Analysis of IC MPPT Algorithm for Applications of Solar PV in DC Microgrid	Springer, SN Computer Science	Volume:4 Issue No:5 Page No:579 Year:2023 Month:Jul

Author(s) Name	Paper Name	Journal Name	Others Info
Niti Rani, Aashish Kumar Bohre & Aniruddha Bhattacharya	VO2-based multi-functional ultra-wideband terahertz meta-absorber for EMI shielding application	Taylor and Francis, Smart Science	Volume:12 Issue No:(3) Page No:484-494 Year:2024 Month:
Tushar Kanti Bera, Shukla Karmakar and Ashish Kumar Bohre	Novel PI Controller and ANN Controllers-Based Passive Cell Balancing for Battery Management System	IEEE	Volume:59 Issue No:6 Page No:7623 - 7634 Year:2023 Month:Jul
Sourav Das, Parimal Acharjee & Aniruddha Bhattacharya	Frequency Regulation-Based Optimal Charging Scheduling of EV Clusters Based on Strategical Bidding in Power Market	SN Computer Science , Springer	Volume:4 (591) Issue No: Page No: Year:2023 Month:Aug
Sannistha Banerjee, Partha Sarathee Bhowmik	Multiclass transient event classification in hybrid distribution network based on co-training of fine KNN and ensemble KNN classifier	Smart Science, Taylor & Francis	Volume:14 Issue No:1 Page No:744-758 Year:2023 Month:Jul
Sannistha Banerjee, Partha Sarathee Bhowmik	A machine learning approach based on decision tree algorithm for classification of transient events in microgrid	Electrical Engineering, Springer	Volume:105 Issue No:4 Page No:2083-2093 Year:2023 Month:Mar
Jasper D, Sujit Khandai and Nirmal Kumar Roy	IoT-Enabled Smart Condition Monitoring Tool for Oil-filled Transformers	International Journal of Intelligent Systems and Applications in Engineering,	Volume:Vol:12 Issue No:No:16 Page No:276-280 Year:2024 Month:
Das, A.K. , Kumar, P., Halder, S., Metia, S.	A Statistical Approach for Investigation and Comparison of Fatigue and Drowsiness based on Complexity Parameters of EOGs	International Journal of Image, Graphics and Signal Processing	Volume:15 Issue No:5 Page No:39-59 Year:2023 Month:May
Mahic Shah, Anushka Khanna, Vinay Kumar Jadoun, Soham Dutta, Neeraj Kanwar, Aashish Kumar Bohre	Assessment of Grid-Connected Microgrid Configurations including Demand Side Management for Sustainable and Economic Operation.	Power System Technology	Volume:48 Issue No:(1) Page No:1153-1187 Year:2024 Month:
Sayak Mondal, Parimal Acharjee, Aniruddha Bhattacharya	Determination of maximum additional load for EV charging station considering practical security limits	Journal of Engineering and Applied Science	Volume:70 Issue No:42 Page No: Year:2023 Month:May
Jha, Bhawan Kumar, and Aashish Kumar Bohre	Motor Rating and Battery Pack Calculation for an EV-SUV	Springer, SN Computer Science	Volume:5 Issue No:1 Page No:194 Year:2024 Month:Jan
J. Kundu Paul, S. Moitra and Partha Sarathee Sarathee Bhowmik	Control of Insertion Loss in Substrate-Integrated Waveguide Band-Pass Filter Using New Tapered Waveguide Iris Technique	Electrica	Volume: Issue No: Page No:256-264 Year:2024 Month:Jan

4.7.15 Journal: Accepted for Publication in 2023–2024 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
R. Mondal, J. Dey	Fractional order internal model control of non-minimum phase and time-delayed plants	Asian Journal of Control	Volume:25 Issue No:4 Page No:3208–3229 Year:2023 Month:
A. Bharathsimha Reddy, S.N. Mahato and Nilanjan Tewari	Dual switch ultra-high gain DC–DC converter with low voltage stress	International Journal of Electronics and Communications	Volume: Issue No: Page No: Year:2023 Month:
A. Bharathsimha Reddy, S.N. Mahato and Nilanjan Tewari	High Voltage Lift DC–DC Converter with Reduced Switch Stress	IEEE Journal of Emerging and Selected Topics in Power Electronics	Volume: Issue No: Page No: Year:2024 Month:
Tushar Kanti Bera, Ankur Yadav	A Light Weight Magnetic Coupler Structure for Interoperability and Robust Misalignment with Primary–Side Impedance Tuning for Wireless Power Transfer Systems to Electric Vehicles	COMPEL	Volume: Issue No: Page No: Year:2024 Month:
Tushar Kanti Bera, Ankur Yadav	A Critical Review of Electromagnetic Coil Assembly Design and Optimization for Wireless Power Transfer in Electric Vehicles: Technical Insights	NA	Volume: Issue No: Page No: Year:2024 Month:
S Dey S Banerjee & J Dey	Frequency–Domain Tuning of a Robust Optimal 2–DOF Fractional Order PID Controller for a Maglev System	IEEE Transactions on Industrial Informatics	Volume: Issue No: Page No: Year:2024 Month:
Aniket Karan Chaudhary, Satyabrata Roy, Dipayan Guha, Richa Negi, Subrata Banerjee	Adaptive Cyber-tolerant Finite-time Frequency Control Framework for Renewable-integrated Power System under Deception and Periodic Denial-of-Service Attacks	Energy	Volume: Issue No: Page No: Year:2024 Month:
Subhapiyo Joarder, Arnab Ghosh, Subrata Banerjee, Chiranjit Sain, Furkan Ahmad	Harmonic modelling and control of dual active bridge converter for DC microgrid applications	Energy Reports	Volume: Issue No: Page No: Year:2024 Month:
Sumit Kumar, Hanumath Prasad Ikkurti, Santu Kumar Giri, and Subrata Banerjee	A modified perturb and observe MPPT algorithm with zero steady state oscillation for single-phase grid-connected transformerless solar inverter	International Journal of Electronics	Volume: Issue No: Page No: Year:2024 Month:
H Tiwari, A Ghosh, S Banerjee, D Mazumdar, C Sain	Design of a Triple Port Integrated Topology for Gridintegrated EV Charging stations for Three-way Power Flow	Frontiers in Energy Research	Volume: Issue No: Page No: Year:2024 Month:
P. Das, S. Chatterjee and C. Koley	Recurrence Plot Aided Partial Discharge Detection Framework Employing HFCT Sensor and Customized Convolutional Neural Network	IEEE Transactions on Dielectrics and Electrical Insulation	Volume:In press Issue No:In press Page No:In press Year:2024 Month:Mar
I. Kundu, Swagata, Dimitrios Toumpanakis, Johan Wikstrom, Robin Strand, and Ashis Kumar Dhara	Atten–SEVNETR for volumetric segmentation of glioblastoma and interactive refinement to limit over-segmentation	IET Image Processing	Volume: Issue No: Page No: Year:2024 Month:
Sumit Kumar Pandey, Jayati Dey and Subrata Banerjee	Modified Discrete Internal Model Control (D-IMC) for Cart Inverted Pendulum System	Int. J. of Automation and Control	Volume: Issue No: Page No: Year:2024 Month:

4.7.16 Journal: Published in Others in 2023–2024

Author(s) Name	Paper Name	Journal Name	Others Info
Sujit Khandai, D Jasper and N K Roy	Experimental Studies of Insulating oils for power transformer application	International Journal of Emerging Electric Power Systems	Volume: Issue No:10.515 Page No:0150 Year:2024 Month:Oct
Ankur Yadav, Shukla Karmakar and Tushar Kanti Bera	A detailed computational modelling and analysis of the effect of geometric dimensions for electromagnetic coil assembly to transfer power wirelessly in electric vehicles	INDERSCIENCE	Volume:16 Issue No:3 Page No:261–276 Year:2024 Month:Jul
Sunil Kumar Choudhary and Tushar Kanti Bera	Modelling and simulation of electroencephalography instrumentation to study the epileptic seizure: a noise analysis approach	INDERSCIENCE	Volume:46 Issue No:1 Page No:63–80 Year:2024 Month:Aug
Ankur Yadav, Shukla Karmakar and Tushar Kanti Bera	A detailed computational modelling and analysis of the effect of geometric dimensions for electromagnetic coil assembly to transfer power wirelessly in electric vehicles	INDERSCIENCE	Volume:16 Issue No:3 Page No:261–276 Year:2024 Month:Jul

4.7.17 Journal: Accepted in Others in 2023–2024

Author(s) Name	Paper Name	Journal Name	Others Info
Tushar Kanti Bera, Ankur Yadav	Analyzing the Impact of Magnetic Coupler Materials for Wireless Power Transfer in Electric Vehicles	NA	Volume: Issue No: Page No: Year:2024 Month:
Tushar Kanti Bera, Sunil Choudhary	A Systematic Review of Deep Learning Algorithms Utilizing Electroencephalography Signals for Epileptic Seizure Detection	NA	Volume: Issue No: Page No: Year:2024 Month:

4.7.18 Conference: Published in 2023–2024 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Manoj Saha, Sidhartha Sankar Thakur, Aniruddha Bhattacharya	Optimal EV Charging and Battery Swapping Station Allocation with Traffic-Aware Energy Loss Minimization Using Butterfly Optimization Algorithm	2023 IEEE 3 rd International Conference on Sustainable Energy and Future Electric Transportation (SEFET)	DOI/ISBN: 10.1109/SeFeT57834.2023.10245972 Volume: Issue No: Page No:1–6 Year:2023 Month:Aug Presenter:CO-AUTHOR
Manoj Saha, Sidhartha Sankar Thakur, Aniruddha Bhattacharya	Optimal scheduling of electric vehicles: Leveraging grid-to-vehicle (G2V) and vehicle-to-grid (V2G) prices: A game-theoretic approach	2023 IEEE 3 rd International Conference on Sustainable Energy and Future Electric Transportation (SEFET)	DOI/ISBN: 10.1109/SeFeT57834.2023.10245871 Volume: Issue No: Page No:1–6 Year:2023 Month:Aug Presenter:CO-AUTHOR
Rupali Brahmachary, Aniruddha Bhattacharya, Irfan Ahmed	Performance Analysis of Distribution Network Using Optimal Filter Allocation Algorithm	2023 IEEE 3 rd International Conference on Sustainable Energy and Future Electric Transportation (SEFET)	DOI/ISBN: 10.1109/SeFeT57834.2023.10245956 Volume: Issue No: Page No:1–7 Year:2023 Month:Aug Presenter:CO-AUTHOR

Author(s) Name	Paper Name	Conference Name	Others Info
Sayak Mondal, Parimal Acharjee, Aniruddha Bhattacharya	Determination of voltage security constrained maximum loadability limit for EV charging station with and without DG	2023 IEEE 3 rd International Conference on Sustainable Energy and Future Electric Transportation (SEFET)	DOI/ISBN: 10.1109/SeFeT57834.2023.10244921 Volume: Issue No: Page No:1-6 Year:2023 Month:Aug Presenter:CO-AUTHOR
J. K. Paul; S. Moitra; K. Hajra; S. Kumar; N. Kumari; S. Satsang; P. S. Bhowmik	Control of Insertion Loss in Substrate- Integrated Waveguide Band-Pass Filter Using New Tapered Waveguide Iris Technique	14 th International Conference on Computing Communication and Networking Technologies (ICCCNT- 2023)	DOI/ISBN: 10.1109/ICCCNT56998.2023.10307835 Volume: Issue No: Page No: Year:2023 Month:Jul Presenter:
Lal, A. Kumar, P., Halder, S.	Heartbeat Classification Based on Deep Convolutional Neural Network	Proceedings of the 1 st IEEE International Conference on Networking and Communications	DOI/ISBN: 10.1109/ICNWC57852.2023.10127341 Volume: Issue No: Page No: Year:2023 Month:Apr Presenter:CO-AUTHOR
Mou Das Mahapatra; Shibendu Mahata; Biman Kumar Saha Roy	Enhanced Fitness Adaptive Differential Evolution Approach for Tuning of PID Controller in AVR System	2024 IEEE 3 rd International Conference on Control, Instrumentation, Energy & Communication (CIEC)	DOI/ISBN: 10.1109/CIEC59440.2024.10468254 Volume: Issue No: Page No: Year:2024 Month:Jan Presenter:CO-AUTHOR
Aritro Dey	Adaptive Cubature Quadrature Kalman Filter in Square Root Framework for Nonlinear State Estimation with Unknown Measurement Noise Covariance Matrix	1 st International Conference on Circuits, Power and Intelligent Systems (CCPIS)	DOI/ISBN: 10.1109/CCPIS59145.2023.10291733 Volume: Issue No: Page No: Year:2023 Month:Sep Presenter:SELF
Pravir Yadav; Aritro Dey; Aparajita Sengupta	Power system Harmonics estimation using Q adaptive Gaussian sum cubature Kalman filter	IEEE 20 th India Council International Conference (INDICON)	DOI/ISBN: 10.1109/INDICON59947.2023.10440743 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
Biswapratim Roy; Aritro Dey; Jayati Dey	Discrete Sliding Mode Control Law for Attitude & Altitude Control of Quadrotors with a Sliding Surface of PID Structure	IEEE International Conference on Power Electronics, Smart Grid, and Renewable Energy	DOI/ISBN: 10.1109/PESGRE58662.2023.10404859 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
Sambaran Ray; Himadri Sekhar Chatterjee; Sankar Narayan Mahato; Nirmal Kumar Roy	Behavioral Study of Three-Phase Stand-Alone Asynchronous Generator for Single-Phase Power Supply	3 rd IEEE International Conference on Energy, Power and Electrical Engineering (EPEE)	DOI/ISBN: 10.1109/EPEE59859.2023 Volume: Issue No: Page No: Year:2023 Month:Sep Presenter:CO-AUTHOR
H. Patel, B. K. Saw, A.K. Bohre, O. Yadav and T. K. Bera	Harmonics and Reliability Analysis of Distribution Network in Presence of Multi-DG using PSO and DigSILENT	IEEE 3 rd International Conference on Smart Technologies for Power, Energy and Control (STPEC)	DOI/ISBN: doi: 10.1109/STPEC59253.2023.10431093 Volume: Issue No: Page No:pp. 1-6 Year:2023 Month: Presenter:CO- AUTHOR
H. Patel, A. Kumar, A.K. Bohre and O. Yadav	Reliability Based Performance Analysis of Distribution Network with Dispersed Generation Using Optimization	2023 3 rd International Conference on Energy, Power and Electrical Engineering (EPEE)	DOI/ISBN: doi: 10.1109/EPEE59859.2023.10351830 Volume: Issue No: Page No:pp. 982-988 Year:2023 Month: Presenter:CO- AUTHOR

Author(s) Name	Paper Name	Conference Name	Others Info
H. Patel, B. K. Saw, A. K. Bohre and O. Yadav	Analyze the Impact of Distributed Generation Units on Distribution System Performances	2023 IEEE International Conference on Power Electronics, Smart Grid, and Renewable Energy (PESGRE)	DOI/ISBN: doi: 10.1109/PESGRE58662.2023.10404345 Volume: Issue No: Page No:pp. 1-6 Year:2023 Month: Presenter:CO- AUTHOR
Ankur Yadav; Tushar Kanti Bera	Design and Performance Analysis of Single Sided Magnetic Coupler for Leakage Magnetic Field Reduction in a Wireless Power Transfer System with Ferrite and Alnico material Publisher: IEEE Cite This PDF	2024 6 th International Conference on Energy, Power and Environment (ICEPE)	DOI/ISBN: 10.1109/ICEPE63236.2024.10668954 Volume: Issue No: Page No: Year:2024 Month:Sep Presenter:SELF
Shukla Karmakar; Aashish Kumar Bohre; Tushar Kanti Bera	Novel PID Controller-Based Passive Cell Balancing for BMS	2023 IEEE 3 rd International Conference on Smart Technologies for Power, Energy and Control (STPEC)	DOI/ISBN: 10.1109/STPEC59253.2023.10430531 Volume: Issue No: Page No: Year:2024 Month:Feb Presenter:SELF
Shukla Karmakar; Tushar Kanti Bera; Aashish Kumar Bohre	Review on Cell Balancing Technologies of Battery Management Systems in Electric Vehicles	2023 IEEE IAS Global Conference on Renewable Energy and Hydrogen Technologies (GlobConHT)	DOI/ISBN: 10.1109/GlobConHT56829.2023.10087455 Volume: Issue No: Page No: Year:2023 Month:Mar Presenter:CO-AUTHOR
Ankur Yadav; Tushar Kanti Bera	Design and Analysis of Circular Coil Geometries for Wireless Power Transfer in Electric Vehicles The Effect of Multiple Coils at Primary and Secondary Sides	2023 International Conference on Power Electronics and Energy (ICPEE)	DOI/ISBN: 10.1109/ICPEE54198.2023.10060651 Volume: Issue No: Page No: Year:2023 Month:Jan Presenter:SELF
D. Guha, P.K. Roy, and S. Banerjee	Fractional-Order Cyber-tolerant Frequency Controller for Renewables- integrated Power System	IEEE 3 rd Int. Conf. on Smart Technologies for Power, Energy and Control (STPEC)	DOI/ISBN: 10.1109/STPEC59253.2023.10430913 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
S. Dey, S. Banerjee and J Dey	Optimum Tuning of 1&2-dof TID-F Controllers for a MAGLEV System with Experimental Validation	IEEE Third International Conference on Power, Control and Computing Technologies (IEEE IAS ICPC2T 2024)	DOI/ISBN: 10.1109/ICPC2T60072.2024.10474824 Volume: Issue No: Page No: Year:2024 Month:Jan Presenter:CO-AUTHOR
Shukla Karmakar; Ankur Yadav; Aashish Kumar Bohre; Tushar Kanti Bera	Review of Present Status and Recent Development in Active Cell Balancing Technique	2024 Third International Conference on Power, Control and Computing Technologies (ICPC2T), 18-20 January 2024, Raipur, India	DOI/ISBN: DOI Volume: Issue No: Page No:5 Year:2024 Month:Jan Presenter:CO- AUTHOR
Abhinav Kumar; Sanjay Kumar; Umesh Kumar Sinha; Aashish Kumar Bohre	Renewable DG Integration in the Unbalanced Distribution System with Impact of EV Penetration for Sustainable Operation	2023 IEEE 3 rd International Conference on Smart Technologies for Power, Energy and Control (STPEC), 10-13 December 2023, KIIT Bhubaneswar, India	DOI/ISBN: DOI Volume: Issue No: Page No:6 Year:2023 Month:Dec Presenter:CO- AUTHOR

Author(s) Name	Paper Name	Conference Name	Others Info
Vsk Sindhura; Aashish Kumar Bohre; Prince Kumar	Intelligent TCSC Allocation for Generator Rescheduling, Reactive Power Compensation and System Performance Improvement using CSOA	2023 IEEE 3 rd International Conference on Smart Technologies for Power, Energy and Control (STPEC), 10-13 December 2023, KIIT Bhubaneswar, India	DOI/ISBN: DOI Volume: Issue No: Page No:6 Year:2023 Month:Dec Presenter:CO- AUTHOR
Hemant Patel; Bikash Kumar Saw; Aashish Kumar Bohre; Omkar Yadav; Tushar Kanti Bera	Harmonics and Reliability Analysis of Distribution Network in Presence of Multi-DG using PSO and DigSILENT	2023 IEEE 3 rd International Conference on Smart Technologies for Power, Energy and Control (STPEC), 10-13 December 2023, KIIT Bhubaneswar, India	DOI/ISBN: DOI Volume: Issue No: Page No:5 Year:2023 Month:Dec Presenter:CO- AUTHOR
Bikash Kumar Saw; Aashish Kumar Bohre	Multi DG Planning with Impact of Mixed-Load Models using Intelligent Methodologies: BF-PSO, PSO and GA	2023 IEEE 3 rd International Conference on Smart Technologies for Power, Energy and Control (STPEC), 10-13 December 2023, KIIT Bhubaneswar, India	DOI/ISBN: DOI Volume: Issue No: Page No:6 Year:2024 Month:Feb Presenter:CO- AUTHOR
Bikash Kumar Saw; Aashish Kumar Bohre	Distribution System Enhancement via Renewable-DG based D-STATCOM Allocation in the Presence of EV Charging Stations	2023 IEEE 3 rd International Conference on Smart Technologies for Power, Energy and Control (STPEC), 10-13 December 2023, KIIT Bhubaneswar, India	DOI/ISBN: DOI Volume: Issue No: Page No:6 Year:2023 Month:Dec Presenter:CO- AUTHOR
Sudip Chowdhury; Aashish Kumar Bohre	PV Wind-Based Hybrid Renewable Energy System with Battery Storage and Fuel Cell: An Economic Assessment	2023 IEEE 3 rd International Conference on Smart Technologies for Power, Energy and Control (STPEC), 10-13 December 2023, KIIT Bhubaneswar, India	DOI/ISBN: DOI Volume: Issue No: Page No:5 Year:2024 Month:Feb Presenter:CO- AUTHOR
Prince Kumar; Kunal Kumar; Aashish Kumar Bohre; Nabanita Adhikary	Intelligent Controlling of Multi Area System Including Wind Power in Random Load Pattern using Firefly Optimization Technique	2023 IEEE 3 rd International Conference on Smart Technologies for Power, Energy and Control (STPEC), 10-13 December 2023, KIIT Bhubaneswar, India	DOI/ISBN: DOI Volume: Issue No: Page No:6 Year:2024 Month:Feb Presenter:CO- AUTHOR
Shukla Karmakar; Aashish Kumar Bohre; Tushar Kanti Bera	Novel PID Controller-Based Passive Cell Balancing for BMS	2023 IEEE 3 rd International Conference on Smart Technologies for Power, Energy and Control (STPEC), 10-13 December 2023, KIIT Bhubaneswar, India	DOI/ISBN: DOI Volume: Issue No: Page No:6 Year:2024 Month:Feb Presenter:CO- AUTHOR

Author(s) Name	Paper Name	Conference Name	Others Info
Hemant Patel; Bikash Kumar Saw; Aashish Kumar Bohre; Omkar Yadav	Analyze the Impact of Distributed Generation Units on Distribution System Performances	2023 IEEE International Conference on Power Electronics, Smart Grid, and Renewable Energy (PESGRE), Trivandrum, India, 17–20 December 2023, pp. 1–6, 2023	DOI/ISBN: DOI Volume: Issue No: Page No:6 Year:2024 Month:Jan Presenter:CO- AUTHOR
Bikash Kumar Saw; Aashish Kumar Bohre	Simultaneous Planning of Active and Reactive DGs with Mixed-Load Model using Innovative Techniques: A Comparative Analysis	2023 IEEE International Conference on Power Electronics, Smart Grid, and Renewable Energy (PESGRE), Trivandrum, India, 17–20 December 2023, pp. 1–6, 2023	DOI/ISBN: DOI Volume: Issue No: Page No:5 Year:2024 Month:Jan Presenter:CO- AUTHOR
Sudip Chowdhury, Aashish Kumar Bohre	Economic Assessment of PV Wind based HRES including Battery Storage and FC	2023 IEEE International Conference on Power Electronics, Smart Grid, and Renewable Energy (PESGRE), Trivandrum, India, 17–20 December 2023, pp. 1–6, 2023	DOI/ISBN: DOI Volume: Issue No: Page No:5 Year:2024 Month:Jan Presenter:CO- AUTHOR
Irfan Ahmed, Vijay B. Borghate	An all-digital generalized space vector control technique without any trigonometric calculations for higher- order multilevel inverters	12 th International Conference on Power Electronics, Machines and Drives (PEMD 2023), Brussels, Belgium, 2023	DOI/ISBN: 10.1049/icp.2023.1985 Volume: Issue No: Page No:105–112 Year:2023 Month:Oct Presenter:SELF
R. Brahmachary, A. Bhattacharya and I. Ahmed	Performance Analysis of Distribution Network Using Optimal Filter Allocation Algorithm	2023 IEEE 3 rd International Conference on Sustainable Energy and Future Electric Transportation (SEFET), Bhubaneswar, India, 2023	DOI/ISBN: 10.1109/SeFeT57834.2023.10245956 Volume: Issue No: Page No:1–7 Year:2023 Month:Aug Presenter:CO-AUTHOR
Anuj K. Pandey and Irfan Ahmed	Imaginary Coordinate System Based Space Vector Pulse Width Modulation of a Cascaded H-Bridge Multilevel Inverter	2023 11 th National Power Electronics Conference (NPEC), Guwahati, India, 2023	DOI/ISBN: 10.1109/NPEC57805.2023.10385005 Volume: Issue No: Page No:1–6 Year:2023 Month:Dec Presenter:CO-AUTHOR
S. Tripathy, S. Nandi, S. R. Ghatak, P. Acharjee, and P. Sinha,	TLBO Based Optimized Planning Framework of Distribution Network considering Electric Vehicle Charging Station and Solar Photovoltaic System	International Conference on Smart Technologies for Power, Energy and Control (STPEC)	DOI/ISBN: 10.1109/STPEC59253.2023.10431397 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
S. Mondal, P. Acharjee and A. Bhattacharya	Determination of Voltage Security Constrained Maximum Loadability Limit for EV Charging Station with and Without DG	IEEE 3 rd International Conference on Sustainable Energy and Future Electric Transportation (SEFET)	DOI/ISBN: 10.1109/SeFeT57834.2023.10244921 Volume: Issue No: Page No: Year:2023 Month:Aug Presenter:CO-AUTHOR

Author(s) Name	Paper Name	Conference Name	Others Info
Sannigrahi, Surajit; Ghatak, Sriparna Roy; Parimal Acharjee,	Optimum Sizing and Energy Management Strategy for Grid-Connected Rooftop PV and Battery Storage System with Demand Response	IEEE SeFeT 2023	DOI/ISBN: DOI: 10.1109/SEFET57834.2023.10245821 Volume: Issue No: Page No: Year:2023 Month:Aug Presenter:SELF
M. Saha and P.S. Bhowmik	Estimation of Glucose: A guideline for selection of Suitable tuning parameters	International Conference on Computational Intelligence and Smart Technologies in Electrical Engineering (CISTEE 2023)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:SELF
S. Maity and M Saha	Performance Analysis of Fractional Order Extended Kalman Filter for State of Charge Estimation of Supercapacitor	International Conference on Computational Intelligence and Smart Technologies in Electrical Engineering (CISTEE 2023)	DOI/ISBN: NA Volume: Issue No: Page No:Na Year:2023 Month:Dec Presenter:CO-AUTHOR

Conference: Accepted in 2023–2024 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Shukla Karmakar; Ankur Yadav; Aashish Kumar Bohre; Tushar Kanti Bera	Review of Present Status and Recent Development in Active Cell Balancing Technique	2024 Third International Conference on Power, Control and Computing Technologies (ICPC2T)	DOI/ISBN: 10.1109/ICPC2T60072.2024.10474600 Volume: Issue No: Page No: Year:2024 Month:Jan Presenter:CO- AUTHOR
Siddheswar Sen, Pratim Bhattacharyya, Santu Kumar Giri, Subrata Banerjee, and Hanumath Prasad Ikkurti	A Non-Isolated Multiport Converter with Wide Input Voltage Range to Enhance Ultracapacitor Utilization for Electrified Vehicles	11 th IEEE International Conference on Power Electronics, Drives and Energy Systems	DOI/ISBN: 0 Volume: Issue No: Page No: Year:2024 Month: Presenter:
Kundan Kumar, Wairopkam Dhanraj, Sanjeet K Dwivedi, Vima P Mali, and Subrata Banerjee	Modelling and Simulation Analysis of Innovative Offshore Wind Energy Plant	11 th IEEE International Conference on Power Electronics, Drives and Energy Systems	DOI/ISBN: 0 Volume: Issue No: Page No: Year:2024 Month: Presenter:
Kundan Kumar, Rajkumar Daniel, Vikram Kumar Saxena, Raja Ram Kumar, and Subrata Banerjee	Innovative Glove Design and Advanced PWM Techniques for Enhanced Robotic Hand Control	1 st IEEE International Conference on Green Industrial Electronics and Sustainable Technologies	DOI/ISBN: 0 Volume: Issue No: Page No: Year:2024 Month: Presenter:

4.7.19 Conference: Published in Others

Author(s) Name	Paper Name	Conference Name	Others Info
Kundu, Swagata, Dimitrios Toumpanakis, Johan Wikstrom, Robin Strand, and Ashis Kumar Dhara	CAAT-Class Attention Augmented Transformers for Quantification of Post-Operative Glioblastoma with Follow-Up	IEEE International Symposium on Biomedical Imaging (ISBI)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2024 Month:May Presenter:SELF

4.7.20 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Moloy Dey	Rajdip Dey	Lecture Notes in Electrical Engineering	Comparative study of PQ control and droop control for smart microgrid	Publisher: Springer Publication Date: 2023-12-16
Rajdip Dey		Lecture Notes in Electrical Engineering	Controller design for voltage mode control of DC/(DC+AC) converter for Multifrequency microgrid	Publisher: Springer Publication Date: 2023-12-17
Amardeep Kumar Singh	Rajdip Dey	Lecture Notes in Electrical Engineering	A smart energy storage system for autonomous AC Microgrid	Publisher: Springer Publication Date: 2023-12-17
Tushar Kanti Bera	I. Praveen Kumar Shukla	Computational Intelligence for Data Analysis: The Future of Farming: Advancing Agriculture with Artificial Intelligence		Publisher: Bentham Science Publishing, Sharjah (U.A.E) Publication Date: 2023-11-08
P. Kumar	S. Paul and O. yadav	Application of Smart Technologies in Power System and Smart Grid	Reliability Aspect of VSC-HVDC Connected Offshore Wind Plants: A Technical Perspective	Publisher: Springer Publication Date: 2025-02-22
S Maiti, S. Sonar, S. Banerjee		Renewable Resources and Energy Management	Design and Analysis of Z- Source Inverter Using Simple Boost Control Method	Publisher: CRC Press Publication Date: 2024-05-25
Saw, Bikash Kumar, Aashish Kumar Bohre, and Tushar Kanti Bera.	Aashish Kumar Bohre, and Tushar Kanti Bera	Recent Developments in Electrical and Electronics Engineering	"Intelligent Planning of Multiple DG with Practical Load Models Using Metaheuristic Methods",	Publisher: Springer, Singapore, Publication Date: 2023-04-29

4.7.21 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
CISTEE 2023	NIT Durgapur	2023-12-16	2023-12-17	India
A Two-Week Online International Workshop on EMERGING TRENDS IN ELECTRICAL ENGINEERING	Department of Electrical & Electronics Engineering Prasad V. Potluri Siddhartha Institute of Technology	2023-08-14	2023-08-26	India
Short Term Course On Control, Operation, and Management of Renewable Energy Integrated Power System (COMREPS-2023)	Department of Electrical Engineering, Kurukshetra National Institute of Technology	2023-06-23	2023-06-27	India
One Week Faculty Development Programme on Future of AI and ML in Cyber Security	Department of Computer Science and Engineering, NIT Patna	2023-09-04	2023-09-09	India
Short Term Course and Faculty Development Programme on "Sustainable Technologies & Energy Management of Hybrid Microgrid (STEMM-2023)	Department of Electrical Engineering, NIT Rourkela	2023-07-12	2023-07-16	India

Name of the Programme	Organized By	From Date	To Date	Organizing Country
Springer Conference on Computational Intelligence and Smart Technologies in Electrical Engineering	NIT Durgapur	2023-12-16	2023-12-17	India
one week short term course on "Emerging Control Methodologies and Resilience: Industry 4.0 (ECMR-2023)	Electrical Engineering Department, Motilal Nehru National Institute of Technology Allahabad, Prayagraj, India	2023-08-16	2023-08-20	India
International Conference on Computational Intelligence and Smart Technologies in Electrical Engineering (CISTEE 2023)	EE Department, NIT Durgapur	2023-12-16	2023-12-17	India

4.7.22 Ph.D. Supervision

Topic Name	Scholar	Supervisor	Status	Status Date
Charging Scheduling and Allocation of Suitable Charging Station for On-Road Electric Vehicles in Probabilistic Scenario Considering Renewable Power Source	Sourav Das	Parimal Acharjee and Aniruddha Bhattacharya	DEGREE AWARDED	2024-03-05
Study of metamaterial based polarization insensitive structures for broadband and multiband applications	Niti Rani	Aashish Kumar Bohre and Aniruddha Bhattacharya	ONGOING	-
Performance Analysis of Power System Distribution Network in presence of Electric Vehicle Loads	Rupali Brahmachary	Aniruddha Bhattacharya	ONGOING	-
Partial Discharge Monitoring for High Voltage Power Apparatus	Piklu Das	C Koley & S Chatterjee	ONGOING	-
Development of Partial Discharge Sensors	Krishanal Adhikari	N K Roy & C Koley	ONGOING	-
A Partial Discharge Monitoring System for Electrical Power System Utility Using Ultra- High Frequency Sensors	Sourav Dhara	C Koley	ONGOING	-
Intelligent System to Identify Faulty Rolling Bearings of Industrial Actuators Used in Critical Process Control Operations	Sukanya Mitra	C Koley	ONGOING	-
Time Delay Estimation Technique for Localization of Partial Discharge Sources Using Radiated UHF Signal	Anitha Bhukya	C Koley	DEGREE AWARDED	2024-03-31
NA	Brajesh Kumar Ravi	Sanatnu Paul, Rajdip Dey	ONGOING	-
NA	Krishnendu Maitra	Biman Kumar Saha Roy, Rajdip Dey	ONGOING	-
NA	Sudheshna Mukherjee	Rajdip Dey, Tapas Kumar Saha	ONGOING	-
Advanced Signal and Data Processing Techniques for Detection and Classification of Transient Events in Microgrid	Sannistha Banerjee	Partha Sarathee Bhowmik	DEGREE AWARDED	2024-03-31
Application of Soft Computing Techniques in Dye-sensitized Solar Cell	Biswajit Mandal	Partha Sarathee Bhowmik	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
DEVELOPMENT OF INTERNET OF THINGS (IoT) ENABLED TOOL FOR CONDITION MONITORING OF TRANSFORMERS AND HIGH VOLTAGE TEST FACILITIES	Sri D Jasper	Prof N K Roy	SUBMITTED	2024-11-05
STUDY OF PARTIAL DISCHARGE SENSORS FOR CONDITION MONITORING OF HIGH VOLTAGE POWER APPARATUS	Sri Krishanlal Adhikari	Prof N K Roy	ONGOING	-
MTPA-Based DTC Methodologies for Dynamic Performance of EV with IPMSM Drive	Anshu Choudhary	Partha Sarathee Bhowmik	ONGOING	-
Application of Artificial Intelligence for Energy Audit in Industry to Improve the Performance and Efficiency	Subir Bhattacharyya	Partha Sarathee Bhowmik	ONGOING	-
Design of full mode, half mode, corrugated substrate integrated waveguide and microstrip band passes filters in microwave bands	Jhuma Kundu Paul	Partha Sarathee Bhowmik, Sourav Moitra	ONGOING	-
Investigation of Cardiac Activities Based on Various Body Postures and Physical Conditions	Prashant Kumar	Dr. Suman Halder	DEGREE AWARDED	2024-03-31
Investigation on influence of autonomic nervous system on heart rate variability	Vivek Ranjan	Dr. Suman Halder	ONGOING	-
ASSESSMENT OF FATIGUE DERIVED FROM ELECTROOCULOGRAM SIGNAL UTILIZING ADVANCED MEASUREMENT TECHNIQUES	Ashis Kumar Das	Dr. Suman Halder	SUBMITTED	2024-03-31
Optimal PMU Placement and Power Systems State Estimation Including False Data Injection Detection	Shubhrajyoti Kundu	S S Thakur and B K saha Roy	SUBMITTED	2024-03-31
Strategic Deployment of μ PMUs, Communication Links, and PDCs for Distribution Network Monitoring	Manas Mukherjee	B K Saha Roy	SUBMITTED	2024-07-18
PMU application in Distribution network	Koushik Mandal	B K Saha Roy	ONGOING	-
Manage-ment of FACTS devices for improved performa-nce of Power Systems	Krishnendu Maitra	B K Saha Roy and R Dey	ONGOING	-
Automatic Voltage Regulator	Mou Das Mahapatra	B K Saha Roy and S Mahata	ONGOING	-
Detection and Classification of Transient Disturbances in Power System using Advanced Signal processing and Machine Learning Techniques	Subhajit Mukherjee	Prof. Ratan Mandal and Dr. Soumya Chatterjee	ONGOING	2024-03-31
Control and Analysis of Multi-Input Converter for Hybrid Renewable Energy Generation Scheme	Dibyendu Sen	Prof. Tapas Kumar Saha, Dr. Jayati Dey	DEGREE AWARDED	2023-12-12
Renewable Energy Sources in DC Micro Grid Attached to Main Grid	REDDI GANESH	Tapas Kumar Saha	ONGOING	-
Operation, Protection, and Performance Analysis of Renewable Energy Sources in DC Microgrid	DEBASISH SUR	Prof. Tapas Kumar Saha, Dr. Dola Sinha	ONGOING	-
Development and Analysis of Multi Input Converter based Energy Management Scheme	Parinita Mondal	Prof. Tapas Kumar Saha, Dr. Jayati Dey	ONGOING	-
State estimation of dynamic systems using Adaptive Nonlinear filters	Mr. Poluri Sri Mannarayana	Dr. Aritro Dey	SUBMITTED	2024-05-29
Design and Development of Adaptive Sliding Mode Control Laws	Mr. Biswapratim Roy	Dr. Aritro Dey, Dr. Jayati Dey	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Condition Assessment of Blended Edible Oil Nanofluid Used for Power Transformer Application	Sri Sujit Khandai	Prof N K Roy	ONGOING	-
Identification of Islanding of Electrical System	Sri Mahesh Kumar Saw	Prof N K Roy	ONGOING	-
Study of SoC and SoH for Li Ion Battery Management System	Sri Abhisek KUMar	Prof N K Roy	ONGOING	-
Investigation on Grid Connected Transformerless Solar Inverter	Sumit Kumar	Subrata Banerjee & Santu Giri	ONGOING	-
Offshore Wind Energy: Operation & Reliability Issues	Pawan Kumar	Omkar Yadav, Santanu Paul	ONGOING	-
Load Frequency Control	Alpana Barman	Parimal Acharjee, Omkar Yadav	ONGOING	-
Optimal Planning of Distributed Generation in Distribution System	Hemant Patel	A. K. Bohre, Omkar Yadav	ONGOING	-
Designing and Development of An Efficient Wireless Power Transfer (WPT) System for Electric Vehicles (EVs)	Ankur Yadav	Tushar Kanti Bera	ONGOING	-
Design and Development of An EEG Acquisition and Analyzing System for Epileptic Seizure Detection	Sunil Chowdhary	Tushar Kanti Bera	ONGOING	-
Machine Learning Based Battery Management System for Electric Vehicle	Tushar Kanti Bera	Tushar Kanti Bera, Dr. Irfan ahmed	ONGOING	-
Offshore Wind Energy: Operation & Reliability Issues	Pawan Kumar	O. Yadav and S. Paul	ONGOING	-
Multi-carrier Energy Storage for Large Scale RE Integrated Power Systems	Brajesh Kr. Ravi	S. Paul and R. Dey	ONGOING	-
Collection System Design for Hybrid Offshore Wind Solar-PV Power Plants	Naval Kishore Prajapati	S. Paul	ONGOING	-
Modern Power System Operation and Control with Very Large-Scale RE Penetration	Kamalesh Sharma	P. Acharjee and S. Paul	ONGOING	-
Enhancement of ATC for Integrated Power System Incorporating UPSC And Renewable Energy Sources	Kingshuk Mazumder	Prof. Subrata Banerjee & Prof. Provas Kumar Roy	DEGREE AWARDED	2023-04-20
On Some Aspects of Controller Design for Electromagnetic Levitation System	Soham Dey	Prof Subrata Banerjee & Dr. JAYATI DEY	DEGREE AWARDED	2024-05-29
Some Studies on Low Frequency Based Modulation Schemes and Their Applications to Cascaded H-Bridge Multilevel Inverter	Samudra Panda	Subrata Banerjee	ONGOING	-
Hybridization of multiple energy sources for E-Vehicle applications	Hanumath Prasad Ikkurti	Santu Giri & Subrata Banerjee	ONGOING	-
Multiport DC-DC converters for EV applications	Siddheswar Sen	Santu Giri & Subrata Banerjee	ONGOING	-
Optimal Planning of Distributed Generation and Distributed Network	Mr. Bikash Kumar Shaw	Dr. Aashish Kumar Bohre	SUBMITTED	2024-07-15
Battery Management System for Electric Vehicle Applications using an Embedded Source Modular Multilevel Converter	Rana Das	Irfan Ahmed	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Simplification of Space Vector Modulation Techniques for Multilevel Inverters	Anuj Kumar Pandey	Irfan Ahmed	ONGOING	-
Application of Model Predictive Control for Multilevel Converters	Imran Ahmad	Irfan Ahmed	ONGOING	-
Control and Analysis of Multi-Input Converter for Hybrid Renewable Energy Generation Scheme	DIBYENDU SEN	PROF. T. K. SAHA and Dr. JAYATI DEY	DEGREE AWARDED	2023-12-12
Performance Analysis of Power Distribution Network with EV and DG Considering the Effect of Cyber-Attack	Sayak Mondal	P. Acharjee, A. Bhattacharya	ONGOING	-
Charging Scheduling and Allocation of Suitable Charging Station for On-Road Electric Vehicles in Probabilistic Scenario Considering Renewable Power Source	Sourav Das	P. Acharjee, A. Bhattacharya	DEGREE AWARDED	2024-03-07
Yet to be decided	Subrata Pandey	M Saha and P.S. Bhowmik	ONGOING	-

4.7.23 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount (in Rs.)	Starting Year
Development of Online Partial Discharge Monitoring Solutions for High Voltage Electrical Apparatus	N.K.Roy, C. Koley, P.S. Bhowmik, A. Bhattacharya	NHPC Limited	21998000	2022
Ultra-High Frequency Multisensor based Partial Discharge Detection System for Electrical Substations	C Koley & N K Roy	Department of Science and Technology (TDP)	4136000.0	2023
Development of Partial Discharge Monitoring Solutions for High Voltage Electrical Apparatus	CHIRANJIB KOLEY, Dr. P S Bhowmik, Dr. A Bhattacharya, Prof. N K Roy	NHPC Ltd.	21998000	2022
Multilayer Fractal Ultra High-Frequency Sensor for Partial Discharge Monitoring of High Voltage Power Transformers	CHIRANJIB KOLEY, Prof. Sivaji Chakravorti	SERB DST	4566000.0	2022
Ultra-High Frequency Multisensor based Partial Discharge Detection System for Electrical Substations	Prof N K Roy, Prof C Koley and et al	DST, Govt of India	4136000.0	2023
Online condition monitoring solution for transformer bushings and online partial discharge monitoring of generators.	Prof N K Roy, Prof C Koley and et al	National Hydro Power Corporation (NHPC) Ltd, Gurugram India	35326000	2024
Unmanned Aircraft Systems, Drone & Related Technologies	Dr. Nilanjan Chattaraj (PI), Dr. Jayati Dey (Co-PI), Dr. Aritro Dey (Co-PI), Dr. Deepak Kumar (Co-PI).	MeitY	1500000.0	2022

Title of the Project	Investigator	Sponsor Authority	Amount (in Rs.)	Starting Year
Textile research initiative under the nttm, mot, gov, india	Mrinal Kanti Mandal, Supriya Pal, Tushar Kanti Bera, Rajib GhoshChaudhury, Hirok Chaudhury	MoT, Gov, India	847.2	2023
Artificial Intelligence for affordable Screening and prediction of Diabetic Retinopathy in the framework of in Big Data Consortium Project with Work Phase I + Work Phase II (Work Phase I: Screening of Diabetic Retinopathy with Affordable AI in Big Data; Work Phase II: Artificial Intelligence integrating Big Data in developing an affordable diagnostic prediction model for Diabetic Retinopathy in India)	Tushar Kanti Bera, Ashis Kumar Dhara, Sushmita Mitra, and others	DBT	272.23	2024
Development of Partial Discharge Monitoring Solutions for High Voltage Electrical Apparatus	Prof. N. K. Roy, Prof. C Koley, Dr. P. S. Bhowmik, Dr. A. Bhattacharya	National Hydroelectric Power Corporation (NHPC) Limited	21998000	2022
Automated Design and 3D Printing-based Fabrication of Cost-effective Patient- specific Cranioplasty Implants	Dr. Ashis Kumar Dhara, Dr. Chirag Kamal Ahuja. Dr. Sumanta Mookerjee	AI4ICPS, Indian Institute of Technology Kharagpur	2366000.0	2023
Improved Energy Management and Control of a Hybrid UGV for Combat Use	Jayati Dey and T K Saha	DRDO, GOI	7229000.0	2020
Capacity Building for Human Resource Development in Unmanned Aircraft Systems (Drone and related Technology)	N. Chattaraj, Jayati Dey, Aritro Dey, Deepak Kumar	MeitY, GOI	15000000	2022
Cost Minimization-Based Multi-Stage PMU Installation Strategy Considering Energy Industries' Perspective.	P. Acharjee, T. Majhi	CSIR EMR-II	1821000.0	2022

4.7.24 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
Artificial Intelligence in Education Focus Children with learning Disability	Tandra Pal, Tushar Kanti Bera, Chiranjib Koley, Mamata Dalui Chakraborty, Parag Kumar Guhathakurta, Suman Halder	MeitY	2024

4.7.25 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Aniruddha Bhattacharya	Journal of Energy Storage	Elsevier	2024-03-29
Aniruddha Bhattacharya	IEEE Transactions on Industrial Applications	IEEE	2024-04-22
Chiranjib Koley	Measurement	Elsevier	2023-09-12
Chiranjib Koley	IEEE Transactions on Dielectrics and Electrical Insulation	IEEE	2023-10-18
Chiranjib Koley	IEEE Sensors Journal	IEEE	2023-11-07
Chiranjib Koley	IEEE Transactions on Instrumentation and Measurement	IEEE	2024-01-16

Reviewer	Name of the Journal	Publisher	Date of Final Review
Chiranjib Koley	IEEE Transactions on Power Delivery	IEEE	2023-05-17
Soumya Chatterjee	IEEE Transactions on Dielectrics and Electrical Insulation	IEEE, USA	2024-03-04
Soumya Chatterjee	IEEE Sensors Journal	IEEE USA	2024-01-17
Aritro Dey	Asian Journal of Control	Wiley	2023-11-30
Omkar Yadav	Engineering Applications of Artificial Intelligence	Science Direct	2023-04-26
Santanu Paul	IEEE Transactions on Smart Grid	IEEE	2023-11-24
Santanu Paul	IEEE Transactions on Sustainable Energy	IEEE	2024-03-22
Santanu Paul	IEEE Transactions on Industrial Informatics	IEEE	2023-09-21
Santanu Paul	Renewable and Sustainable Energy Review	Elsevier	2023-10-12
Santanu Paul	International Journal of Electrical Power and Energy Systems	Elsevier	2023-08-18
Santanu Paul	Electric Power Systems Research	Elsevier	2024-03-13
Santanu Paul	Journal of Modern Power Systems and Clean Energy	IEEE	2024-03-18
Santanu Paul	Energy Reports	Elsevier	2024-01-08
Subrata Banerjee	IEEE Transactions on Industry Application	IEEE	2023-06-18
Subrata Banerjee	IEEE Transactions on Industry Application	IEEE	2024-01-07
Aashish Kumar Bohre	Energies	MDPI	2023-10-18
Aashish Kumar Bohre	IEEE access	IEEE	2023-11-10
Aashish Kumar Bohre	Renewable & sustainable energy reviews	Elsevier Editorial	2024-01-17
Parimal Acharjee	IEEE system Journal	IEEE	2024-03-12
Parimal Acharjee	IEEE system Journal	IEEE	2023-10-17
Parimal Acharjee	IJEPES	Elsevier	2023-10-26
Parimal Acharjee	IJEPES	Elsevier	2023-12-27
Manika Saha	Digital Signal Processing	Elsevier	2024-11-22

4.7.26 Review of Books

Reviewer	Title of the Book	Name and Affiliation of the Author	Publisher	Date
Santanu Paul	Offshore Wind Planning and Integration	Xiaodong Liu (Transmission System Planning Eversource Energy, USA), Chaofan Lin and Peng Zhang (Stony Brook University, USA)	Wiley IEEE Press	2024-03-09

4.7.27 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Aritro Dey	B.Tech (Electrical Engineering)	Adamas University	2023-04-25	2023-04-25
Partha Sarathee Bhowmik	M. Tech Thesis Evaluation and Viva Voce	Indian Institute of Engineering Science & Technology, Shibpur	2023-08-21	2024-08-21
Partha Sarathee Bhowmik	M. Tech Thesis Evaluation and Viva Voce	Indian Institute of Engineering Science & Technology, Shibpur	2023-06-30	2024-06-30
Partha Sarathee Bhowmik	M. Tech Thesis Evaluation and Viva Voce	Indian Institute of Engineering Science & Technology, Shibpur	2023-08-04	2024-08-04
Partha Sarathee Bhowmik	Ph. D. Thesis Evaluation	Anna University	2023-09-12	2024-02-29
Subrata Banerjee	PhD thesis Examination	Jadavpur University	2024-01-12	2024-01-12
Subrata Banerjee	PhD thesis defense	Siksha 'O' Anusandhan	2023-10-05	2023-10-05
Ashis Kumar Dhara	M Tech Thesis	Indian Institute of Technology Kharagpur	2024-04-30	2024-04-30

4.7.28 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Chiranjib Koley	Faculty Selection	NIT Meghalaya	2024-03-11	2024-03-12
Subrata Banerjee	Electrical Engineering	NIT Jamshedpur	2023-12-17	2024-12-17
Parimal Acharjee	Electrical Engineering	CSIR-CMERI Durgapur	2024-02-02	2024-02-02
Parimal Acharjee	Electrical Engineering	NIT Jamshedpur	2023-12-02	2023-12-02
Parimal Acharjee	Electrical Engineering	NIT Warangal	2023-12-06	2023-12-08

4.7.29 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Soumya Chatterjee	Partial Discharge in HV Equipment and its Detection	National / Regional Boiler (O&M) & Sustainability Workshops 2023-24	Durgapur	2024-02-16	2024-02-16
Aritro Dey	"Design of Flight Control Law for Fixed Wing Aircrafts & Quadcopters : Few Aspects	Recent Advancements in Control and Instrumentation. organized by IEM Kolkata	Kolkata (Online)	2023-07-10	2023-07-14
Santanu Paul	Recent Developments in Wind Energy Technologies and Its Impact on Power System Operation	Invited lecture in a one day seminar	Suri, WB	2023-08-21	2023-07-21
Parimal Acharjee	Frontier research in Electrical Engineering	Faculty Development Program	Haldia Institute of Technology	2023-09-18	2023-09-18

4.7.30 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Aniruddha Bhattacharya	International Conference on Computational Intelligence and Smart Technologies in Electrical Engineering (CISTEE 2023)	Durgapur	Hybrid Session-5	2023-12-16	2024-03-17
Rajdip Dey	CISTEE 2023	Durgapur	Track-6	2023-12-16	2023-12-17
Omkar Yadav	3 rd International Conference on Emerging Electronics and Automation	Department of Electronics and Instrumentation Engineering National Institute of Technology Silchar, Assam, India	Track 4	2023-12-15	2023-12-17

Name of the Faculty	Programme	Place	Session	From Date	To Date
Omkar Yadav	International Conference on Computational Intelligence and smart Technologies in Electrical Engineering (CISTEE 2023)	NIT Durgapur	Hybrid Session 4	2023-12-16	2023-12-17
Partha Sarathee Bhowmik	IEEE IAS Global Conference on Emerging Technologies (GlobConET)	Loughborough University, London, UK	Modern Power Electronics, Drives & Control, Electric Vehicles	2023-05-20	2023-05-20
Santanu Paul	1 st International conference on Computational Intelligence and Smart Technologies in Electrical Engineering (CISTEE 2023), Durgapur	Durgapur	Session Chair, Organizing committee member	2023-12-16	2023-12-17
Subrata Banerjee	IEEE ICIDeA conference	NIT Manipur	PEMD	2023-09-29	2024-11-30
Parimal Acharjee	IEEE SeFeT 2023Conference	Bhubaneswar, India	Renewable Energy Systems, Smart Grid and Microgrid	2024-08-10	2024-08-10
Manika Saha	International Conference on Computational Intelligence and Smart Technologies in Electrical Engineering (CISTEE 2023)	Durgapur	Hybrid Session-VI	2023-12-16	2023-12-17

4.8 Department of Earth and Environmental Studies

4.8.1 Department at a Glance:

The Department was started in early 1960's as Department of Geology and later renamed as Department of Earth and Environmental Studies in 2012 because of spread of activities of the department on environment issues, mainly in research and teaching. The Department is the coordinating department for multidisciplinary M.Tech. Programme in "Environmental Science and Technology" from the academic session 2009-2010, presently involving four departments of the Institute. The Department has been offering postgraduate programs in M.Sc. in Applied Geology and Geoinformatics since the 2020-2021 session and contributes to undergraduate education by providing a compulsory course on Ecology and Environment for all first-year students, along with mandatory theory and laboratory courses for students of Metallurgical and Materials Engineering and Civil Engineering.

The Departmental laboratories are well equipped to serve the needs of the students. The Department is equipped with various equipments, required for Earth and Environmental

Studies courses, including Research Model Polarizing Microscopes (for both transmitted light and incident light), Student Model Microscopes, and rich collection of models, charts, rocks and mineral specimens. A well-equipped environmental laboratory has also been set up in the department to serve the post graduate students of Environmental Science and Technology and to augment research and consultancy facilities in this emerging field.

The Department actively supports research for faculty and scholars, focusing on a wide range of topics such as environmental issues, critical minerals, groundwater availability and management, remote sensing and GIS in resource management, water and wastewater treatment technology, ore geology, and mineralization of uranium and REE metals. Currently, eight research scholars are engaged in ongoing research projects within the department. The Department also undertakes consultancy jobs on environmental and geological issues with particular expertise on groundwater study.

4.8.2 Mission & Vision

Mission

- » To impart quality technical and scientific education and produce engineers, technologists, scientists and citizens who will contribute meaningfully to the growth and development of the country and excel in various disciplines of knowledge
- » To create a research-oriented teaching-learning environment in the Institute with a focus on excellence and innovation.
- » To embark upon an inclusive growth path committed to the uplift of the community.

- » To pursue creative research and develop new technologies in the field of Earth and Environmental sciences, which can contribute to the industry and to academia

Vision

- » To impart quality technical education and focus on research and innovation to cater to the need of the country.

4.8.3 Faculty

Name	Designation	Email-id
Prof. Kalyan Adhikari	Professor	kadhikari.ees@nitdgp.ac.in
Dr. Sandip Mondal	Assistant Professor	smondal.ees@ees.nitdgp.ac.in
Dr. Manoj Ozha	Assistant Professor	mkozha.ees@ees.nitdgp.ac.in
Dr. Shreya Karmakar	Assistant Professor	skarmakar.ees@nitdgp.ac.in

4.8.4 Equipments:

Sl. No.	Name of the equipment	Date of Purchase	Amount
01	27 Microscopic Table	17-03-2024	183978.00
02	LG Refrigerator	22/02/2024	65000.00
03	Double distillation Unit	13-03-2024	72098.00

Sl. No.	Name of the equipment	Date of Purchase	Amount
04	Digital Water Bath	23/01/2024	24999.00
05	Magnetic Stirrer with hot plate	21/02/2024	53100.00
06	Circular Ceramic Heating element (Hot Plate)	27/03/2024	24190.00
07	Hand held quality meter	01-03-2024	499730.00
08	Digital weight indicator	22/02/2024	10000.00
09	Visual Modflow Software	22/03/2024	361080.00
10	Coral Draw Graphic Software	26/03/2024	99946.00

4.8.5 Laboratories Available

Sl. No.	Name of Laboratory	Major equipment
1	Environmental Lab 1	COD Reactor, Fume Hood, Balance, Hot Plate, Water Distillation Unit, Magnetic Stirrer, etc.
2	Environmental Lab 2	Hot Air Oven, Muffle Furnace, Vacuum Oven, Vacuum Furnace, Incubator Shaker, Tube Furnace, Centrifuge, Laminar, kjeldahl nitrogen distillation apparatus, Autoclave, Stack Monitoring Kit, P.M 2.5 Sampler, High Volume Sampler, Ozone Analyser, Rock Cutting, Polishing and Grinding Machine etc., Vacuum Oven etc.
3	Research Laboratory	Centrifuge, Peristaltic Pump, Ion Meter, pH meter, TDS meter
4	Instrument Laboratory	AAS, GC, Balance, pH meter, UV-Visible Spectrometer
5	Contaminant transport Lab	Permeability Meter, Mechanical Shaker etc.
6	Geology Lab	Petrological Microscope (Monocular, Binocular and Trinocular), Geological Samples and Models
7	Computer Lab	Computers and ERDAS, Nitro Pro, TNT MIPS, GEOMEDIA, HYDRUS, MODFLOW software facilities

4.8.6 PhD degree awarded till 2023-24

19 (Nineteen).

4.8.7 Any other relevant information

Department has six Adjunct Faculty members

4.8.8 Specialization

- » Environmental Engineering
- » Groundwater contaminant transport and its remediation
- » Groundwater, Subsurface transport of contaminants
- » Groundwater, Environmental Geology
- » Ore Geology
- » Water and Wastewater Treatment

4.8.9 Proposed Plan for Research

- » Subsurface transport of contaminants, Augmentation of groundwater resource through different techniques, particularly in water stressed region, Use of RS and GIS in delineation of aquifer, saline water intrusion and coastal aquifer management.
- » Detailed petrological, mineralogical, microtexture, and geochemical studies integrated with geochronology to understand mineralization related to Uranium, Rare Earth Elements, Gold, and Sulphides. Additional emphasis will be given to understanding the genesis and their association with critical metals, as they encompass the heart of Modern Technology. Accordingly, in the coming years, more importance will be given to augment the domain related to critical minerals (or metals). Moreover, studies related to radiation damage will also given emphasis as it can play as a critical parameter in assessing the durability of ceramics that are used in nuclear disposal sites.
- » With my training and research experience in Ore Geology, I aim to contribute to advancing studies on critical minerals and integrated geometallurgical investigations. Looking ahead, I am keen to explore the

effects of radiation-induced changes on radioactive accessory phases and their surrounding minerals using a range of geological tools. I aspire to establish state-of-the-art research laboratories within the department/institute to address these intricate research challenges

effectively. As an educator, want to spend more time in providing students with practical skills that enhance their problem-solving capabilities and critical-thinking insight, preparing them for success in both academic and professional endeavours.

4.8.10 Area of Research Interest

- » Groundwater resource assessment, Resource augmentation, Groundwater contamination and remediation
- » Uranium, Rare Earth Element, Critical mineral and Sulfide Geochemistry, Mineral Geochemistry, Crustal Processes, Hydrothermal Processes (fluid-Rock Interaction, fluid-induced dissolution-precipitation, element mobilization), Chemical Dating (Monazite, Xenotime, Uraninite), Radiation induced damage.
- » Development of Nano-filtration treatment technology for the separation of emerging contaminants from water and wastewater

4.8.11 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
EOGEPL Durgapur	Land subsidence study	Field survey, data analysis and preparation of report

4.8.12 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
NRSA Kolkata	Application of Remote sensing and GIS in Earth Science	Dr. Arindam Guha	Joint guidance of 2 no. of PG dissertations
Arya Vidyapeeth College	Geochemistry and Metamorphism of the Arunachal Himalayas	Diction Saikia	Joint field based research work
Wadia Institute of Himalayan Geology	Genesis of Gold Mineralization in Hutti	Kunda Badhe	Joint research publications

4.8.13 Journal: Published in 2022–2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Sneha Das, Sandip Mondal	Synthesis of magnetic biochar derived from waste wood of acacia Auriculiformis for the removal of arsenic	Environmental Nanotechnology, Monitoring & Management	Volume:20 Issue No: Page No:100893 Year: 2023 Month: Dec
Nilanjana Bhattacharjee, Ipsita Som, Rajnarayan Saha, Sandip Mondal	A critical review on novel eco-friendly green approach to synthesize zinc oxide nanoparticles for photocatalytic degradation of water pollutants	International Journal of Environmental Analytical Chemistry	Volume:104 Issue No:3 Page No:489-516 Year: 2024 Month: Feb
Badhe, K., Ozha, M. K., Chaurasiam, C., Ghosh, R.	U-Th-Pb Total Monazite Geochronology of the Felsic volcanic rocks from the Hutti greenstone belt: Evidence of Magmatic and Hydrothermal Events	Geological Journal	Volume:59 Issue No: Page No:260-271 Year: 2024 Month: Jul
Vineeta Prasad, Kalyan Adhikari	An Integrated Framework for Prioritizing Sustainability Indicators for the Mining Sector with a Multicriteria Decision Making Technique	Operations Research Forum	Volume: Issue No:(2023) 4:5 https://doi.org/10.1007/s4306902200188 Issue No: Page No: Year: 2023 Month: Apr

Author(s) Name	Paper Name	Journal Name	Others Info
Arpan Chattopadhyay, G. Bandopadhyay, Kalyan Adhikari	A Multi Attribute Decision Making Model for Selecting Centralized or Decentralized Municipal Solid Waste Management Facilities: a Study from the Indian Perspective	Process Integration and Optimization for Sustainability	Volume: https://doi.org/10.1007/s41660023-00329-8 Issue No: Page No: Year:2023 Month:Apr

4.8.14 Conference: Published in 2023–2024 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Reeya Ghosh, Manoj Kumar Ozha	Fluid assisted alteration of Apatite from Beldih, West Bengal, Eastern India: Evidences of REE Mobilization	Goldschmidt 2023	DOI/ISBN: 1042–7287 Volume: Issue No: Page No: Year:2023 Month: Jul Presenter: CO-AUTHOR
Reeya Ghosh, Manoj Kumar Ozha	Magmatic–Hydrothermal Style of Nb–Mineralization within Apatite Magnetite Vein from Beldih, Eastern India	American Geophysical Union 2023	DOI/ISBN: 2328–9279 Volume: Issue No: Page No: Year:2023 Month: Dec Presenter: CO-AUTHOR
Arghya Ghosh, Narayani Gogoi, Suresh A. Kartha, Sandip Mondal	Geochemical Evaluation and Spatiotemporal Distribution of Fluoride in Groundwater of the Sedimentary Alluvial Plain of Bankura District, West Bengal, India	EGU23–9327, Copernicus Meetings, EGU General Assembly 2023	DOI/ISBN: https://ui.adsabs.harvard.edu/link_gateway/2023EGUGA..25.9327G/doi:10.5194/egusphereegu23-9327 Volume: Issue No: Page No: Year: 2023 Month: Apr Presenter: CO-AUTHOR

4.8.15 Conference: Published in Others

Author(s) Name	Paper Name	Conference Name	Others Info
Reeya Ghosh, Manoj Kumar Ozha	Geochemistry of Apatite from Beldih Mine, West Bengal, Eastern India: A Potential Prospect for Critical Elements	31 st West Bengal State Science & Technology Congress	DOI/ISBN: NA Volume: Year: 2024 Month: Feb Presenter: CO-AUTHOR

4.8.16 Ph.D. Supervision

Topic Name	Scholar	Supervisor	Status	Status Date
Geochemical and temporal evolution of carbonatite in and around Purulia area, Eastern India: using monazite–apatite geochemistry as proxy	Reeya Ghosh	Manoj Kumar Ozha	ONGOING	–
Petrological and geochemical appraisals of radiation induced effects in radioactive minerals from samarkiya area, Rajasthan	Prachi Pragyan Giri	Manoj Kumar Ozha	ONGOING	–
Effects of radiation–induced on radioactive accessory phases and its surrounding minerals: an geochronological appraisal	Manojit Singh	Manoj Kumar Ozha	ONGOING	–
Synthesis of Magnetic Biochar for the Removal of Emerging Contaminants from Aqueous Medium	Sneha Das	Sandip Mondal	ONGOING	–

Topic Name	Scholar	Supervisor	Status	Status Date
Genesis of presentday arsenic contamination within shallow aquifers of upper part of western Bengal basin: evaluation through hydrogeochemistry and contaminant transport modelling	Rhitwik Chatterjee	Kalyan Adhikari	SUBMITTED	2024-03-31
Development of Quantitative Tool for Assessment of Regional Sustainability of Coal Mining Area	Vineeta Prasad	Kalyan Adhikari	SUBMITTED	2024-03-31
Optimization of sustainable integrated Municipal Solid Waste Management system through case studies	Arpan Chattopadhyay	Kalyan Adhikari, Supriya Pal	ONGOING	-
Assessment of Pesticide transport in soil and groundwater through field study, experiment and modelling	Nilesh Meshram	Kalyan Adhikari	ONGOING	-

4.8.17 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount (in Rs.)	Starting Year
Petrological, geochemical, and geochronological appraisals of radiation- induced effects in radioactive accessory phases and its surrounding minerals from Samarkiya area, Rajasthan	Dr. Manoj Kumar Ozha	Science and Engineering Research Board (SERB)	2215200.0	2024

4.8.18 Testing & Consultancy Services Rendered

Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
EOGEPL, Durgapur	Land Subsidence Study at CBM- Raniganj Block	634250.0	Ongoing as on 31.3.2024

4.8.19 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Kalyan Adhikari	Environment, Development and Sustainability	Springer	2023-11-09
Manoj Kumar Ozha	Geological Journal	Wiley	2023-09-22

4.8.20 Participation in National Committees/Visits

Name of the Faculty	Name of the Committee	Place of Visit	From Date	To Date
Kalyan Adhikari	Member of Accreditation committee of GWCO, NABET, Quality Council of India	New Delhi, Online	2020-12-20	2024-03-31

4.8.21 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Kalyan Adhikari	UG BOS of Geology	Kazi Nazrul University	2020-09-26	2024-03-31

4.9 Department of Humanities and Social Sciences

4.9.1 Department at a Glance:

The Department has been in existence since the inception of the Institute in 1960. Stalwarts like Dr Sujit Mohan Chanda, Dr Hirendranath Roy, Mr Arun Kumar Dutta, Dr Debashish Roychowdhury, Dr Kamala Banerjee, Dr Baidyanath Chakrabarti, Dr Partha Pratim Sengupta graced this Department as illustrious Professors. The Department at present has seven faculty members. They are actively engaged in teaching, research, and administration, specializing in various genres of English, Economics, Sociology, and Social Work. It runs PhD program in different disciplines and one PG program in Social Work, besides functioning as a supporting Department in UG programs,

offering two core courses and as many as nine open elective courses. The Department regularly organizes academic activities like conferences, seminars, academic talks by eminent persons, GIAN programs, faculty development programs, short-term courses, and workshops, thereby sustaining and whetting the intellectual appetite of the academic community. The Research Scholars of the Department are also dedicated to the wholesome development of the Department, contributing their best to the formation of the academic and cultural identity of the Department.

4.9.2 Mission & Vision

Mission

- » To achieve excellence in imparting communication skill and to emerge as a centre of excellence in language studies.
- » To instil a sense of social awareness and social responsibility by giving exposure to social sciences.

- » To enhance decision-making power of budding techno-managers by imparting knowledge of Economics, Management, Social Work, and Literature.

Vision

- » To emerge as a catalyst of synergy between technical education and social sciences so as to produce value-based social technocrats.

4.9.3 Faculty

Name	Designation	Email-id
Dr Shri Krishan Rai	Associate Professor	hod@hu.nitdgp.ac.in shrikrishanrai@hu.nitdgp.ac.in
Dr Joydeep Banerjee	Associate Professor	joydeep.banerjee@hu.nitdgp.ac.in
Dr Arindam Modak	Associate Professor	arindam.modak@hu.nitdgp.ac.in
Dr Debasis Chakraborty	Assistant professor, Grade I	debasis.chakraborty@hu.nitdgp.ac.in
Dr Sutanuka Banerjee	Assistant Professor, Grade I	sutanuka.banerjee@hu.nitdgp.ac.in
Dr Angshu Jajodia	Assistant Professor, Grade II	angshu.jajodia@hu.nitdgp.ac.in
Dr Rinki Chokhani	Assistant professor, Grade II	rinki.chokhani@hu.nitdgp.ac.in

4.9.4 Labs:

Sl. No.	Name of Laboratory	Major equipment
1	Language Laboratory	Desktops with Software for acquiring Language Skills
2	MSW Laboratory	Desktops and Projector

4.9.5 PhD Degree awarded till 2023-24

66

4.9.6 Any other relevant information

The Faculty Members of the Department have distinguished themselves in activities like continuing education, conducting of workshops, seminars and conferences, coordinating GIAN programmes, Unnat Bharat, Yuva Sangam, etc. The Department has been offering the

compulsory Research Methodology course for all the Research Scholars of the Institute. The Faculty Members have also been offering unique open elective subjects keeping in view the updated requirement in the present professional scenario.

Besides the regular academic activities, the Department conducted the following activities also.

Invited Talk:

1. Prof. Kalyan Chakraborty, Lamar University, USA delivered a lecture on "Quality of Education and Its Impact on Economic Growth: A case Study of India" on 03.01.2024.

Endowment Lecture:

1. Prof. Sujit Mohan Chanda Endowment Lecture on "Some Glimpses of Forgotten History: The Politics of Syllabus Making", delivered by Eminent Academician Dr. Suman Jana on 21.02.2024.

4.9.7 Specialization

- » Indian English Literature, Film Studies
- » Religion
- » Indian English Literature
- » Economics
- » English
- » Gender and Cultural Studies, South Asian Literature
- » Social work and Sociology
- » Social Work

4.9.8 Proposed Plan for Research

- » This research plan involves three particular arenas of literary and cultural studies – Food Studies, Ecocriticism and Posthumanism. It proposes to examine how narratives use food to reflect cultural identity, social dynamics, memory and ethics. It also plans to investigate literature's portrayal of human and non-human entanglement. Further, it attempts to analyse how literary texts critiques environmental exploitation, promoting sustainable practices.
- » Submitting ICSSR Major & Minor Projects
- » Exploring the intersection of Humanities and Technological Studies
- » Collaborative research in the field of Humanities and Social Sciences
- » Sociology of education
- » To write journal papers on disability issues. Also to apply for ICSSR projects and publish an edited book.

4.9.9 Area of Research Interest

- » Gerontology, Dalit Studies, Cinema, Religion, Personality Development
- » Ecocriticism, Posthumanism, Food Studies, Gender Studies
- » Energy Economics, Labour Economics, Sustainability, Inequality Studies
- » Literary Theory
- » Gender Studies, Literature
- » Sociology of education, gender, disability, caste
- » Disability, Women's Empowerment

4.9.10 Collaboration with Academic and Research Institutions

Collaborating Institute	Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
IIT ISM Dhanbad		PhD Supervision	Dr Nirban Manna	Drafting joint research papers

4.9.11 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Mr Sankar Chakarabarti and Mr Akash Jain	Expert Talk on "Income Tax: An Overview"	2023-12-22
Dr Subhas Sarkar, MP, Govt of India	Yuva Sangam 2023	2023-05-05
Prof Indranil Manna, VC, BIT Mesra	Amrit Kaal Vimarsh Vikasit Bharat@2047	2023-09-12
Prof Debi Prasad Mishra, Director, NITTTR Kolkata	Expert Talk on "Glimpses of Ancient Indian Technology"	2023-10-05
Mr K E N Raghavan, Social Rural activist	Expert Talk on "Ancient Indian Science and Technology with reference to Cow based Agriculture"	2023-11-14

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Prof. Kalyan Chakraborty, Lamar University, USA	Academic Talk on "Quality of Education and Its Impact on Economic Growth: A Case Study of India"	2024-01-03
Dr Suman Jana, Eminent Academic & Retired Professor of English	Professor Sujit Mohan Chanda Endowment Lecture on "Some Glimpses of Forgotten History: The Politics of Syllabus Making"	2024-02-21

4.9.12 Journal: Published in 2023-2024 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Chatterjee, Ankita, Banerjee, Sutanuka	(In)visible spaces: Probing into the politics of same sex belonging in Geetanjali Shree's The Roof Beneath Their Feet	Asian Journal of Women's Studies	Volume:29 Issue No:4 Page No:447-464 Year:2023 Month:Dec
Dr. Debasis Chakraborty	Effect of Remittances on Renewable Energy Consumption in India: Evidence from a Nonlinear Analysis	Journal of Asian Energy Studies	Volume:7 Issue No: Page No:140-158 Year:2023 Month:Dec
Dr. Debasis Chakraborty	Income Inequality and Natural Resources Depletion in India: Fresh Insights from FMOLS, DOLS Approaches	International Journal of Energy, Environment and Economics	Volume:31 Issue No:1 Page No:57-80 Year:2023 Month:
Dr. Debasis Chakraborty	Comparative role of income and social inequality in migration decision making: A household level analysis of India	International Journal of Economics and Business Research	Volume:26 Issue No:1 Page No:24-42 Year:2023 Month: July
Dr. Debasis Chakraborty	Exploring Causality between Domestic Savings and Economic Growth: Fresh Panel Evidence from BRICS Countries	Economic Alternatives	Volume:29 Issue No:1 Page No:48-69 Year:2023 Month:
Anindita Ghosal & Arindam Modak	Imag(in)ing Decolonial Ecology: Exploring Tropical Eco-Graphic Narratives	eTropic	Volume:22 Issue No:1 Page No:175-196 Year:2023 Month:
Anindita Ghosal & Arindam Modak	Unearthing Ecological Identities: An Exploration of Place/Self in Bibhutibhushan Bandyopadhyay's Aranyak	Asiatic	Volume:17 Issue No:2 Page No:140-152 Year:2023 Month:Dec
Avijit Das and Dr Shri Krishan Rai	Problematizing the contested notion of nation in afghanistan: A reflection on the afghan conundrum in nadeem aslam's the wasted vigil	SARE	Volume:60 Issue No:1 Page No:192-210 Year:2023 Month:Jul
Abhijit Maity and Dr Shri Krishan Rai	Streaming media portrayal of transgender in post-2018 Indian cinema	Media Asia	Volume:51 Issue No:3 Page No:496-505 Year:2024 Month:
Abhijit Maity and Dr Shri Krishan Rai	Mediating ecogenocide: the 1984 Bhopal gas disaster in film	Media Asia	Volume: Issue No: Page No: Year:2024 Month:Mar
Anindita Ghosal & Arindam Modak	"Take Life or Let Live": A Biopolitical Comprehension of Partition through Srijit Mukherji's Movie Begum Jaan	Literary Voice	Volume:1 Issue No:22 Page No:216-222 Year:2024 Month:Mar
Sumanta Pramanik and Dr Shri Krishan Rai	AI Take-Over in Literature and Culture: Truth, Post-Truth, and Simulation	Rupkatha Journal on Interdisciplinary Studies in Humanities	Volume:15 Issue No:4 Page No:1-14 Year:2023 Month:Jan
Chatterjee, Ankita, Banerjee, Sutanuka	Reminiscences of Kothas: Exploring Spatial Intimacies in Ruth Vanita's Memory of Light	Rupkatha Journal on Interdisciplinary Studies in Humanities	Volume:15 Issue No:2 Page No:1-15 Year:2023 Month:Jul

4.9.1 Journal: Accepted for Publication in 2023–2024 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Dr. Debasis Chakraborty & Titiksha Das	Re-assessing the Environmental Kuznets Curve for the Human Development Index: Evidence from Emerging Asian Economies	Southeast Asian Journal of Economics	Volume: Issue No: Page No: Year:2023 Month:

4.9.2 Conference: Published in 2022–2023 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Dipra Biswas, Joydeep Banerjee	Savouring Words, Sustaining Stories: A Gastrocritical Exploration of Feminine Kinship in Sandeepa Mukherjee Datta's Those Delicious Letters and Kim Fay's Love & Saffron	XII. International Conference on Literature	DOI/ISBN: 978-625-703433-3 Volume: Issue No: Page No:29-38 Year:2023 Month: Nov Presenter:CO-AUTHOR

4.9.3 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
International Symposium: Streaming in the Global South	Vilnius University, Vilnius, Lithuania	2024-01-18	2024-02-20	Lithuania
10 th Sustainable Development Conference [SDC2023]	Tomorrow People Organization	2023-11-05	2023-11-07	Thailand
International Gender Equality in Higher Education Conference	Aston University, Birmingham	2023-09-13	2023-09-13	United Kingdom
Reading Narratives/Storying Humanity: Society and Culture in South and South East Asia	Assam University, Silchar, funded by ICSSR	2023-08-24	2023-08-25	India

4.9.4 Ph.D. Supervision

Topic Name	Scholar	Supervisor	Status	Status Date
Deconstructing the Afghan Conundrum: Neo-Orientalism and Counter-hegemonic Discursive Intrusions in select post 9/11 Global Fictions	Avijit Das	Dr Shri Krishan Rai	SUBMITTED	2024-02-07
Abjection of Women in/and Contemporary Indian English Fiction: A Select Study	Santanu Panda	Dr Shri Krishan Rai	ONGOING	-
Cultural Representations and Metaphorical Tropes in Indian Disability Life Writings in English: A Select Study	Shibu Gorai	Dr Shri Krishan Rai	ONGOING	-
Fiction in the Quantum Realm: The Changing Notions of Reality in Select Quantum Fictions	Sumanta Pramanik	Dr Shri Krishan Rai	ONGOING	-
Understanding Different Types of Identity Crisis: A Reading Of Contemporary Fiction	Susanta Dey	Dr Shri Krishan Rai	ONGOING	-
TBA	Aparna Chatterjee	Dr Shri Krishan Rai	ONGOING	-
Envisaging the Palate: A Study of Manifestations of Gustatory Memory in Select Indian Culinary Fictions	Dipra Biswas	Joydeep Banerjee	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Rewiring the Human: Cinematic Representations of Posthumanist Paradigms through Multispecies Citizenship	Tania Koley	Joydeep Banerjee	ONGOING	-
Bright Horizons: Energy Representation in Solarpunk Fictions from Diverse Geographies	Debapriti Sengupta	Joydeep Banerjee	ONGOING	-
Theatre, Resistance and Activism in Postcolonial India: A critique of emerging Voices of Dissent with special reference to the plays of Utpal Dutt, Vijay Tendulkar and Safdar Hashmi	Oliva Roy	Joydeep Banerjee	DEGREE AWARDED	2024-03-19
The Spectrum of Global Concerns in the Light of Glocalization: A Study in the Select Plays of Mahesh Dattani	Asoke Howlader	Dr Arindam Modak	DEGREE AWARDED	2023-04-11
Healing the Trauma of Sexual Abuse: the Health Humanities Approach	Pallabi Maji	Dr Arindam Modak	ONGOING	-
From Sight to Insight: Psychopathological Interpretations of Abnormality of Shakespeare's Characters	Md. Abu Barkat Ali	Dr Arindam Modak	ONGOING	-
The Yellow Book and the Alternative Literature at the Turn-of-the-Century by New Women Writers and Poets of the Periodical	Satorupa Ghosh Das	Dr Arindam Modak	ONGOING	-
Implementation and Performance Evaluation of Enterprise Resource Planning (Erp) In Durgapur Steel Plant, Under Steel Authority Of Indian Ltd.	SUMIT RANJAN DASGUPTA	Dr. Debasis Chakraborty (Principal Supervisor), Prof. (Retd.) Partha Pratim Sengupta, Dr. Anupam De	SUBMITTED	2024-11-04
Impact of Sustainability Issues on Consumer Purchase Decision Making: Special Emphasis on Indian Middle-Class Consumers	Amit Kumar Banerjee	Dr. Debasis Chakraborty (Principal Supervisor) Prof. (Retd.) Partha Pratim Sengupta	ONGOING	-
Impact of Energy Consumption on Economic Growth, Human Development and Sustainable Development: A Cross- Country Analysis with Special Reference to India	Titiksha Das	Dr. Debasis Chakraborty	ONGOING	-
Energy Economics	Sonali Kumari	Dr. Debasis Chakraborty	ONGOING	-
Ecological Economics	Rhitabrita Mukherjee	Dr. Debasis Chakraborty	ONGOING	-
Study of Productivity and efficiency of Merchant Mill, Durgapur Steel Plant, SAIL	Dhiraj Kumar	Dr. Debasis Chakraborty	ONGOING	-
Visualising the Anthropocene: Exploring Ecological Dystopia in Contemporary English Graphic Narratives	Anindita Ghosal	Dr Arindam Modak	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Understanding People's Perceptions through Visual Research Methods in Climate Change Affected Uncertain Landscapes: The Case of Indian Sundarbans and Kutch, Gujarat	Shibaji Bose	Dr Arindam Modak & Dr Partha Pratim Sengupta	ONGOING	-
Contrasting Conceptions of Cosmopolitanism at the Centre and the Periphery of the Imperial Machinery: A Comparative Study of the Select Novels of Henry James and Rabindranath Tagore	Tanushree Mitra	Dr Arindam Modak & Dr Sutanuka Banerjee	ONGOING	-
Toward a Postcritical but not Anti-Critical Study of Reception: A Dialogic Recalibration of Literary/Cultural Reception after Postcritique	Sayantani Pahari	Dr Arindam Modak & Dr Rumpa Das	ONGOING	-
Embodies Narratives: Disability Representation in Select Indian Texts and Personal Reflections	Prasanta Rakshit	Dr Arindam Modak & Dr Avijit Pramanik	ONGOING	-
Needs Assessment of Geriatric Population and Model of Old Age Care	Ratul Basu	Angshu Jajodia	ONGOING	-
Study of Working Married Women in Domestic Care	Sayantani Sengupta	Angshu Jajodia	ONGOING	-
Impact of Urban Planning on People with Disabilities in Public Spaces	Disha Sengupta	Angshu Jajodia	ONGOING	-
Expanding Horizons: A Critical Exploration of Bengali Women's Travel Narratives in English (1915- 1947)	Lipika Kankaria	Dr Sutanuka Banerjee	SUBMITTED	2023-07-24
Braving The Odds: Pioneering Female Actors In Their Own Wor(L)Ds	Raju Rana	Dr Sutanuka Banerjee	ONGOING	-
Negotiating Normative Spaces: Reading Transgressive Bodies in Select	Ankita Chatterjee	Dr Sutanuka Banerjee	ONGOING	-
Contemporary Indian Narratives in English Unmasking Masculinities in Urban Spaces: A Study on Select Hindi Web Series	Amrita Mitra	Dr Sutanuka Banerjee	ONGOING	-
Portrayal of Single Woman in Indian English Fiction	Subhasnata Mohanta	Dr Sutanuka Banerjee, Dr Rumpa Das	ONGOING	-

4.9.5 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Debasis Chakraborty	International Journal of Finance & Economics	Wiley	2024-02-21
Rinki Chokhani	NA	NA	2024-11-05

4.9.6 Reviewer of Books

Reviewer	Title of the Book	Name and Affiliation of the Author	Publisher	Date
Rinki Chokhani	NA	NA	NA	2024-11-05

4.9.7 Participation in National Committees/Visits

Name of the Faculty	Name of the Committee	Place of Visit	From Date	To Date
Joydeep Banerjee	Acted as an observer for the NEET (UG)	NTA	2023-05-07	2023-05-07
Joydeep Banerjee	Acted as a Member of the Expert Committee constituted by Hon'ble Chairman of UGC	Jadavpur University	2023-09-04	2023-09-05
Angshu Jajodia	Scientific Committee of The Second International Conference on Humanities and Social Sciences: Fostering Global Resilience through Cross-Cultural Collaboration	Porto, Portugal	2023-11-27	2023-11-28

4.9.8 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Shrikrishan Rai	PhD Viva Voice	VIT, Vellore	2024-01-10	2024-01-12
Shrikrishan Rai	Paper Setting for Written examination for UBA Office Assistant	NIT Raipur	2023-10-13	2023-10-13
Joydeep Banerjee	Competitive Written Exam	CSIR-CMERI	2023-09-30	2023-10-01

4.9.9 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Shrikrishan Rai	English	Bengal College of Engineering and Technology Durgapur	2023-08-01	2023-08-01
Joydeep Banerjee	Acted as a member of Adhoc Selection Committee as subject expert for recruitment of teachers	DAV Model School Durgapur	2023-04-07	2023-04-08
Joydeep Banerjee	Acted as an Expert in the interview for the post of Lecturer in English (Basic Science & Humanities Department)	Dr. B. C. Roy Polytechnic (A unit of Dr. B. C. Roy Engineering College, Durgapur)	2023-07-14	2023-07-14

4.9.10 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Shrikrishan Rai	Face your fear of English speaking	Induction Programme	Dr B.C Roy Engineering College, Durgapur	2023-08-23	2023-08-23
Shrikrishan Rai	Teacher As a Full-Time Communicator	28 days GURU DAKSHTA 22 nd faculty Induction program	Virtual	2024-03-01	2024-03-01
Angshu Jajodia	Assistive Technologies for People with Disabilities	Durgapur Government College	Durgapur	2024-03-15	2024-03-15
Sutanuka Banerjee	Gender Sensitization Programme on International Women's Day	Chief Guest in the Seminar	Employees State Insurance Corporation (ESIC), Durgapur	2024-03-08	2024-03-08

4.10 Department of Mathematics

4.10.1 Department at a Glance

The department is involved in teaching three mathematics courses to all the disciplines of undergraduate students and various elective courses are also offered to them. Also, in addition to a two-year M.Sc. programme in Mathematics and a Ph.D. programme, the department participates as a coordinating department in a multidisciplinary M.Tech in Operations Research programme with the Department of Management Studies and the Department of Computer Science & Engineering. The broad range of mathematical

research topics we cover include algebra, analysis, differential equations, applied mathematics, theoretical physics and computational sciences. Present set of faculties have already undertaken 20 Govt. funded research projects. Among students completing M.Sc from our department many have qualified National Eligibility Test and pursuing /completed Ph.D. Candidates completing Ph.D from our Dept. has joined colleges, post-doctoral programmes abroad, joined institutes within India or abroad as faculties.

4.10.2 Mission & Vision

Mission

- » To create an ambiance in which state-of-the-art undergraduate, postgraduate, and doctoral programmes will flourish.
- » To identify different industrial problems through industry- academia interaction and to undertake collaborative projects for long term development.
- » To design the curriculum keeping with the trend of expanding knowledge of Mathematics and to nurture students so that they can establish themselves not just at highest level of academic achievements but also

as good human beings. To generate human resources with finest capabilities who can emerge as leaders in a range of professions.

Vision

- » To establish itself as a department teaching Mathematics at par with other premier institutes of our country.
- » To contribute to research at a level of international excellence

4.10.3 Faculty

Name	Designation	Email-id
Samarjit Kar	Professor	samarjit.kar@maths.nitdgp.ac.in
Seema Sarkar (Mondal)	Professor	seema.sarkar@maths.nitdgp.ac.in
Pinaki Pal	Associate Professor	pinaki.pal@maths.nitdgp.ac.in
Lakshmi Kanta Dey	Associate Professor & Head	lakshmikanta.dey@maths.nitdgp.ac.in
Anita Pal	Associate Professor	anita.pal@maths.nitdgp.ac.in
Sarit Maitra	Associate Professor	sarit.maitra@maths.nitdgp.ac.in
Satya Bagchi	Associate Professor	satya.bagchi@maths.nitdgp.ac.in
Goutam Panigrahi	Assistant Professor	goutam.panigrahi@maths.nitdgp.ac.in
Partha Pratim Gopmandal	Assistant Professor	partha.gopmandal@maths.nitdgp.ac.in
Md Firoz Ali	Assistant Professor	firoz.ali@maths.nitdgp.ac.in

4.10.4 Labs

Sl. No.	Name of Laboratory	Major equipment
1	Computational Laboratory	Desktop computers, MATHEMATICA Software

4.10.5 PhD degree awarded till 2023-24

108 (one hundred and eight).

4.10.6 Specialization

- » Fluid Dynamics
- » Differential equation, Nonlinear waves, Mathematical ecology
- » Functional Analysis & Topology
- » Computational Fluid Dynamics
- » Algebraic Coding Theory
- » Algebra
- » Combinatorial Optimization, Supply Chain Management
- » Operations Research and Optimization
- » Geophysics, Operations Research
- » Graph Theory and Fuzzy Mathematics

4.10.7 Proposed Plan for Research

- » 1. Instabilities in double diffusive convection, 2. Complex dynamics in networks with higher order interactions
- » Studying properties of differential equations, investigate the mathematical properties of ecological systems, study the nonlinear waves and structures in dusty and astrophysical plasmas
- » To study the thermophoretic motion of colloids
- » The main plan of my research aims to advance the field of nonlinear analysis and the geometry of Banach spaces by developing new theories, methods, and applications. The anticipated outcomes will significantly contribute to the understanding and practical solutions of nonlinear problems in Banach spaces.
- » Quantum Coding Theory
- » This year I want to continue my research in the areas of combinatorial optimization, Supply Chain Management, Mainly I want to continue my research in bio fuel and other sustainable energy resources.
- » Energy of Graphs, Spectral Graph Theory
- » Multi-objective Combinatorial Optimization and Applications, Application of AI and Machine Learning in Supply Chain Modeling, Stock market Prediction using Machine Learning,
- » 1. To study the dynamics of earthquakes by analyzing the ground deformation, 2. develop different mathematical model to study real life inventory problems, 3. To study and analyze the different prey-predator models under different environment.

4.10.8 Area of Research Interest

- » Fluid Dynamics, Nonlinear Dynamics
- » Nonlinear waves, Nonlinear dynamics
- » Nonlinear Analysis, Integration Theory, Topology
- » Colloid and Interface Science, Mathematical Modelling
- » Algebraic Coding Theory
- » Combinatorial Optimization, Supply Chain Management
- » Optimization, Financial Modeling, Soft Computing, Machine Learning
- » Computational Graph Theory
- » Geophysics (Seismology), Operations Research (Inventory models, supply Chain models), Biomathematics.
- » This year I want to continue my research in the areas of combinatorial optimization, Supply Chain Management, Mainly I want to continue my research in bio fuel and other sustainable energy resources.
- » Energy of Graphs, Spectral Graph Theory
- » Multi-objective Combinatorial Optimization and Applications, Application of AI and Machine Learning in Supply Chain Modeling, Stock market Prediction using Machine Learning,
- » 1. To study the dynamics of earthquakes by analyzing the ground deformation, 2. develop different mathematical model to study real life inventory problems, 2. To study and analyze the different prey-predator models under different environment.

4.10.9 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
Zenesis Agrosiences & Consulting Private Limited which has its main office in Ranchi	Project	Training

4.10.10 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
IIT Hyderabad, India	Nonlinear Dynamics	Dr. Chittaranjan Hens	Joint Research
Carl von Ossietzky University Oldenburg, Germany	Nonlinear Dynamics	Prof. Ulrike Feudel	Joint Research
VIT University, AP	Mathematical Ecology	Soumen Kundu	Research work
Indian Institute of Technology Kharagpur	Hydrophobic Colloids with surface charge dependent boundary slip	Prof. S. Bhattacharyya	Joint publication in International Journal
Indian Statistical Institute, Kolkata	Gel electrophoresis of liquid droplet	Dr. Sankar Sarkar	Joint publication in International Journal
Jadavpur University	Diffuse porous colloids	Dr. Sanjib Pal	Joint publication in International Journal
Tsukuba University	Soft particle electrophoresis	Prof. Yasuhisa Adachi	Joint publication in International Journal
Tokyo University of Science	Electrophoresis of biocolloids	Prof. H. Ohshima	Joint publication in International Journal
VIT Chennai	Fixed point theory	Dr Ashis Bera	Joint publication
VIT-Bhopal University	Nonlinear analysis	Dr Sumit Som	Joint Research
Chongqing Three Gorges University, China	Nonlinear Analysis	Prof. Huaping Huang	Joint research
Durgapur Government College	Integration theory	Dr Pratikshan Mondal	Joint Research
IIT BHU	Nonlinear analysis	Prof. T. Som	Organizing an International Conference
Jadavpur University	Development of meshless scheme	Dr. Sanjib Kumar Pal	Joint publication in International Journal
Vilnius Gediminas Technical University	Optimization	Romualdas Bausys	Chief Researcher
Yonsei University , South Korea	Research	Prof. Biswajit Sarkar	Research
Vidyasagar University, Midnapore.	Operations Research	Prof. M. Maiti.	Research activities
Tehatta Sadananda Mahavidyalaya	Chemical Graph Theory	Nilanjan De	Reasearch Paper
United Arab Emirates University, UAE	Chemical Graph Theory	Muhammad Imran	Reasearch Paper
VIT University	fuzzy graph	Arindam dey	Reasearch Paper
Ramgarh Engineering College, Ramgarh, Jharkhand, India	Topological Indices of Graphs and Their Applications	Prosanta Sarkar	Reasearch Paper
Yonsei University	Operational Reasearch	Biswajit Sarkar	Reasearch Paper
National Institute of Technology Arunachal Pradesh	Operational Reasearch	Achyuth Sarkar	Reasearch Paper
Mahadevananda Mahavidyalaya, Barrackpore, Kolkata	Biomathematics	Dr. K. P. Das	Research Collaboration
Hiralal Bhakat College, Naihati, West Bengal	Biomathematics	Dr. Banshidhar Sahoo	Research collaboration

4.10.11 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Dr. S. Gowrisankar , Department of Mathematics, NIT Patna Dr. Sanjib K. Pal, Department of Mathematics, Jadavpur University Dr. Simanta De, Department of Mathematics, University of Gour Banga Dr. Partha P. Gopmandal, Department of Mathematics, NIT Durgapur Dr. Pinaki Pal, Department of Mathematics, NIT Durgapur	SERB Sponsored Workshop on Differential Equations: Fundamentals to Applications	2023-12-11
Prof. A. H. Gandomi, Prof. W. Sintunavarat, Prof. A. Petrusel, Prof. E. Karapinar, Prof. T. Som, Prof. D. R. Sahu, Prof. R.P. Pant, Prof. B. S. Choudhury	3 rd International Conference on Nonlinear Applied Analysis and Optimization (ICNAAO-2023)	2023-12-08
Mr P K Jha, Mr Bikram Chakraborty, Mr Rohit Agarwal, Mr Kumar Gautam	BTech Induction programme	2023-08-24

4.10.12 Innovations and Technology Transfer

Title	Inventors	Application Nos	Date of Filing
Mathematical Equation Analysis Device	Sk Amanatulla, S. Samanta, Anita Pal, T. Mahapatra, S. Raut, M. Pal	423575-001	2024-07-18

4.10.13 Journal: Published in 2023-2024 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Subrata Majhi, Somnath Bhattacharyya, Partha P. Gopmandal	Effect of the Surface Charge-Dependent Boundary Slip on the Electrophoresis of a Hydrophobic Polarizable Rigid Colloid	Langmuir	Volume:40 Issue No:7 Page No:3725-3737 Year:2024 Month:Feb
Sangita Dutta, Prosenjit Kundu , Pitambar Khanra, Chittaranjan Hens and Pinaki Pal	Perfect synchronization in complex networks with higher-order interactions	Physical Review E	Volume:108 Issue No: Page No:024304 Year:2023 Month:Aug
Sangita Dutta, Abhijit Mondal, Prosenjit Kundu , Pitambar Khanra , Pinaki Pal and Chittaranjan Hens	Impact of phase lag on synchronization in frustrated Kuramoto model with higher-order interactions	Physical Review E	Volume:108 Issue No: Page No:034208 Year:2023 Month:Sep
Lekha Sharma and Pinaki Pal	Effect of horizontal aspect ratio on convection rolls in the presence of transverse magnetic field	Physics of Fluids	Volume:35 Issue No: Page No: 104104 Year:2023 Month:Oct
P Khanra, S Ghosh, D Aleja, K Alfaro-Bittner, G Contreras-Aso, R Criado, M Romance, S Boccaletti, P Pal and C Hens	Endowing networks with desired symmetries and modular behavior	Physical Review E	Volume:108 Issue No: Page No:054309 Year:2023 Month:Nov
Anna Vanselow, Lukas Halekotte, Pinaki Pal, Sebastian Wieczorek, Ulrike Feudel	Rate-induced tipping can trigger plankton blooms	Theoretical Ecology	Volume:17 Issue No: Page No:89-105 Year:2024 Month:Mar
Patra, R.R., Maitra, S., Kundu, S	Dynamics And Blow-Up Control Of A Leslie-Gower Predator-Prey Model With Group Defence In Prey	Journal of Biological Systems	Volume:32 Issue No:2 Page No:447-474 Year:2024 Month:Mar
Raghunathan Krishankumar, Sundararajan Dhruva, Kattur S Ravichandran, Samarjit Kar	Selection of a viable blockchain service provider for data management within the internet of medical things: An MCDM approach to Indian healthcare	Information sciences	Volume:657 Issue No: Page No:119890 Year:2024 Month:Feb

Author(s) Name	Paper Name	Journal Name	Others Info
Haradhan Ghosh, Pramod, Kumar Maurya, Satya Bagchi	Linear complementary pair of codes based lightweight RFID protocol	Computer Communications	Volume:208 Issue No: Page No:79–88 Year:2023 Month:Apr
Haradhan Ghosh, Pramod Kumar Maurya, Satya Bagchi	Secret sharing based RFID protocol using ECC for TMIS	Peer-to-Peer Networking and Applications	Volume:17 Issue No: Page No:624–638 Year:2024 Month:Jan
Anita Pal, Sourav Mondal, Muhammad Imran, Nilanjan De	Topological Indices of Total Graph and Zero Divisor Graph of Commutative Ring: A Polynomial Approach	Complexity	Volume: Issue No: Page No: Year:2023 Month:Apr
Anita Pal, Kartick Mohanta, Anupam Kumar Jha, Arindam Dey	An application of neutrosophic logic on an inventory model with two – level partial trade credit policy for time –dependent perishable products	Soft Computing	Volume:27 Issue No: Page No:4795–4822 Year:2023 Month:Apr
S Kumar, Prosanta Sarkar and Anita Pal	A study on the Energy of Graphs and its applications, Polycyclic Aromatic Compounds	Polycyclic Aromatic Compounds	Volume: Issue No: Page No: Year:2023 Month:Aug
Parikshit Das, Sourav Mondal, Anita Pal	Extremal Molecular Descriptors for Oxide and Silicate Networks	Silicon	Volume:15 Issue No: Page No:7565–7577 Year:2023 Month:Jul
Parikshit Das, Sourav Mondal, Anita Pal	Extension of adjacency matrix in QSPR analysis	Chemometrics and Intelligent Laboratory Systems	Volume:243 Issue No: Page No: Year:2023 Month:Dec
Sumi Kar, Anita Pal, Kajla Basu, Achyuth Sarkar, Biswajit Sarkar	The Effect of Renewable Energy and Corporate Social Responsibility on Dual-Channel Supply Chain Management	Energies	Volume:16 Issue No:7 Page No: Year:2023 Month:Apr
Biswajit Sarkar, Sumi Kar, Anita Pal	Does the bullwhip effect really help a dualchannel home delivery policy?	Journal of Retailing and Consumer Services	Volume:78 Issue No: Page No: Year:2024 Month:Jan
Parikshit Das, Sourav Mondal, Anita Pal	On Second Zagreb Energy of Graphs	MATCH	Volume:92 Issue No: Page No:105–131 Year:2024 Month:Feb
S Samanta, P Mahapatra, H Ohshima, PP Gopmandal	Diffusiophoresis of Weakly Charged Fluid Droplets in a General Electrolyte Solution: An Analytical Theory	Langmuir	Volume:39 Issue No:35 Page No:12452–12466 Year:2023 Month:Aug
Sourav Chowdhury, Paramita Mahapatra, Hiroyuki Ohshima, Partha P Gopmandal	S Chowdhury, P Mahapatra, H Ohshima, PP Gopmandal	Langmuir	Volume:39 Issue No:39 Page No:14139–14153 Year:2023 Month:Sep
Paramita Mahapatra, SK Pal, H Ohshima, Partha P Gopmandal	Electrohydrodynamics of diffuse porous colloids	Soft Matter	Volume:20 Issue No:12 Page No:2840–2862 Year:2024 Month:Dec
Bharti, S Sarkar, H Ohshima, PP Gopmandal	Electrophoresis of hydrophobic and polarizable liquid droplets in hydrogel medium	Journal of Molecular Liquids	Volume:395 Issue No: Page No:) 123810 Year:2023 Month:Dec
Sutapa Mandal, Snehashish Sarkar and Pinaki Pal	Effect of horizontal magnetic field on K€uppers–Lortz instability	Physics of Fluids	Volume:35 Issue No: Page Month:Jul No:074118 Year:2023

Author(s) Name	Paper Name	Journal Name	Others Info
Santanu Saha, Yasuhisa Adachi, Saurabh K Maurya, Hiroyuki Ohshima, Partha P Gopmandal	Electrophoresis of soft particles with partially penetrable polymer layer: impact of location of slip plane and hydrodynamic slip length	Colloid and Polymer Science	Volume:302 Issue No: Page No:861–875 Year:2024 Month:Feb
SK Pal, P Mandal, H Ohshima, PP Gopmandal	A meshless numerical study of conjugate mixed convection of non-Newtonian nanofluids in an enclosure using non-homogeneous model	Colloid and Polymer Science	Volume:302 Issue No: Page No:517–538 Year:2023 Month:Dec
Garai, H., Mondal, P., and Dey, L.K.	On common fixed point results via implicit relations	Miskolc Math. Notes.	Volume:24 Issue No:3 Page No:1337–1350 Year:2023 Month:Apr
Huang, H., Pal, S., Bera, A., and Dey, L.K.	On the extended version of Krasnosel'skiĭ's theorem for Kannan type equicontractive mappings	Mathematics	Volume:11: 1852 Issue No: Page No: Year:2023 Month:May
Bera, A., Mondal, P., Garai, H., and Dey, L.K.	On Maia type fixed point results via implicit relation	AIMS Mathematics	Volume:8 Issue No:9 Page No:22067–22080 Year:2023 Month:Jul
Laha, S., Som, S., Dey, L.K., and Huang, H.	Best proximity point results for proximal contraction in topological spaces	Fixed Point Theory	Volume:25 Issue No:1 Page No:179–200 Year:2024 Month:Jan
Sandip Majumder, Samarjit Kar, Mihir Kr Chakraborty	On threshold based approximations of mfrough sets	Applied Intelligence	Volume:53 Issue No:7 Page No:7528–7545 Year:2023 Month:Apr
Sibnath Deb, Nidup Dorji, Samarjit Kar, Aleena Maria Sunny, Shayana Deb, Saugat Ghosh, Shuvendu Chakraborty	COVID-19 and stress of Indian youth: An association with background, on-line mode of teaching, resilience and hope	Journal of Affective Disorders Reports	Volume:12 Issue No: Page No:100502 Year:2023 Month:Apr
Sanjib Biswas, Aparajita Sanyal, Darko Božanić, Samarjit Kar, Aleksandar Milić, Adis Puška	A multicriteria-based comparison of electric vehicles using q-rung orthopair fuzzy numbers	Entropy	Volume:25 Issue No:6 Page No:905 Year:2023 Month:Jun
Om Saswat Sahoo, Rhiti Mitra, Arghyadeep Bhattacharjee, Samarjit Kar, Oindrilla Mukherjee	Is Diabetes Mellitus a Predisposing Factor for Helicobacter pylori Infections?	Current Diabetes Reports	Volume:23 Issue No:8 Page No:195–205 Year:2023 Month:Aug
Krishnendu Adhikary, Samarjit Kar	Multi-objective newsboy problem with random-fuzzy demand	Computational and Applied Mathematics	Volume:42 Issue No:6 Page No:261 Year:2023 Month:Sep
Saibal Majumder, Rintu Kutum, Debnarayan Khatua, Arif Ahmed Sekh, Samarjit Kar, Mitali Mukerji, Bhavana Prasher	On intelligent Prakriti assessment in Ayurveda: a comparative study	Journal of Intelligent & Fuzzy Systems	Volume:45 Issue No: Page No:9827–9844 Year:2023 Month:Sep
Manoj Kumar, Sanjib Biswas, Samarjit Kar, Darko Božanić, Adis Puška	An Interval Type 2 Fuzzy Decision-Making Framework for Exploring Critical Issues for the Sustenance of the Tea Industry	Axioms	Volume:12 Issue No:10 Page No:986 Year:2023 Month: Oct

Author(s) Name	Paper Name	Journal Name	Others Info
Prasanta Kumar Ghosh, Amalesh Kumar Manna, Jayanta Kumar Dey, Samarjit Kar	Optimal policy for an inventory system with retailer's hybrid payment strategy and supplier's price discount facility under a supply chain management	Optimization	Volume: Issue No: Page No:1-40 Year:2023 Month:Nov
Patra, R.R., Maitra, S.	Dynamics of stability, bifurcation and control for a commensal symbiosis model	International journal of dynamics and control	Volume: Issue No: Page No:1-16 Year:2023 Month:Dec
Santu Hati, Kalipada Maity, Goutam Panigrahi	"Stability analysis of fuzzy differential equation for prey-predator system under znumber fuzzy and granular differentiability concept.",	RAIRO – Operations Research	Volume: Issue No: Page No: Year:2023 Month:
Debopriya Dey, Samarjit Kar, Dilip Kumar Bhattacharya	Analytical solution of a modified single item continuous production inventory model under constant deterioration, goal levels and penalties	Opsearch	Volume:61 Issue No:1 Page No:399-420 Year:2024 Month:Mar
Harinandan Tunga, Samarjit Kar, Debasis Giri, Indrajit Pan	Efficacy analysis of NSGAI and multiobjective particle swarm optimization (MOPSO) in agent based weapon target assignment (WTA) model	International Journal of Information Technology	Volume:16 Issue No:3 Page No:1347-1356 Year:2024 Month:Mar
Manas Kumar Mohanty, Parag Kumar Guha Thakurta, Samarjit Kar	Agricultural commodity price prediction model: a machine learning framework	Neural Computing and Applications	Volume:35 Issue No: Page No:15109-15128 Year:2023 Month:Apr
Amalendu Si, Sujit Das, Samarjit Kar	Preferred hospitalization of COVID-19 patients using intuitionistic fuzzy set-based matching approach	Granular computing	Volume:8 Issue No:3 Page No:525-549 Year:2023 Month:May
Prasanta Kumar Ghosh, Amalesh Kumar Manna, Jayanta Kumar Dey, Samarjit Kar	Optimal production run in an imperfect production process with maintenance under warranty and product insurance	OPSEARCH	Volume:60 Issue No:2 Page No:720-752 Year:2023 Month:Jun
Arindam Dey and Anita Pal	Generalized Zagreb indices for some silicate networks	Journal of Discrete Mathematical Science and Cryptography	Volume:27 Issue No:1 Page No: Year:2024 Month:Feb
Partha Sarathi Barma, Joydeep Dutta, Anupam Mukherjee, Samarjit Kar	A bi-objective latency based vehicle routing problem using hybrid GRASP-NSGAI algorithm	International Journal of Management Science and Engineering Management	Volume:18 Issue No:3 Page No:190-207 Year:2023 Month:Jul
Sanjib Biswas, Neha Joshi, Samarjit Kar	A Novel Computational Framework for Comparing CSR Performance: Evidence from India	International Journal of Supply and Operations Management	Volume:11 Issue No:1 Page No:19-42 Year:2024 Month:Feb
Debbarayan Khatua, Anupam De, Samarjit Kar, Soumyadeep Samonto, Arif Ahmed Seikh, Debashree Guha	Fuzzy dynamic optimal model for COVID-19 epidemic in India based on granular differentiability	Journal of Shanghai Jiaotong University (Science)	Volume: Issue No: Page No: Year:2023 Month:Aug

4.10.14 Journal: Accepted for Publication in 2023–2024 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Mondal, P., Dey, L.K., and Ali, Sk. J.	$\mathcal{I}$ -Convergence of sequences of $\mathcal{B}$ -Bochner, $\mathcal{B}$ -Dunford and $\mathcal{B}$ -Pettis integrable functions with values in a Banach space	J. Convex Anal.	Volume: Issue No: Page No:
Year:2024 Month:Apr Sanjit Bhowmick, Satya Bagchi, Ramakrishna Bandi	On LCD codes over $\mathbb{Z}_4$ Transportation Problem with Fuzzy Risk and Substitution.	Indian Journal of Pure and Applied Mathematics	Volume: Issue No: Page No: Year:2024 Month:Feb
S. Devnath, M. De, S. Sarkar Mondal, M. Maiti	Two-stage Multi-item 4-dimensional	Ambient Intelligence and Humanized Computing	Volume:14 Issue No:7 Page No:9469–9496 Year:2023 Month:May
K.P.Das, A. Sarkar, S. Sarkar (Mondal), V. Gupta, G.S.Paliwal, I. Khan, S. Jana, R.K.Prajapati	Mathematical study of planktonic bloom in a nutrient phytoplankton model with toxin producing species and viral infection	Nonlinear Studies	Volume:31 Issue No:4 Page No:1–14 Year:2024 Month:Mar
K.P.Das, S. Pramanik, P. Mondal, S. Biswas, S.Sarkar (Mondal), G. Panigrahi.	Role of Allee in controlling chaos in an ecoepidemiological model with mortality due to environmental toxicity.	Discontinuity, Nonlinearity and Complexity.	Volume:14 Issue No:1 Page No:145–161 Year:2023 Month:Jul

4.10.15 Conference: Published in 2023–2024 DOI/ISBN

Author(s) Name	Paper Name	Journal Name	Others Info
Sanjib Biswas, Dragan Pamucar, Akanksha Raj, Samarjit Kar	A Proposed q-Rung Orthopair Fuzzy-Based Decision Support System for Comparing Marketing Automation Modules for Higher Education Admission	Computational Intelligence for Engineering and Management Applications: Select Proceedings of CIEMA 2022	DOI/ISBN: https://doi.org/10.1007/978981-19-8493-8_66 Volume: Issue No: Page No:885–912 Year:2023 Month:Apr Presenter:CO-AUTHOR
Shuvendu Majumder, Sanjib Biswas, Samarjit Kar	Consumers' Attitudes Toward Retail Markets: A Multi-criteria-Based Group Decision-Making Approach	Applications of Operational Research in Business and Industries: Proceedings of 54 th Annual Conference of ORSI	DOI/ISBN: https://doi.org/10.1007/978981-19-8012-1_31 Volume: Issue No: Page No:477–493 Year:2023 Month:May Presenter:CO-AUTHOR
Ratnabali Pal, Samarjit Kar, Arif Ahmed Sekh	Artificial eye: online video browsing guide for visually impaired	International Conference on Computer Vision and Image Processing	DOI/ISBN: https://doi.org/10.1007/9783-031-58174-8_35 Volume: Issue No: Page No:410–421 Year:2023 Month:Nov Presenter:CO-AUTHOR
Haradhan Ghosh, Pramod Kumar Maurya, Satya Bagchi	A Verifiable Secret Sharing Scheme using Elliptic Curve Cryptography	14 th International Conference on Computing Communication and Networking Technologies (ICCCNT) 2023	DOI/ISBN: 10.1109/ICCCNT56998.2023.10413584 Volume: Issue No: Page No: Year:2023 Month:Jul Presenter:CO-AUTHOR

Author(s) Name	Paper Name	Journal Name	Others Info
Deep Mukhopadhyay, Sanjit Bhowmick, Kalyan Hansda, Satya Bagchi	Optimal Constructions of LRCs based on Cayley Table	4 th International Conference on Computing Communication and Networking Technologies (ICCCNT) 2023	DOI/ISBN: 10.1109/ICCCNT56998.2023.10308103 Volume: Issue No: Page No: Year:2023 Month:Jul Presenter:CO-AUTHOR
Debasis Chanda, Prosanta Sarkar, Anita Pal	Applications of Graph Topology in Manufacturing of Anti Cancer Drugs	CISIM 2023 Tokyo, Japan	DOI/ISBN: 10.1007/978-3-031-428234_25 Volume: Issue No: Page No:341 – 353 Year:2023 Month:Aug Presenter:CO-AUTHOR
Anita Pal	Modeling of Real-Life Problems Using the Graph-Theoretic Approach	CISIM 2023 Tokyo, Japan	DOI/ISBN: 10.1007/978-3-031-428234_25 Volume: Issue No: Page No:341 – 353 Year:2023 Month:Aug Presenter:SELF

4.10.16 Conference: Accepted in Others in 2023–2024

Author(s) Name	Paper Name	Conference Name	Others Info
S. Sarkar Mondal, P. Mahato	Ground Deformation Analysis due to Interacting Fault Movement in Fractional Standard Linear Solid	International Conference of Mediterranean Geosciences Union (MedGU) 2023	DOI/ISBN: To be published in Scopus Indexed Proceeding by Springer. Volume: Issue No: Page No: Year:2023 Month:Nov Presenter:SELF

4.10.17 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Mrs.S.N. Santhalakshmi	Dr. Goutam Panigrahi, Dr. Saibal Majumder, Dr. Chandan Bandyopadhyay	Machine Learning: A Gateway to Data Science	Machine Learning	Publisher: Leilani Katie Publication and PRESS Publication Date: 2024-0701

4.10.18 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
7 th International Conference on Complex Dynamical Systems and Applications (CDSA)	ISI Kolkata	2024-01-25	2024-01-27	India
Workshop on recent trend in applied sciences	ISI Kolkata	2024-01-04	2024-01-05	India
Invited Lecture for the celebration of National Mathematics day in the Dept. of Applied Mathematics, Vidyasagar University, WB	Vidyasagar University	2023-12-22	2023-12-22	India

Name of the Programme	Organized By	From Date	To Date	Organizing Country
SERB Sponsored Workshop on Differential Equations: Fundamentals to Applications (DEFA-2023)	NIT Durgapur	2023-12-11	2023-12-15	India
Xavier International Conference on Artificial Intelligence (XICAI 2024)	XIM University Bhubaneswar	2024-02-29	2024-03-01	India
Application of Mathematical Science and Technical Terminology in Nepali and Bengali	Darjeeling Government College	2024-03-21	2024-03-22	India
Understanding Supply Chain: Concepts, Modelling & Optimization and Practices with Applications	SQC & OR Unit, ISI Kolkata	2024-02-12	2024-02-16	India
International Conference on "Mathematical Sciences and its Applications to Artificial Intelligence" (ICMSAAI-24)	Department of Mathematics, SRM University	2024-01-17	2024-01-19	India
National Conference on "Mathematical Modeling, Analysis and Computation" (NCMMAC-2023)	Rajiv Gandhi National Institute of Youth Development, Sriperumbudur Tamil Nadu	2023-06-05	2023-06-09	India
International Conference on "Sustainable Supply Chain Management" (SSCM-G20)	Delhi University	2023-11-04	2023-11-09	India
"Intelligent Vision and Computing" (ICVIC 2023)	National Institute of Technology Agartala, Tripura	2023-11-25	2023-11-26	India
10 th International Conference on Business Analytics and Intelligence (2023-ICBAI)	IISc Bangalore	2023-12-18	2023-12-20	India
SIAM Conference on Applied Algebraic Geometry (AG23)	Eindhoven University of Technology, Eindhoven, The Netherlands	2023-07-10	2023-07-14	The Netherlands
One week Faculty Development Programme on "National Education Policy -2020"	Ministry of Education PMMMNMTT	2023-06-25	2023-07-01	India
Attended and delivered Invited Lecture on 'Career Option for Mathematics Students after Under Graduation' in one day webinar organized by Zetademy and S.M.P.Y.O.	Zetademy and S.M.P.Y.O	2024-04-02	2024-04-02	India
Attended and delivered Invited Lecture in ICAMM 2023.	IIT Indore	2024-10-18	2024-10-20	India
Participated in International Conference of MedGU 2023	Istanbul Technical University (ITU), Istanbul, Turkey	2023-11-26	2023-11-30	Turkey

4.10.19 Ph.D. Supervision

Topic Name	Scholar	Supervisor	Status	Status Date
Effect of Rotation and Magnetic Field on some Convective Instabilities	Sutapa Mandal	Pinaki Pal	DEGREE AWARDED	2024-01-30
Effect of horizontal aspect ratio on magnetoconvective instabilities in the absence and presence of rotation	Lekha Sharma	Pinaki Pal	SUBMITTED	2024-03-31
Convective instabilities in presence of rotation and oblique magnetic field	Snehashish Sarkar	Pinaki Pal	ONGOING	-
Linear and nonlinear wave propagation in dusty and astrophysical plasmas	Chitrita Dasgupta	Sairt Maitra	SUBMITTED	2023-04-06

Topic Name	Scholar	Supervisor	Status	Status Date
Mathematica properties of some nonlinear systems	Arindam Ghosh	Sarit Maitra	SUBMITTED	2023-07-04
Nonlinear Analysis	Anish Banerjee	Lakshmi Kanta Dey	ONGOING	-
Electrophoresis of fluid droplets and functionalized nanoparticles: Analytical approach	Paramita Mahapatra	PP Gopmandal	DEGREE AWARDED	2024-03-01
Algebraic Geometry	Aninda Banerjee	Lakshmi Kanta Dey and Dr Apratim Chakraborty, IAI, TCG CREST	ONGOING	-
Nonlinear Analysis	Supriti Laha	Lakshmi Kanta Dey	ONGOING	-
Geometry of Banach spaces	Subhadip Pal	Lakshmi Kanta Dey	ONGOING	-
A study on stability and control for ecological systems	Rajesh Ranjan Patra	Sarit Maitra	ONGOING	-
Nonlinear differential equations	Supriya Mondal	Sarit Maitra	ONGOING	-
Mathematical ecology	Susmita Sarkar	Sarit Maitra	ONGOING	-
Supply Chain Management	Aparna Adhikary	Samarjit Kar & Dr. Jayanta Kumar Dey	ONGOING	-
Portfolio Optimization	Bikhask Koli Roy	Samarjit Kar	ONGOING	-
Computer Vision and AI	Ratnabali Pal	Samarjit Kar	ONGOING	-
Optimal Control	Debopriya Dey	Samarjit Kar & Dr. Dilip Kumar Bhattacharya	ONGOING	-
Supply Chain Risk Management	Ishani Ray	Samarjit Kar	ONGOING	-
Rough Set Theory	Sandip Majumder	Samarjit Kar	ONGOING	-
Algebraic Characterization of Some Linear Codes via Group Codes	Ankan Shaw	Satya Bagchi	ONGOING	-
Locally Repairable Codes: Constructions and Properties	Deep Mukhopadhyay	Satya Bagchi	ONGOING	-
Radio Frequency Identification Protocols Using Linear Codes	Haradhan Ghosh	Satya Bagchi	ONGOING	-
Some Modifications on Network Optimization Models to increase Effectiveness	SK Nurul Hasan	Dr. Goutam Panigrahi	ONGOING	-
Knotted surfaces in 4-manifolds	Swarup Kumar Das	Satya Bagchi, Aprotim Chakraborty	ONGOING	-
On combinatorial and topological properties of simplicial complex and combinatorial cell complex	Pritam Chandra Pramanik	Satya Bagchi, Sayan Chakraborty	ONGOING	-
Some decision making problems under neutrosophic environment	Kartick Mohanta	Anita Pal	DEGREE AWARDED	2024-06-28
Applications of Graph Invariants in Uncertain Environment	Biswajit Some	Anita Pal	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Some studies on sustainable supply chain management under the effect of renewable energy through different mathematical approaches	Sumi Kar	Anita Pal	DEGREE AWARDED	2024-08-30
A Study on Invariants and Energy of graphs	PARIKSHIT DAS	Anita Pal	ONGOING	-
Spectral Graph Theory and Combinatorics	Saroj Ghosh	Anita Pal	ONGOING	-
Some Two-stage Four Dimensional Transportation Problems in Uncertain Environments	Sudeshna Devnath	Seema Sarkar (Mondal), Monoranjan Maiti	SUBMITTED	2024-07-10
Mathematical Modelling for the Control of Infectious Diseases	Arghadip Roy	Seema Sarkar (Mondal), Banshidhar Sahoo	ONGOING	-
Study of Deformation due to Planar and Non-planar Fault Movement in Viscoelastic Half Space	Pabita Mahato	Seema Sarkar (Mondal)	ONGOING	-
Stability Properties and Control Techniques of the Dynamical Phenomena in Complex System: A Generalized Interaction Perspective	Anirban Sen	Seema Sarkar (Mondal)	ONGOING	-
Mathematical Modelling on Fractional and Diffusive Eco-epidemiology with special emphasis on Chaotic Dynamics	Sanjukta Pramanik	Seema Sarkar (Mondal), K.P.Das, P. Karmakar	ONGOING	-
Effect of Planar and Non-planar Fault Movement in Layered and Half Space	Tanushree Biswas	Seema Sarkar (Mondal)	ONGOING	-
Nonlinear Dynamics on Fractional Ecological and Eco-epidemiological Models with Special Emphasis on Chaos	Anirban Patra	Seema Sarkar (Mondal), K. P. Das	ONGOING	-

4.10.20 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount (in Rs.)	Starting Year
Rotating and magnetized double-diffusive convection	Pinaki Pal	Science & Engineering Research Board (SERB)	2431264.0	2022
Investigation on Locally Repairable Codes	Satya Bagchi	DST	660000.0	2022
Impacting the life of Farmers in Giridih district by adopting affirmative steps	Dr. Goutam panigrahi (Principal)	NBCC India Ltd	9340000.0	2024

4.10.21 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
Modulation of electroosmotic flow through nanochannel	PP Gopmandal	SERB	2019
Development of hybrid numerical tools to study the electrokinetic transport of biocolloids	PP Gopmandal	SERB	2022

4.10.22 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Sarit Maitra	Chaos, Solitons & Fractals	Elsevier Ltd.	2023-07-28
Pinaki Pal	Physics of Fluids	American Institute of Physics	2023-06-11
Pinaki Pal	Physical Review E	American Physical Society	2023-10-23
Pinaki Pal	Chaos: An Interdisciplinary Journal of Nonlinear Science	American Institute of Physics	2023-10-22
Pinaki Pal	Europhysics Letters	IOP Publishing	2023-10-03
Partha Pratim Gopmandal	Langmuir	American Chemical Society	2023-12-01
Partha Pratim Gopmandal	Electrophoresis	Wiley	2023-12-01
Partha Pratim Gopmandal	Journal of Molecular Liquids	Elsevier	2023-08-01
Partha Pratim Gopmandal	Soft Matter	Royal Society of Chemistry	2023-09-01
Lakshmi Kanta Dey	Filomat	University of Nis	2024-03-31
Lakshmi Kanta Dey	Fixed Point Theory	House of the Book of Science Cluj-Napoca	2023-06-08
Satya Bagchi	Designs, Codes and Cryptography	Springer	2023-09-04
Satya Bagchi	Mathematics	MDPI	2023-12-18
Satya Bagchi	Transactions on Sustainable Computing	IEEE Explore	2024-02-21
Satya Bagchi	Designs, Codes and Cryptography	Springer	2024-03-18
Sarit Maitra	Nonlinear Analysis:Real World Applications	Elsevier Ltd.	2024-02-14
Seema Sarkar (mondal)	International Journal of Geotechnical Engineering	Taylor & Francis	2024-03-05

4.10.23 Participation in National Committees/Visits

Name of the Faculty	Name of the Committee	Place of Visit	From Date	To Date
Seema Sarkar (Mondal)	Invited as Subject Expert for preparation of 'Fundamental Glossary of Mathematics (English-Hindi-Bengali)' by CSTT, Ministry of Education, Dept. of Higher Education	ISI, Kolkata	2023-05-08	2023-05-12

4.10.24 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Partha Pratim Gopmandal	M. Sc. in Mathematics	Mahatma Gandhi University, Purba Medinipur	2024-03-01	2024-11-01
Samarjit Kar	External member of the BOS and moderation committee meeting of M.Sc Mathematics (PG)	Mahatma Gandhi University, Purba Medinipur	2023-08-17	2023-08-17
Samarjit Kar	Subject Expert Member of the concerned Board of Studies (BOSS)	School of Applied Science & Humanities, HIT Haldia	2024-02-09	2024-02-09
Goutam Panigrahi	BSc 4,5 th semester	Vidyasagar University	2024-08-12	2024-08-12
Satya Bagchi	External expert of a PhD assessment committee, as an expert	SRM Institute of Science and Technology, Kattankulathir	2023-12-18	2024-11-05
Anita Pal	PhD Viva-voce	VTU, Karnataka	2023-07-26	2023-07-26

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Anita Pal	PhD Viva-voce	PSG College of Technology, Coimbatore	2024-01-29	2024-01-29
Anita Pal	PhD Viva-voce	VIT Vellore	2024-04-08	2024-04-08
Anita Pal	Paper-Setter	Aliah University, Kolkata	2024-04-25	2024-05-05
Anita Pal	Comprehensive Viva	SRMIST, Ramapuram	2024-02-20	2024-02-20
Anita Pal	PhD Viva-voce	Anna University, Chennai	2023-04-13	2023-04-13
Seema Sarkar (mondal)	PhD Thesis Evaluation (Mathematics)	Mody University of Science and Technology, Rajasthan	2024-03-04	2024-03-04
Seema Sarkar (mondal)	PhD defense seminar and Viva-voce	Mody University of Science and Technology, Rajasthan	2024-03-15	2024-03-15

4.10.25 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Lakshmi Kanta Dey	Recruitment of Assistant Teachers	DAV Model School Durgapur	2023-04-07	2023-04-08
Samarjit Kar	Expert Committee for the upgradation of the Fellowship to CSIR-SRF (NET)	CMERI Durgapur	2024-01-10	2024-01-10
Samarjit Kar	Selection Committee Members for the selection of Assistant Professor in Mathematics	RCC Institute of Information Technology Kolkata	2023-08-28	2023-08-28
Seema Sarkar (mondal)	Mathematics	Appointed as a Member of Interview Board for Conducting Viva-voce/ Interview and Aptitude Test for Recruitment of Assistant Teacher in Primary School, W.B.	2023-05-02	2023-05-03

4.10.26 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Partha Pratim Gopmandal	Gel electrophoresis of colloidal particles: Mathematical approach	7 th International Conference on Complex Dynamical Systems and Applications	ISI Kolkata	2024-01-25	2024-01-27
Partha Pratim Gopmandal	Electrohydrodynamics of colloidal particles with polymeric interface	Workshop on recent trend in applied sciences	ISI Kolkata	2024-01-04	2024-01-05
Partha Pratim Gopmandal	Motion of spherical rigid colloids in continuum medium under external gradients	Celebration of National Mathematics day in the Dept. of Applied Mathematics, Vidyasagar University	Vidyasagar University	2023-12-22	2023-12-22

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Partha Pratim Gopmandal	The lectures are on the topics entitled "Classification of second order PDE and related properties" and "Introduction to Finite Difference Method"	SERB Sponsored Workshop on Differential Equations: Fundamentals to Applications (DEFA-2023)	NIT Durgapur	2023-12-11	2023-12-15
Lakshmi Kanta Dey	Development of Riemann Integration of Banach space valued functions and the property of Lebesgue	Regional Science and Technology Congress 2023/24	Durgapur Government College	2024-01-08	2024-01-10
Lakshmi Kanta Dey	Introduction to Riemann Integration and The Property of Lebesgue	Analytica-Introducing Infinity	St. Xavier's College, Kolkata	2023-09-14	2023-09-15
Anita Pal	Fuzzy graph theory	International Mathematics Webinar on Advances of Soft Computing	Online	2023-06-12	2023-06-14
Anita Pal	A study on the Economic order quantity model in a Fuzzy and neutrosophic environment	International Workshop on Advanced Trends in Computational Mathematics (ATCM-2023)	KL University, Vijayawada, AP	2023-08-04	2023-08-05
Anita Pal	Modeling of Real-Life Problems Using the Graph-Theoretic Approach	22 nd International Conference on Computer Information Systems and Industrial Management Applications (CISIM 2023 Conference)	Tokyo Metropolitan University, Tokyo, Japan.	2023-09-22	2023-09-23
Anita Pal	Application of Graph Theory in Computer Science and Engineering	Lecture Series	Vellore Institute of Technology	2023-11-03	2023-11-05
Anita Pal	Introduction to Research	FDP	Dr. B.C. Roy academy of Professional Courses	2023-02-19	2023-02-23
Anita Pal	Comuptational Graph Theory	Research Discussions	IIT Kharagpur	2024-03-27	2024-03-31
Seema Sarkar (mondal)	'Career Option for Mathematics Students after Under Graduation'	Webinar organized by Zetademy and S.M.P.Y.O	Online	2023-04-02	2023-04-02
Seema Sarkar (mondal)	Ground Deformation due to Interacting Fault Movement in Standard Linear Solid with Different Mathematical Approaches	International Conference on Applied Mathematica and Mechanics, 2023	IIT Indore	2023-10-18	2023-10-20

4.10.27 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Partha Pratim Gopmandal	SERB Sponsored Workshop on Differential Equations: Fundamentals to Applications	NIT Durgapur	After Lunch	2023-12-11	2024-11-15
Partha Pratim Gopmandal	Workshop on recent trend in applied sciences	ISI Kolkata	After Lunch	2024-01-04	2024-01-05
Anita Pal	International onference on Intelligent Vision and Computing (ICIVC 2023)	NIT Agartala	TS 08	2023-11-25	2024-11-26
Seema Sarkar (mondal)	Acted as Session Chair in ICAMM 2023	IIT Indore	3.30pm to 5.30 pm	2023-11-18	2023-11-20

4.11 Department of Mechanical Engineering

4.11.1 Department at a Glance:

Department of Mechanical Engineering is the second largest and one of the oldest Departments of the Institute started in the year 1960. It offers both undergraduate (B.Tech.) and postgraduate (M.Tech.) degree courses apart from doctoral programme.

The annual intake of the UG course is 187+ and that of the PG course is 20 for three specializations each, totaling 60(app.). At present about 55 students are doing their doctoral research in the department. The department comprises of well-qualified faculty members, supporting

staff and well-equipped laboratories. The continuous development of faculty and upgradation of the laboratories makes the department at par with the current day academic and research requirement of global standard which is reflected by continuously increasing student of the department opting for higher studies in India and abroad.

Department of Mechanical Engineering offers three PG courses with different specializations: Machine Design, Thermal Engineering, Fluid Mechanics & Heat transfer.

4.11.2 Mission & Vision

Mission:

- » Imparting quality education to the students and enhancing their skills to make them globally competitive mechanical engineers.
- » Maintaining state-of-the art research facilities for providing our students and faculties with opportunities to innovate, interpret, apply and disseminate their knowledge.

- » To develop linkages with reputed R&D organization, Institutes and Industries world-wide through education and research.

Vision:

- » Advancement of the society through excellence in teaching, research and innovation and services that exploits the rapidly changing technical diversity of Mechanical Engineering

4.11.3 Faculty

Name	Designation	Email-id
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Shantanu Pramanik, PhD	Assistant Professor	spramanik.me@nitdgp.ac.in
Shashi Kant Verma, PhD	Assistant Professor	skverma.me@nitdgp.ac.in
Sirshendu Mondal, PhD	Assistant Professor	smondal.me@nitdgp.ac.in
Sujit Karmakar, PhD	Assistant Professor	skarmakar.me@nitdgp.ac.in

4.11.4 Labs

Sl. No.	Name of Laboratory	Major equipment
1	Heat Power Laboratory	Heat Conduction Unit, Heat exchanger, Natural convection, Forced convection, Stefan-Boltzman Apparatus, Automobile Laboratory, Boiler, Separating and Throttling Calorimeter, Variable CR multi-fuel IC Engine test rig, Diesel Engine test rig, Morse test, Rope brake dynamometer, Air compression test rig, Convective heat transfer over artificial roughness, Liquid Crystal thermography system, Refrigeration Unit
2	Thermal Engineering Laboratory	Fluidization and fluid bed heat transfer unit, Computer linked Refrigeration Laboratory Unit, Air Conditioning Laboratory unit, Cross flow heat Exchanger unit
3	Machine Dynamics Laboratory	Twin rotor MIMO system, Digital Pendulum system, Dynamic balancing Machine, 3-Axis Gyroscope, Mechanical Power Transmission system, FFT analyzer, Soccer Robot set-up.
4	Production Engineering Laboratory	Gas tungsten arc welding (GTAW)/ Gas metal arc welding (GMAW), Photochemical Etching machine, Vertical ram turret milling machine, Submerged Arc welding machine
5	Metrology Laboratory	Tool Maker's Microscope, Floating Carriage Micrometer, Strain Measuring Device, Surface roughness Measuring machine.
6	Fluid Mechanics & Hydraulic Machines Laboratory	Impact of Jet, Pelton Turbine, Francis Turbine, Kaplan Turbine, Centrifugal Pump, Reciprocating Pump, Venturimeter, Wind Tunnel.
7	Robotics and AI Laboratory	Six-legged Robot, Wheel-base Robot
8	Mechanism Laboratory	-----
9	Project Laboratory	Peristaltic pump, Data acquisition system, DC power supply, heater, Pressure Transducer, Vacuum pump etc.

4.11.5 PhD degree awarded till 2023–24

Fifty nine (59)

4.11.6 Specialization

- » Fluid and Thermal Engineering
- » Production engineering, Micro and Nano Scale Manufacturing
- » Thermal Engineering
- » Fluid Mechanics
- » Fluid Dynamics
- » Dynamics of Machine, Condition Monitoring, Vehicle Dynamics
- » Thermofluids
- » Manufacturing Engineering
- » Heat Power Engineering
- » Thermal Sc and Engineering
- » Robotics, Knowledge-based System, Engineering Optimization
- » Water Resources & Hydraulics
- » Machine tools , metal cutting , production management
- » Machine Design (Mechanical Engg.)
- » Manufacturing Sc. and Engg.
- » Machine Design, Automobile Engineering, Modeling of Engineering Systems, Engineering Measurement
- » Fluid Dynamics and Heat Transfer
- » Machine Design
- » Applied Mechanics, Machine Design
- » Robotics & AI
- » Production Engineering
- » Fluid Mechanics and Hydraulic Machines

4.11.7 Proposed Plan for Research

- » Developing set ups for micro scale manufacturing – specifically targeting Hot Embossing, Photochemical Etching, Laser marking with special focus towards processing and applications of polymers and semiconductors. Also want to implement machine learning models and concepts in Production scenario.
- » Research activities on ‘The Law of Motive Force’ proposed by the incumbent.
- » To carry on research on the CFD and Heat Transfer
- » Computational Multiphase Fluid Dynamics completing my Ph D work shortly
- » Mathematical modelling of gear and bearing system, CAD based modelling of gear and bearing systems, condition monitoring of gear and bearing system under different operating condition
- » Build a consortium of inter-disciplinary laboratory working in the frontier of biomechanics, and its interaction with mechanical systems.
- » 1. To develop a robust mathematical model on counter-current condensation encompassing the effect of surface tension and identifying different fluid dynamic regimes with a variable counter flow. 2. To design an efficient solar chimney power plant by improving the efficiency of its components. To employ computational fluid dynamics systematically, corroborating the geometrical modifications. To conceptualize, optimize and build a hybrid power system for green energy production. 3. To build a semi-analytical framework for internal flows of non-Newtonian fluids for biomedical applications. To examine the rheology of blood, saliva, urine, faeces and ocular fluids and explore their intriguing flow dynamics using computational fluid dynamics.
- » Additive Manufacturing
- » I do the research on energy system design and analysis. I will work on multi-utility system i.e. polygeneration. Renewable energy will be the base of my designed energy system. I will do life cycle analysis (LCA) of renewable energy system. Thermodynamics will be another base of energy system design. Analysis of energy system will also be done by using techno-economic analysis. Multi-dimensional analysis of energy system will also be done. Thermodynamic, economic and environmental analysis will be the base of multi-dimensional analysis. Case study of India for various energy system will also be explored.
- » Set up a high speed aerodynamics lab
- » Design and Development of Biped Robots
- » Investigation of Fluid Flow and Heat Transfer Phenomena Past Bluff Bodies
- » Design and Development of a Metallic and Composite Based Unmanned Vehicle for Health Monitoring of Dams

- » 1. Dynamical analysis of Natural Circulation Loop
- » 2. Effect of coupling and noise on a model Thermal Pulse Combustor
- » 3. First and second law analysis of Natural Convection Friction Stir Welding
- » No such new Plan.
- » Flow and Heat Transfer Through Porous Media
- » Analytical and semi-analytical solution techniques of problems of Dynamics, Vibration and Control, Investigation of the non-autonomous and autonomous dynamics and stability thereof. Analyses of primary and higher order subharmonic and super harmonic responses, Investigation of bifurcation behavior of Mechanical and Structural Vibration problems.
- » Experimental analysis of bimodular composite material laminated structures
- » Modeling of Additive Manufacturing
- » Industrial Manufacturing
- » Extrusion at cryogenic temperature for fusion reactor
- » CFD Advancements Toward Thermal-Hydraulic Analysis of Prototypical Flow Conditions in PWR Subchannels
- » Advancing Sustainable Energy: A Holistic Research Approach. Objective: This research aims to explore and innovate sustainable energy solutions that address both environmental concerns and societal needs, fostering a

transition towards a cleaner and more resilient energy system.

- » Methodology: 1. Resource Assessment: Conduct comprehensive assessments of renewable energy potential, considering solar, wind, hydro, and biomass resources. 2. Technology Development: Investigate novel technologies for efficient energy conversion, storage, and distribution, emphasizing Accessibility, Scalable, and affordability. 3. Environmental Impact Analysis: Evaluate the environmental implications of renewable energy deployment, including land use, biodiversity, and ecosystem services. 4. Socio-Economic Evaluation: Assess the social and economic impacts of sustainable energy adoption, focusing on equity, job creation, and community empowerment. 5. Policy and Governance Research:
 - » Analyze policy frameworks and governance structures to identify barriers and opportunities for promoting sustainable energy transitions.
 - 6. Stakeholder Engagement: Collaborate with diverse stakeholders, including policymakers, industry leaders, communities, and civil society, to cocreate knowledge and foster inclusive decision-making processes. Outcome: This interdisciplinary research endeavor will generate actionable insights and innovative solutions to accelerate the global transition towards a more sustainable and equitable energy future
 - » Tribology of Machine Elements
 - » Dynamics of flows past various shape cylinders

4.11.8 Area of Research Interest

- » Computational Multiphase Fluid Dynamics and Turbulent Flow
- » Micro and Nano Scale Manufacturing
- » Thermodynamics, Heat Transfer and Fluid Mechanics
- » Computational Fluid Mechanics and Heat Transfer
- » Flow through a diffuser
- » Signal Processing, Condition monitoring, Defect diagnosis of rotating machine, control of vehicle
- » Microfluidics, Hydrodynamic Instability, Biomechanics, Porous Medium
- » Condensation, Rotating Flows, Non-Newtonian fluids
- » Friction Stir Welding
- » Additive Manufacturing
- » Polygeneration, carbon capture, bioresource technology
- » Thermal-Hydraulic Analysis of Nuclear fuel rod bundle using CFD
- » Supersonic flow, Granular flow, Aerospace, Mixing of Jets
- » Microchannel, boiling, multiphase flow
- » Robot Navigation, Assistive Devices
- » For optimizing drag on aircraft and spacecraft.
- » Functionally graded materials (FGMs) structures: Designs, developments and applications.
- » Dynamics of cracked structures (beams, shafts, rotors, turbine blades and pipes) made of FGMs.
- » Experimental setup for studying dynamic behavior of FGMs rotor system.
- » CFRC hydrogen pressure vessel: Optimized design, developments, and applications.
- » CFRC wind turbine blades: Optimized design, developments, and applications.
- » Mechanics of shear transformation zones in metallic glasses using LAMMPS and DFT-FE.

- » Modeling and simulation of mechanical systems
- » Combustion instability
- » Nonlinear dynamics
- » Heat Transfer
- » Nonconventional Machining, Micromachining,
- » Automobile Engineering, Modeling of Engineering Systems,
- » Flow and Heat Transfer Through Porous Media, Turbulent Jet Flow and Heat Transfer
- » Dynamics, Vibration and Control
- » Mechanics of composites, Finite Element Methods, machine Design
- » Additive Manufacturing & 3D Printing, Robotics & AI, CAD/CAM, Machine Design, Intelligent Manufacturing Systems
- » Manufacturing science
- » Power Plant Engineering, CO₂ sequestration, Thermodynamics, Energy, Circulating Fluidized Bed Technology
- » Tribology: Friction Wear and Lubrication
- » Flow Instability, Bluff body flows, Vortex Shedding
- » Renewable Energy

4.11.9 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
Tata Steel R & D Jamshedpur	Fluid Mechanics and Heat Transfer	Co-supervision of a MTech student
SAIL-DSP, IOCL Haldia	Railway Wheels Manufacturing	Die Design and Simulation.

4.11.10 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
University of Stuttgart, Germany	Thermodynamics	Bernhard Weigand	Student and Faculty Exchange
Duke University, USA	Thermodynamics	Adrian Bejan	Pedagogy
University of Lorraine, France	Thermodynamics	Michel Fedit	Pedagogy
Central Mechanical Engineering Research Institute, Durgapur, India	Thermodynamics	Malay Kumar Karmakar	Research
Indian Institute of Technology Bombay	Computational Multiphase Fluid Dynamics	Prof. Atul Sharma	Joint Ph.D. Guidance
University of Luxembourg	Biomechanics	Dr. Anupam Sengupta	Simulation and analysis of experimental observations
IIT Madras	Porous Medium and Instability	Dr. Sankha Karmakar	Simulation of hydrodynamic instability in porous medium
NIT Raipur	Biomedical Devices	Dr. Mainak Basu	Simulation of cellular flow in microchannels and Grant submission
NIT Durgapur	Fluid Mechanics	Dr. S. Pramanik	Academic and Research
NIT Durgapur	Thermodynamics	Dr. A. K. Pramanick	Academic and Research
Nil	NA	NA	NA
NIT Raipur	CFD Advancements Toward Thermal-Hydraulic Analysis of Flow Conditions in PWR Subchannels	DR. Shobha Lata Sinha	Guiding part time PhD scholar
Jadavpur University	Heat transfer and fluid flow	Dr Nirmalendu Biswas	Research

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
Central Mechanical Engineering Research Institute	Robotics	Dr. Dip Narayan Roy	Joint Under-graduate Students supervision
Indian Institute of Technology (BHU) Varanasi	Supply Chain Management	Dr. Saurabh Pratap	Joint PhD Supervision
NA	NA	NA	NA
NIT Calicut	Phase change material	Dr Sudev Das	Research
NIL	NIL	NIL	NIL
Jadavpur University	Dynamics in Thermal Systems	Prof. Achintya Mukhopadhyay (JU), Prof. Koushik Ghosh (JU), Dr. Aranyak Chakravarty (JU) and Dr Sirshendu Mondal (NITD)	Research in a Joint Project
Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram	Aeroelastic Instability	Dr. J Venkatramani	Research
IIT Delhi	Solar Energy Harvesting Systems	Prof. Anupam Dewan	Research
IIT Guwahati	Flow Instability	Dr. Bhaskar Kumar, Dept. of ME, IIT Guwahati	Collaborative Research work on topic Linear stability analysis of fluid flow past elliptic cylinders
CSIR-Central Mechanical, Engineering Research Institute, Durgapur	Soft Robotics	S.S.Roy	Collaborative project on soft-exoskeleton

4.11.11 Innovations and Technology Transfer (Patents filed during)

Title	Inventors	Application Nos	Date of Filing
Artificial Articular Cartilage And A Method Of Manufacturing The Same	Biswajit Bera	1767/KOL/2008	2008-10-20

4.11.12 Workshops/ Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Dr. Deepak Kumar, Dr. Nilanjan Chattaraj, Dr. Aritro Dey, Dr. Jayati Dey, Dr. Sujoy Saha	1 st Drone Bootcamp on UNMANNED AND AERIALSYSTEMS & RELATED TECHNOLOGY	2023-05-08
Dr. Deepak Kumar, Dr. Nilanjan Chattaraj, Dr. Aritro Dey, Dr. Jayati Dey, Dr. Sujoy Saha	2 nd Drone Bootcamp on UNMANNED AND AERIALSYSTEMS & RELATED TECHNOLOGY	2023-07-24
Dr. Deepak Kumar, Dr. Nilanjan Chattaraj, Dr. Aritro Dey, Dr. Jayati Dey, Dr. Sujoy Saha	3 rd Drone Bootcamp on UNMANNED AND AERIALSYSTEMS & RELATED TECHNOLOGY	0015-07-17

4.11.13 Journal: Published in 2023–2024 SCI/SCOPUS/ Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Biswajit Halder et. al.	Effects of a novel hybrid turbulator tape on the thermohydraulic performance and irreversibility of a solar air heater	Case Studies in Thermal Engineering	Volume:55 (2024) 104132 Issue No: Page No:1-17 Year:2024 Month:Feb
R. K. Singh, A. K. Pramanick, S. C. Rana	Computational analysis for temperature separation and correlation prediction for dualinlet-section vortex tube	Numerical Heat Transfer, Part B: Fundamentals	Volume:84 Issue No: Page No:465–485 Year:2023 Month:May
R. K. Singh, A. K. Pramanick, S. C. Rana	Computational analysis for cooling performance and effect of insulation on the vortex tube with different insulating material	Numerical Heat Transfer, Part A: Applications	Volume: Issue No: Page No:1–19 Year:2023 Month:Jul
R. K. Singh, S. K. Mahato, A. K. Pramanick, S. C. Rana	Numerical analysis for the thermal performance and flow separation in the vortex tube with different design of flow control valve	Journal of the Brazilian Society of Mechanical Sciences & Engineering	Volume:46 Issue No: Page No: Year:2024 Month:Jan
Singh, Ravi Kant and Mahato, Shambhu Kumar and Pramanick, Achintya Kumar and Rana, Subhas Chandra	Numerical analysis for the thermal performance and flow separation in the vortex tube with different design of flow control valve	Journal of the Brazilian Society of Mechanical Sciences and Engineering	Volume:46 Issue No:2 Page No:88 Year:2024 Month:Jan
Nagendra Kumar, Sujit Karmakar, Dheeraj Kumar, Amit Kumar, Pardeep Bishnoi	Energy, economics and environmental (3E's) analysis of a solar-assisted HRES through demand side management	Environmental Science and Pollution Research	Volume: Issue No: Page No: Year:2023 Month:Aug
Nitesh Kumar Choudhary, A. Pruthvi Deep, Sujit Karmakar	Thermodynamic Analysis of Integrated Gasification Combined Cycle Integrated with Organic Rankine Cycle for Waste Heat Utilization	Waste and Biomass Valorization	Volume:15 Issue No: Page No:3691–3709 Year:2024 Month:Feb
Nitesh Kumar Choudhary, Goutam Khankari,, Sujit Karmakar	Waste heat utilization using Organic Rankine Cycle from a Pressurized Pulverized Combined Cycle Power Plant	Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy	Volume:238 Issue No:5 Page No: Year:2024 Month:Mar
Nagendra Kumar, Sujit Karmakar	Techno-economic optimization of hydrogen generation through hybrid energy system: A step towards sustainable development	International Journal of Hydrogen Energy	Volume:55 Issue No: Page No:400–413 Year:2024 Month:Feb
Nagendra Kumar, Sujit Karmakar	Techno-eco-environmental analysis of a waste-to-energy based polygeneration through hybrid renewable energy system	Energy	Volume:283 Issue No: Page No:129199 Year:2023 Month:Nov
A. Pruthvi Deep, Sujit Karmakar	An equilibrium modelling and a parametric study of gasification process	International Journal of Global Warming	Volume:31 Issue No:1 Page No:1–13 Year:2023 Month:Aug
A. Pruthvi Deep, Sujit Karmakar	Thermodynamic Analysis of a Reconfigured 500-MWe Supercritical Thermal Power Plant by Integrating Solid Oxide Fuel Cell and a Gas Turbine	Arabian Journal for Science and Engineering	Volume:48 Issue No:9 Page No:11425–11439 Year:2023 Month:Sep

Author(s) Name	Paper Name	Journal Name	Others Info
R. K. Singh, A. K. Pramanick, S. C. Rana	Numerical analysis of temperature separation and exergy analysis of a dual-inlet section convergent vortex tube	Journal of Thermal Science and Engineering Applications	Volume:15 Issue No: Page No:071007 Year:2023 Month:Apr
Rajeev Kumar, Ranjan Kumar Mitra, Rahul Dewangan, Chintamani Mishra	Modelling and diagnosis of faults in simple bevel gear train	Wear	Volume:524–525 Issue No: Page No:204881 Year:2023 Month:Apr
S Gomathi, S Deepika, T Saravanakumar, Subhajit Patra, Jayabrata Dhar, Sankha Karmakar	Effect of Nonlinear Reaction on Miscible Gravitational Instability through Dispersive Porous Medium	Journal of Energy Engineering	Volume:150 Issue No:2 Page No:04024005 Year:2024 Month:Jan
Soumik Chakraborty, Uttam Kumar Kar, Sayantan Sengupta, Shantanu Pramanik	Influence of jumping-droplet condensation on the properties of separated flow in an air-cooled condenser tube: An Euler–Lagrange approach	Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy	Volume:237 Issue No:4 Page No:747–764 Year:2023 Month:Jun
Arka Banerjee, Sayantan Sengupta, Shantanu Pramanik	Computational Analysis of Rheological Secondary Flow in a Pipe–Manifold Containing InPlane Double Bends	Journal of Applied Fluid Mechanics	Volume:16 Issue No:12 Page No:2424–2437 Year:2023 Month:Dec
Swarup S Deshmukh, Arjyayoti Goswami	Experimental investigation of replication accuracy of polymerbased microfluidic chip fabricated through induction–assisted hot embossing and parametric optimization through nature–inspired algorithms	Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering	Volume:https://doi.org/10.1177/09544089231193 Issue No: Page No: Year:2023 Month:Aug
" Swarup Deshmukh, Pinal Rana and Arjyayoti Goswami	Fabrication of superhydrophobic surface by a dimensional change in surface topography of microchannel on polymer substrate through induction–aided hot embossing: parametric investigation and optimization	Surface Topography: Metrology and Properties	Volume:11 Issue No:3 Page No:1–34, DOI : https://doi.org/10.1088/2051-672X/acee9d Year:2023 Month:Aug
Swarup Deshmukh, Tuhin Kar and Arjyayoti Goswami	Investigation and multi–objective optimization of replication accuracy of microfluidic chip fabricated through inductionaided hot embossing	Journal of the Brazilian Society of Mechanical Sciences and Engineering	Volume:45 Issue No:628 Page No:https://doi.org/10.1007/s40430-023-04538-7 Year:2023 Month:Nov
Swarup Deshmukh, and Arjyayoti Goswami	Fabrication of hydrophobic optical diffuser film for LED lights through induction–aided hot embossing using micro–textured mold fabricated by μ -WEDM: parametric analysis, wettability study and optical characterization	Surface Topography: Metrology and Properties	Volume:12 Issue No:1 Page No:015010, DOI : 10.1088/2051-672X/ad1b12 Year:2024 Month:Feb
Satish Kumar Dhurandhar, S. L. Sinha and Shashi Kant Verma	Numerical Analysis of Effects of Vane Deflection Angle on Flow–Thermal Characteristics in a Fuel Rod Assembly	NUCLEAR TECHNOLOGY	Volume:210 Issue No:11 Page No:2050–2073 Year:2024 Month:Mar

Author(s) Name	Paper Name	Journal Name	Others Info
Vednath P. Kalbande, Shilpa Vinchurkar Yogesh N.Nandanwar Shashi Kant Verma, Pramod Walke	Global mathematical correlations for heat pipe and nanofluid based thermal energy storage system: Dimensional analysis approach	Environmental Progress & Sustainable Energy	Volume:43 Issue No:2 Page No: Year:2024 Month:Mar
Abhinav B. Desai , Rohan Dutta , Shashi Kant Verma , Avijit Dewasi, Hemang Agravat, Vishal Gupta , Samiran S. Mukherjee , Jyoti Shankar Mishra , Paresh Panchal , Pratik A. Nayak, Ranjana Gangradey	Manifestation of improvement in regenerator performance of a low and high-frequency pulse tube cryocooler using layered pattern	Thermal Science and Engineering Progress	Volume:45 Issue No:102112 Page No: Year:2023 Month:Oct
Kumar, R. , Mandal, S., Mishra, C., Hui, N.B., Mitra, R.K.	Defect Diagnosis of Bevel Gear System: A Study of Experimental and Simulated Signal	Journal of Sound and Vibration	Volume:593 Issue No: Page No: Year:2024 Month:Aug
Geeta Verma, Chandan Kumar Bharti, Rabindra Nath Barman	Steady Flow of Non-Newtonian Fluids: Momentum and Heat Transfer around a Rectangular Cylinder	Physics of Fluids	Volume:36 Issue No: https://doi.org/10.1063/5.0193172 Page No: Year:2024 Month:Jan
Raj, Deepak Kumar, Aparesh Datta, and Nitin Kumar Soni	Design of the microchannels heat sink to augment the thermal performance using different type of cavity with or without wavy Channel	Heat Transfer Engineering , Taylor and Francis	Volume: Issue No: Page No:1-18 Year:2024 Month:Feb
Das, Shinjini, Anwesha Das, Shirsa Nandy, Nirmal K. Manna, Nirmalendu Biswas, and Aparesh Datta	Magnetohydrodynamic thermal convection in constraint-based recto-triangular cavities with CuO-water nanofluid and differential bottom-top heating	Thermal Science and Engineering Progress	Volume:47 Issue No: Page No:102297 Year:2024 Month:Jan
Prasad, Jay Shankar, Aparesh Datta, and Sirshendu Mondal	Flow and thermal behavior of solar air heater with grooved roughness	Renewable Energy	Volume:220 Issue No: Page No: Year:2024 Month:Jan
Kalita, Jinmay, Subham Show, Nirmalendu Biswas, and Aparesh Datta	Atherosclerosis risk assessment in human carotid artery with variation in sinus length: a numerical approach	Computer Methods in Biomechanics and Biomedical Engineering	Volume: Issue No: Page No: Year:2023 Month:Nov
Mondal, Milan K., Nirmalendu Biswas, Aparesh Datta, Dipak Kumar Mandal, and Nirmal K. Manna	Magneto-hydrothermal convective dynamics of hybrid nanofluid-packed partially cooled porous cavity: effect of halfsinusoidal heating	Journal of Thermal Analysis and Calorimetry	Volume:148 Issue No:9 Page No:3903-3928 Year:2023 Month:May
Arijit Bhattacharya, Sirshendu Mondal, Somnath De, Achintya Mukhopadhyay, Swarnendu Sen	Synchronisation behaviour between two candle flame oscillators with similar and dissimilar amplitudes of oscillations.	Combustion Theory and Modelling	Volume:27 Issue No:3 Page No:291-316 Year:2023 Month:Apr
Dheeraj Tripathi, Sirshendu Mondal, J Venkatramani	Frequency-specific phase synchronization analysis of a stall-induced aeroelastic system undergoing 2: 1 internal resonance in a low-speed wind tunnel	Nonlinear Dynamics	Volume:111 Issue No: Page No:12899-12920 Year:2023 Month:May

Author(s) Name	Paper Name	Journal Name	Others Info
S Akshay, EA Gopalakrishnan, V Sowmya, J Venkatramani, Dheeraj Tripathi, Jay Shankar Prasad, Sirshendu Mondal	Open Set Domain Adaptation for Classification of Dynamical States in Nonlinear Fluid Dynamical Systems	IEEE Access	Volume:12 Issue No: Page No:699-726 Year:2024 Month:Jan
R. Kumar, R. K. Mitra, R. Dewangan, and C. Mishra.	Modelling and diagnosis of faults in simple bevel gear train	Wear, Elsevier	Volume: Issue No: Page No: Year:2023 Month:
Kumar, R. Kumar and R. K. Mitra	Stability of Periodic Orbits and Bifurcation Analysis of Ship Roll Oscillations in Regular Sea Waves	International Journal of Bifurcation and Chaos	Volume: Issue No: Page No: Year:2023 Month:
R. Kumar and R. K. Mitra	Controlling period-doubling route to chaos phenomena of roll oscillations of a biased ship in regular sea waves	Nonlinear Dynamics	Volume: Issue No: Page No: Year:2023 Month:
R K Mitra, S S Mondal and A K Banik	Dynamic stability and control of vortex induced oscillations of tension leg platform tethers	Journal of Sound and Vibration	Volume: Issue No: Page No: Year:2024 Month:
Rajesh Kumar, Sujit Karmakar	Exergy Analysis of Modified Supercritical Power Plant with Solar-assisted Feedwater Heating and CO ₂ Capture	International Journal of Exergy	Volume:41 Issue No:1 Page No:91-109 Year:2023 Month:May
Nitesh Kumar Choudhary, Sujit Karmakar	Analysis of Kalina cycle for recovering waste heat from flue gas exhaust in pressurised pulverised combined cycle	International Journal of Exergy	Volume:43 Issue No:1 Page No:21-39 Year:2024 Month:Feb
{Das, Asim Kumar and Singh, Ravi Kant and Gupta, Nakul and Kumar, Amit and Dwivedi, Yagya Dutta and Rana, Subhas Chandra and Roy, Manideep and Singh, Pooja and Ansu, Alok kumar and Goyal, Ashish and others	Comparative study using renormalized group $k-\epsilon$, realizable $k-\epsilon$, and standard $k-\epsilon$ models for flow through S-shaped diffuser	International Journal on Interactive Design and Manufacturing (IJIDeM)	Volume:18 Issue No:5 Page No:3397--3411 Year:2023 Month:Dec
Tuhin Kar, Arjyayoti Goswami and Nirmal Mandal	Multi-response optimization of CNC milling parameters for improving performance characteristics using RSM and MOGA	Advances in Materials and Processing Technologies	Volume: https://doi.org/10.1080/2374068X.2023.2208022 Issue No:1 Page No:1-15 Year:2023 Month:May
Daniel, S., Banerjee, N., Majumder, M., Vishweshwara, S.C	Effect of Mg on Al-Mg Alloy and Electroless Ni-P Codeposition of nano-Al ₂ O ₃ : Mechanical, Wear, and Corrosion Resistance Properties	(2023) Trends in Sciences, 20 (10), art. no. 6793,	Volume:20 Issue No:10 Page No: Year:2023 Month:Oct
Chakraborty, M., Banerjee, N., De, S.	Analysis and optimization of die geometry for forging dies in railway wheel manufacturing	International Journal on Interactive Design and Manufacturing	Volume:Volume 18 Issue No:4 Page No:Pages 2449- 2465 Year:2024 Month:May

Author(s) Name	Paper Name	Journal Name	Others Info
Banerjee, P. , Laha, R. , Dikshit, M.K. , ... Prakash, C. , Buddhi, D.	A study on the performance of various predictive models based on artificial neural network for backward metal flow forming process	International Journal on Interactive Design and Manufacturing	Volume:18 Issue No: Page No:1141–1150 Year:2024 Month:
Satish Kumar Dhurandhar, S. L. Sinha and Shashi Kant Verma	NUMERICAL ANALYSIS FOR EFFECTS OF GRID SPACER VANE ON FLOW-THERMAL CHARACTERISTICS OF TWO PHASE FLOW IN A 5 × 5 ROD BUNDLE	Multiphase Science and Technology	Volume:36 Issue No:3 Page No:19–44 Year:2024 Month:Jan
Debasish Das, Debasish Nandi, Indrajit Basak, Alakesh Manna	Machine Learning-Based Prediction of Electrical Discharge Initiation Time for Static and Dynamic Nature of Dielectrics in EDM	Journal of The Institution of Engineers (India): Series C	Volume:104 Issue No:4 Page No:779–787 Year:2023 Month:Aug
Satish Kumar DHURANDHAR, Shobha Lata SINHA, Shashi Kant VERMA	Numerical simulation to study mixing vane spacer effects on heat transfer performance of supercritical pressure fluid in an annular channel	Journal of Thermal Engineering	Volume:9 Issue No:6 Page No: 1428–1441 Year:2023 Month:Nov
Dheeraj Kumar, Apurba Layek	Heat Transfer Augmentation of a Solar Air Heater Using a Twisted V-Shaped Staggered Rib Over the Absorber Plate	Journal of Solar Energy Engineering	Volume:Vol.145 IssueNo:021013–1 PageNo: Year:2023 Month:
U.K Kar, SSengupta, S Pramanik	Dynamics of condens at efilm in the vicinity of a pulling vaporstream	Physics of Fluids	Volume:34 IssueNo:12 PageNo:123611:1–19 Year:2022 Month:Dec
S Chakraborty, UK Kar, S Sengupta, S Pramanik	Influence of jumping-droplet condensation on the properties of separated flow in an air-cooled condenser tube: An Euler-Lagrange approach	Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy	Volume:237 IssueNo:4 PageNo:747–764 Year:2022 Month:Nov
UK Kar, S Sengupta, S Pramanik, S Chakraborty	An analytical theory for the forced convection condensation of shear-thinning fluids onto isothermal horizontal surfaces	Applied Mathematics and Computation	Volume:421 IssueNo: PageNo:126909:1–15 Year:2022 Month:May
A Ganguly, S Sengupta, S Pramanik	Waste heat recovery using Tesla turbine sin Rankine cycle power plants: Thermo fluid dynamic characterization, performance assessment and exergy analysis	Applied Thermal Engineering	Volume:207 IssueNo: PageNo:118141:1–20 Year:2022 Month:May
J.Dhar, P.Meunier, F. Nadaland Y.Méheust	Convective dissolution of carbon dioxide in two- and three-dimensional porous media: The impact of hydrodynamic dispersion	Physics of Fluids	Volume:34 IssueNo:6 PageNo:064114 Year:2022 Month:Jun
J.Dhar, A.L.P.Thai, A.Ghoshal, L.Giomi, and A. Sengupta	Self-regulation of phenotypic noise synchronize semergent organization and active transport in confluent microbial environments	Nature Physics	Volume:18 IssueNo:8 PageNo:945–951 Year:2022 Month:Jul

Author(s) Name	Paper Name	Journal Name	Others Info
S.Mukherjee, J.Dhar, S.Das Gupta, and S. Chakraborty	Electro kinetically augmented load bearing capacity of a deformable micro fluidic channel	Physics of Fluids	Volume:34 IssueNo:8 PageNo:082019 Year:2022 Month:Aug
Amit Kumar, Apurba Layek	Heat Transfer Measurement in a Rectangular Channel of Solar Air Heater With Winglet-Type Ribs Using Liquid Crystal Thermography	Journal of Thermal Science and Engineering Applications	Volume:Vol.14 IssueNo:041006-1 PageNo: Year:2022 Month:
A.Sengupta, J.Dhar*, Danza, A.Ghoshal, S.MüllerandN. Kakavand(*Joint1stauthor)	Active reconfiguration of cytoplasmic lipid droplets governs migration of nutrient-limited phytoplankton	Science Advances	Volume:8 IssueNo:44 PageNo:eabn6005 Year:2022 Month:Nov
Amit Kumar, Apurba Layek	Therm-hydraulic performance of solar air heater having winglet type roughness element	Journal of thermal analysis and calorimetry	Volume:10.1007/s10973-022-11286-8 IssueNo: PageNo:Year:2022 Month:
Swarup Deshmukh and Arjyajyoti Goswami	Parametric study of microlens array fabricated on polymer substrate through hot embossing with a micro-EDM mould and its optical characterisation	Advances in Materials and Processing Technologies	Volume: Issue No:https://doi.org/10.1080/2374068X.2022.2101322. Page No: Year:2022 Month:Jul
Arora, A.,Sarkar,D., Majumder, A., Sen, S.,Roy, S.S.	Hybridized neural network inspired behavioural modelling of pneumatic artificial muscles for assistive robotic applications	Industrial Robot	Volume:50 IssueNo:1 PageNo:56-69 Year:2023 Month:Jan
Das, A.K., Singh, R.K., Roy,M., Kumar,A., Rana, S.C., Ansu, A.K., Goyal, A.,Oza, A.D., Kumar, M., Gehlot, A.:	Optimum design of S-shaped diffuser by studying the effect of inlet velocity, turning angle and area ratio.	International Journal on Interactive Design and Manufacturing (IJIDeM).	Volume:IssueNo:Page No:1-13 Year:2022 Month:Dec
Tanmoy Mondal, Neel Srivastava,S.M. O'Shaughnessy, Shantanu Pramanik	Comparison of the mean flow and turbulence characteristics of a single offset jet and a dual offset jet	European Journal of Mechanics-B/Fluids	Volume:98 IssueNo: PageNo:161-179 Year:2023 Month:Mar
Arnab Ghosh Mazumder, Ritabrata Saha,Sirshendu Mondal, Koushik Ghosh, Achintya Mukhopadhyay, Swarnendu Sen	Dynamics of a single-phase natural circulation system under harmonic excitation	Chaos:An Inter disciplinary Journal of Nonlinear Science	Volume:32 IssueNo:12 PageNo:123125-1: 123125-10 Year:2022 Month:Dec
Anupam Ghosh, Sirshendu Mondal, RISujith	Occasional coupling enhances amplitude death in delay-coupled oscillators	Chaos:An Inter disciplinary Journal of Nonlinear Science	Volume:32 IssueNo:10 PageNo: Year:2022 Month:Oct
Somnath De, Sabyasachi Mondal, Arijit Bhattacharya, Sirshendu Mondal, Achintya Mukhopadhyay, Swarnendu Sen	Dynamics of Premixed Flames Near Lean and Rich Blow out	Combustion Science and Technology	Volume:IssueNo: PageNo:1-17 Year:2022 Month:Sep
Dheeraj Tripathi, R Shreenivas,Chandan Bose,Sirshendu Mondal,J Venkatramani	Experimental investigation on the synchronization characteristics of a pitch-plunge aero elastic system exhibiting stall flutter	Chaos:An Inter disciplinary Journal of Nonlinear Science	Volume:32 IssueNo:7 PageNo:Year:2022 Month:Jul

Author(s) Name	Paper Name	Journal Name	Others Info
Arijit Bhattacharya, Somnath De, Sirshendu Mondal, Achintya Mukhopadhyay, Swarnendu Sen	Early detection of lean blowout using recurrence network for varying degrees of premixedness	Chaos:An Interdisciplinary Journal of Nonlinear Science	Volume:32 IssueNo:6 PageNo:Year:2022 Month:Jun
Vishal Gupta, Ranjana Gangradey, Samiran S.MukipulL.Tannaaherjee, Jyoti Shankar Mishra, Pratik A. Nayak, Paresh Panchal, V, Yuvakiran Paravastu, Dilip C. Raval, ZiauddinKhan, Siju George, Atul Garg, LN Srikanth, Avijit Dewasi, Shashi Kant Verma, Rohan Dutta, Hemang Agravat	Performance testing of the liquid nitrogen cooled sorption cryopump for application in SST- 1Tokamak	Fusion Engineering and Design	Volume:181 IssueNo: PageNo:113212 Year:2022 Month:Aug
Ranjana Gangradey, Samiran S. Mukherjee, Vishal Gupta, Paresh Panchal, Pratik Nayak, JyotiS.Mishra, Avijit Dewasi, Shashi Kant Verma	Design and development of a liquid nitrogen cooled test cryo pump for application in Steady- state Super conductingTokamak-I	Vacuum	Volume:200 IssueNo: PageNo:110986 Year:2022 Month:Jun
Dheeraj Kumar, Apurba Layek	Nusselt number and friction characteristics of solar air heater roughened with novel twistedV- shaped staggered ribs using liquid crystal thermography	Renewable Energy	Volume:Vol 201 IssueNo: PageNo: 651–666 Year:2022 Month:
Dheeraj Kumar, Apurba Layek	Heat Transfer Enhancement of Solar Air Heater Having Twisted V-Shaped Staggered Roughness Over Absorber Plate	Arabian Journal for Science and Engineering	Volume:48 Issue No:https:// doi.org/10.1007/s13369-022- 07319-x Page No:3931–3946 Year:2023 Month:
R.K.Singh,A. K. Pramanick, andS.C. Rana	Computational study of temperature separation for a three- dimensional vortex tube with cold exit diameter and nozzle number variation	International Journal of Ambient Energy	Volume:43 IssueNo:1 PageNo:7046–7060 Year:2022 Month:
Amit Kumar, Apurba Layek,	Effect of heat transfer and pressure drop characteristics on the performance analysis of an artificially roughened solar air heater	Heat and Mass Transfer	Volume:59 Issue No:891–907 Page No:10.1007/s00231- 022-03296-x Year:2023 Month:
Dheeraj Kumar, Apurba Layek	Experimental assessment of thermo-hydraulic performance of a rectangular solar air heater duct using twisted v-shaped staggered ribs	Journal of Thermal Science and Engineering Applications	Volume:Vol. 15(4) Issue No:41009 Page No: doi:10.1115/1.4056878. Year:2023 Month:

Author(s) Name	Paper Name	Journal Name	Others Info
Dheeraj Kumar, Apurba Layek, Amit Kumar	Enhancement of Thermal efficiency and development of Nusselt number correlation for the solar air heater collector roughened with artificial ribs for thermal applications	Environmental Science and Pollution Research	Volume: https://doi.org/10.1007/s11356-023-28096-6 . Issue No: Page No: https://doi.org/10.1007/s11356-023-28096-6 . Year:2023 Month:
BishwajitSharma, Geeta Verma and RabindraNath Barman	Steady flow of power-law fluids past a lotted circular cylinder at low Reynolds number	Physics of Fluids	Volume:34 IssueNo:9 PageNo:093615 Year:2022 Month:Sep
Avijit Dalal, Ankita Bebart, Argha Deep Paul, Rabindranath Barman, Jean-Michel Nunzi, Alexey Tameev, Rajat Mahapatra, AniruddhaMondal.	Iron-Sensitive Three-Terminal Device as a Universal Hybrid Platform With TiO ₂ Nanowires on the Channel	IEEE Sensors Journal	Volume:23 IssueNo:3 PageNo:1917-1924 Year:2023 Month:Jan
Bishwajit Sharma and Rabindra Nath Barman	Unsteady Flow past a lotted circular cylinders in laminar regime:Effect of slit shapes and Reynolds number	Physics of Fluids	Volume:35 IssueNo:1 PageNo:3602 Year:2023 Month:Jan
Soumyoraj Mallick and Debabrata Gayen	Thermal behavior and thermal runaway propagation in lithium-ion battery systems—A critical review	Journal of Energy Storage	Volume:62 IssueNo: PageNo:106894 Year:2023 Month:Feb

4.11.14 Journal: Published in Others in 2023–2024

Author(s) Name	Paper Name	Journal Name	Others Info
Arka Banerjee, Sayantan Sengupta and Shantanu Pramanik	Computational Analysis of Rheological Secondary Flow in a Pipe-Manifold Containing In-Plane Double Bends	Journal of Applied Fluid Mechanics	Volume:16 Issue No: 12 Page No:2424–2437 Year:2023 Month:Jul
Sayantan Sengupta, Uttam Kumar Kar, Arijit Banerjee and Shantanu Pramanik	A theory of rheological film condensation	Journal of Dispersion Science and Technology	Volume: 45 Issue No:12 Page No: 2315–2329 Year: 2023 Month: Aug

4.11.15 Conference: Published in 2023–2024 DOI/ISBN

Author (s) Name	Paper Name	Conference Name	Others Info
A. K. Pramanick	Teaching law of motive force and constructal law to sophomore	12 th Constructal Law Conference 2023	DOI/ISBN: 978-975-461-616-3 Volume: Issue No: Page No:151-154 Year:2023 Month:Sep Presenter:SELF
Mahato, Arunabha and Singh, Ravi Kant and Barnwal, Rahul and Rana, Subhas Chandra	Aerodynamic characteristics of NACA 0012 vs. NACA 4418 airfoil for wind turbine applications through CFD simulation	Materials Today: Proceedings	DOI/ISBN: https://doi.org/10.1016/j.matpr.2023.05.439 Volume: Issue No: Page No: Year:2023 Month:May Presenter:CO-AUTHOR

Author (s) Name	Paper Name	Conference Name	Others Info
Sarangi, Debivarati and Reddy, M Tharuneswar and Murugan, T and Rana, Subhas Chandra	Computational study of a conceptual re-entry vehicle's aerodynamic characterization at Mach number-2	Materials Today: Proceedings	DOI/ISBN: https://doi.org/10.1016/j.matpr.2023.05.462 Volume: Issue No: Page No: Year:2023 Month:Jun Presenter:CO-AUTHOR
Tiwari, Akanksha and Rana, Subhas Chandra	Numerical simulation on triple helix ground source heat exchanger for improving its thermal performance using nanoparticles	Materials Today: Proceedings	DOI/ISBN: https://doi.org/10.1016/j.matpr.2023.05.411 Volume: Issue No: Page No: Year:2023 Month:Jun Presenter:CO-AUTHOR
Orkodip Mookherjee, Shantanu Pramanik and Atul Sharma	On the Performance of THINC-scaling CLSVOF Scheme for Two-Phase Flows	27 th National and 5 th International ISHMT-ASTFE Heat and Mass Transfer Conference December 14-17, 2023, IIT Patna, Patna-801106	DOI/ISBN: ISSN: 2688-7231(Online) Volume: Issue No: Page No:295-300 Year:2023 Month:Dec Presenter:CO-AUTHOR
Ritwik Kumar, Sayantan Sengupta	Influence of Prandtl number on closed cavity convective flow structures formed adjacent to an anti-symmetrically heated cylinder pair	Proceedings of the 27 th National and 5 th International ISHMT-ASTFE Heat and Mass Transfer Conference, IIT Patna, Patna-801106, Bihar, India	DOI/ISBN: DOI: 10.1615/IHMTC-2023.390 Volume: Issue No: Page No: 235-240 Year: 2023 Month: Dec Presenter: CO-AUTHOR
Subhadeep Saha, Ratnesh Kumar	A review of the latest research on direct energy deposition technique using wire and arc additive manufacturing	Advances of the material science and engineering	DOI/ISBN: 978-81-19006-98-4 Volume: Issue No: Page No:148-159 Year: 2023 Month: Oct Presenter: SELF
Darsh Kachroo, Prabas Banerjee, Ashish Bera & Nirmal Baran Hui	Data-Driven Evaluation of Predictive Models for Estimation of Springback in Backward Metal Flow Forming Process	International Conference on Futuristic Advancements in Materials, Manufacturing and Thermal Sciences	DOI/ISBN: https://doi.org/10.1007/978981-97-4324-7_33 Volume: Issue No: Page No: Year:2024 Month:Jul Presenter:CO-AUTHOR
Chandan Kumar Bharti, Geeta Verma, Bishwajit Sharma, Arkya Gupta, Rabindra Nath Barman	Heat transfer analysis of steady flow of non-Newtonian fluid across a square cylinder.	International Conference on Recent Advances in Fluid Mechanics and Nano electronics (ICRAFMN-2023)	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Jul Presenter:CO-AUTHOR
D. Gayen, R.K. Mitra, S. Swar, D. Ghosh, N. Dey	Stress analysis of tapered laminated composite beam under hygrothermal environment	2 nd International Conference on Mechanical Engineering	DOI/ISBN: 978-81-954806-6-1 Volume: Issue No: Page No:327-330 Year:2024 Month:Jan Presenter:SELF
Subrata Dutta, Arnab Chakraborty, Aurnil Mukherjee, Sirshendu Mondal	Spatiotemporal Dynamics of Merging Flames: Experiments and Spectral Proper Orthogonal Decomposition Analysis	Proceedings of the 27 th National and 5 th International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTC 2023)	DOI/ISBN: 10.1615/IHMTC-2023.950 Volume: Issue No: Page No:585-590 Year:2023 Month:Dec Presenter:SELF

Author (s) Name	Paper Name	Conference Name	Others Info
Jay Shankar Prasad, Aparesh Datta, Sirshendu Mondal	Numerical Study of Thermal and Flow Behaviour near the Heated Wall with Novel Offset Ribs Incorporated Inside a Solar Air Heater	Proceedings of the 27 th National and 5 th International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC 2023)	DOI/ISBN: 978-1-56700-546-2 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR
Subrata Dutta, Arnab Chakraborty, Auronil Mukherjee, Sirshendu Mondal	Experimental Analysis and Reduced Order Modelling of Merging Flames	Gas Turbine India Conference	DOI/ISBN: 10.1115/GTINDIA2023118340 Volume: Issue No: Page No:V001T04A005 Year:2023 Month:Dec Presenter:SELF
Debajyoti Ray, Asit Baran Puri	Experimental Study on Micro-Milling of Bulk Metallic Glass	2 nd International Conference on Mechanical Engineering (INCOM 2024)	DOI/ISBN: ISBN: 978-81-954806-6-1 Volume: Issue No: Page No:809-812 Year:2024 Month:Jan Presenter:CO-AUTHOR
Y.Méheust,J.Dhar,P. Meunier,andF.Nadal	Convective dissolution of Carbon Dioxide in two-and three-dimensional porous media: the impact of hydro dynamic dispersion	EGU General Assembly 2022	DOI/ISBN: 10.5194/egusphere-egu22-13563 Volume: Issue No: Page No:EGU22-13563 Year: 2022 Month: May Presenter: CO-AUTHOR
S. Ashraf, J. Dhar, P. Meunier, F. Nadal, and Y. Méheust,	Experiment al study of miscible Rayleigh-Taylor convection in a granular porous medium	EGU General Assembly 2022	DOI/ISBN:10.5194/egusphere-egu 22- 11813 Volume: Issue No: Page No:EGU22-11813 Year:2022 Month: May Presenter: CO-AUTHOR
Sk. Nasir Hasan, A. Kumar, K. Khan	Parametric Study of Stress Distribution in Bimodular Curved Beam	International Conference on Thermo-Fluids and System Design 2022	DOI/ISBN: https://doi.org/10.1016/j.matpr.2022.03.301 Volume: Issue No: Page No:27-33 Year:2022 Month:Mar Presenter:CO- AUTHOR
Nagendra Kumar, Sujit Karmakar	Techno-Environmental-Economic Analysis of Distributed Trigeneration HRES	2022 International Conference on Electrical, Computer, Communications and Mechatronics, Maldives National University (MNU), Maldives	DOI/ISBN:10.1109/ICECCME55909.2022.9988579 Volume: Issue No: Page No:1-6 Year: 2022 Month: Nov Presenter: SELF
R.K.Singh,A. K. Pramanick,andS.C.Rana	Study of the impact of flow valve design on the temper at ure separation in the vortex tube with computational approach	Fluid Mechanics and Fluid Power (FMFP2022)	DOI/ISBN: N/A Volume: Issue No: Page No:N/A Year: 2022 Month: Dec Presenter: CO-AUTHOR
Animesh Patari, Shantanu Pramanik and Tanmoy Mondal	Comparative Study of Turbulent Heat Transfer in Plane Wall Jet Using Different k-ε RANS Models	9 th International and 49 th National Conference on Fluid Mechanics and Fluid Power (FMFP)	DOI/ISBN:NA Volume: Issue No: Page No: NA Year:2022 Month: Dec Presenter: CO-AUTHOR

Author (s) Name	Paper Name	Conference Name	Others Info
Orkodip Mookherjee , ShantanuPramanik,and AtulSharma	Comparative CmFD Study on Geometric and Algebraic Coupled Level Set & Volume of Fluid Methods	9 th International and 49 th National Conference on Fluid Mechanics and Fluid Power (FMFP)	DOI/ISBN: NAVolume: Issue No:Page No: NA Year:2022 Month: Dec Presenter: SELF
ArkaBanerjee,Sayantan	Computational Fluid Dynamic	International Conference on Recent	DOI/ISBN: NA Volume: Issue No: Page
Sengupta and Shantanu Pramanik	Investigation of non- Newtonian Turbulent Duct-flow Subsequenttoin- plane Double Bends	Advances in Fluid Mechanics ICRAFM-2022, Organised by- Manipal Institute of Technology, MAHE, Manipal (Online)	No:63-64 Year: 2022 Month: Oct Presenter: CO-AUTHOR
Arka Banerjee, Sayantan Sengupta, Nawes Qamar, Shantanu Pramanik	Computational Analysis on the Three- dimensionality of Turbulent Duct Flow Subsequent to In-plane Double Bends	2 nd International & 14 th National Conference on "Industrial Problems on Machines & Mechanisms (Ipromm 2022)", -IIT- ISMDhanbad.	DOI/ISBN: NA Volume: Issue No: Page No: NA Year: 2022 Month: Dec Presenter: CO- AUTHOR
Debabrata Roy, Apurba Layek,	Analytical Study of Emission and Combustion Characteristics of Biodiesel Fueled Conventional Diesel Engine	Advances in Basic and Applied Sciences In Digital Age: Few Selected Areas, Conference on "Science, Technology and Management-2022.	DOI/ISBN: Volume: Issue No:Page No: Year: 2022 Month: July 8-9 Presenter:
Apurba Layek	Performance, combustion and emission characteristics of CI engine using waste cooking oil methylester-diesel -ethanol blends,	International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME), Maldives National University, Maldives	DOI/ISBN: 978-1-6654- 7095-7/22 Volume: Issue No: Page No: Year: 2022 Month: Nov Presenter: SELF
Dheeraj Kumar, Apurba Layek,	Experimental study to determine the effect of staggered distance on the Nusselt number and friction characteristics of solar air heater using LC T technique	9 th International and 49 th National Conference on Fluid Mechanics and Fluid Power (FMFP), IIT Roorkee	DOI/ISBN: 978-981-99- 5751-4 Volume: Issue No: Page No: Year: 2022 Month: Dec Presenter: CO-AUTHOR

4.11.16 Conference: Accepted in 2023-2024 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
Subhadeep Saha, Ratnesh Kumar	A comprehensive review of the latest advances in wire arc additive manufacturing: Physical Characteristics, defects & quality enhancement	International conference on additive manufacturing engineering (ICAM 2024)	DOI/ISBN: 0 Volume: Issue No: Page No: 56 Year: 2024 Month: Mar Presenter: SELF

4.11.17 Conference: Published in Others in 2023–2024

Author(s) Name	Paper Name	Conference Name	Others Info
D Gayen, R K Mitra, S Swar, D Ghosh and N Dey	Stress analysis of tapered laminated composite beam under hygrothermal environment	INCOM2024	DOI/ISBN: NA Volume: Issue No: Page No: Year:2024 Month: Presenter:CO–AUTHOR
Nitesh Kumar Choudhary, Sujit Karmakar	Techno–Economic Analysis of Organic Rankine Cycle with Different Working Fluids for Waste Heat Recovery from Coalbased Power Plant	International Conference on Sustainable Energy Sources, Technologies and Systems (ICSESTS 2023), Lovely Professional University, Punjab	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month: Presenter:CO–AUTHOR
Nitesh Kumar Choudhary, Sujit Karmakar	Thermodynamic Analysis of Waste Heat Powered Absorption Cooling System	Workshop on Advances of the Material Science and Engineering (ATMSE 2023), NIT Durgapur	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month: Presenter:CO–AUTHOR
Nagendra Kumar, Askand Kumar, Sujit Karmakar	Techno–Economic Optimization of HRES: A Trajectory Towards Sustainable Development	Workshop on Advances of the Material Science and Engineering (ATMSE 2023), NIT Durgapur	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month: Presenter:CO–AUTHOR

4.11.18 Conference: Accepted in Others 2023–2024

Author(s) Name	Paper Name	Conference Name	Others Info
S. Mandal , R. Kumar, N. B. Hui , C. Mishra	Ball bearing fault identification using Knearest neighbor classifier	AIMTDR 23	DOI/ISBN: 2195–4364 Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO–AUTHOR
Avishek Mukherjee, Sayantan Sengupta, Achintya Kumar Pramanick	Implementation Of Athroat–Bottom Chimneyfor Performanceenhancement Of Amodified Solar Chimney power Plant	Net–Zero Emission Technologies for Sustainable Development: Challenges and Opportunities (NOET – 2023)	DOI/ISBN: Proceedings not published yet Volume: Issue No: Page No:N/A Year:2023 Month:Dec Presenter:CO–AUTHOR

4.11.19 Books Authored

Author Name	Co–Author	Title of the Book	Title of the Chapter	Publication Details
A. K. Pramanick	A. Mukherjee, S. Sengupta, U. K. Kar	Advances in Mechanical Engineering and Material	Artificial Roughness–Aided Performance Improvement of a Solar Chimney Power Plant: A Numerical Investigation of Conjugate Heat Transfer	Publisher: Springer, Singapore Publication Date: 2023–10–17
A. K. Pramanick	R. K. Singh, S. C. Rana	Lecture Notes in Mechanical Engineering	Study of the Impact of Flow Valve Design on the Temperature Separation in the Vortex Tube with Computational Approach	Publisher: Springer, Singapore Publication Date: 2024–01–17

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Shantanu Pramanik	Arka Banerjee, Sayantan Sengupta, Nawes Qamar	Recent Advances in Industrial Machines and Mechanisms Select Proceedings of IPRoMM 2022	Computational Analysis on the Three-Dimensionality of Turbulent Duct- Flow Subsequent to In- Plane Double Bends	Publisher: Springer, Singapore Publication Date: 2024-0105
Shantanu Pramanik	Orkodip Mookherjee, Atul Sharma	Fluid Mechanics and Fluid Power, Volume 5	Comparative CmFD Study on Geometric and Algebraic Coupled Level Set and Volume of Fluid Methods	Publisher: Springer, Singapore Publication Date: 2024-0303
Shantanu Pramanik	Animesh Patari, Tanmoy Mondal	Fluid Mechanics and Fluid Power, Volume 2	Comparative Study of Turbulent Heat Transfer in Plane Wall Jet Using Different k-ε RANS Models	Publisher: Springer, Singapore Publication Date: 2024-0202
Shantanu Pramanik	Uttam Kumar Kar, Sayantan Sengupta	Advances in Mechanical Engineering and Material Science (ICAMEMS 2023)	On the Critical Role of Surface Tension in Film Condensation onto a Horizontal Cylinder	Publisher: Springer, Singapore Publication Date: 2023-1017
Chintamani Mishra	Rajeev Kumar, Purusottam Nanda & Ranjan Kumar Mitra	Recent Advances in Industrial Machines and Mechanisms	Modelling, Simulation and Defect Diagnosis of an Epicyclic Gear	Publisher: Springer, Singapore Publication Date: 2024-01-05
Sayantan Sengupta	Avishek Mukherjee, Uttam Kumar Kar, Achintya Kumar Pramanick	Advances in Mechanical Engineering and Material Science (ICAMEMS 2023)	Artificial Roughness- Aided Performance Improvement of a Solar Chimney Power Plant: A Numerical Investigation of Conjugate Heat Transfer	Publisher: Springer Nature Singapore Publication Date: 2023-04-20
Sayantan Sengupta	Uttam Kumar Kar, Shantanu Pramanik	Advances in Mechanical Engineering and Material Science (ICAMEMS 2023)	Sayantan Sengupta On the Critical Role of Surface Tension in Film Condensation onto a Horizontal Cylinder	Publisher: Springer Nature Singapore Publication Date: 2023-04-20
Sayantan Sengupta	Arka Banerjee, Nawes Qamar, Shantanu Pramanik	Recent Advances in Industrial Machines and Mechanisms (IPRoMM 2022)	Computational Analysis on the Three- Dimensionality of Turbulent Duct-Flow Subsequent to In-Plane Double Bends	Publisher: Springer Nature Singapore Publication Date: 2024-01-05
Mithilesh K. Dikshit, Vimal Kumar Pathak	Asit Baran Puri and J. Paulo Davim	Futuristic Manufacturing- Perpetual Advancement and Research Challenges		Publisher: CRC Press, Taylor and Francis Group Publication Date: 2023-0415
Debajyoti Ray	Asit Baran Puri	Futuristic Manufacturing- Perpetual Advancement and Research Challenges	Mechanical Micro- milling: A Broader Perspective of the Process	Publisher: CRC Press, Taylor and Francis Group Publication Date: 2023-0415

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Debajyoti Ray	Asit Baran Puri	Properties and Uses of Metallic Glass	Micromachining of Bulk Metallic Glass: A Comprehensive Study into the Micromachining Performances	Publisher: CRC Press, Taylor and Francis Group Publication Date: 2024-0315
Nagendra Kumar	Sujit Karmakar	Recent Advances in BioEnergy Research	Techno-Economics Assessment of a Distributed Generation Hybrid Renewable Energy System: Western Ghats, Kerala, India	Publisher: Springer Publication Date: 2023-1031

4.11.20 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
12 th Constructal Law Conference 2023	Politecnico di Torino, Italy	2023-09-21	2023-09-22	Italy
FMFP-2023 Workshop: 8 th National Workshop on Research Methodologies in Fluid Mechanics	IIT Jodhpur (Mechanical Engineering Department)	2023-07-12	2023-07-15	India
International Conference on Recent Advances in Fluid	Manipal Institute of Technology Bengaluru, INDIA	2024-07-12	2024-07-14	India
International Conference on Advances in Mechanical Engineering (ISME-2023)	PES University Bengaluru, INDIA,	2024-07-13	2024-07-15	India
27 th National and 5 th International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC 2023)	IIT Patna	2023-12-14	2023-12-17	India
ASME Turbo Expo 2023 – Gas Turbine India Conference (GTIndia 2023)	ASME	2023-12-07	2023-12-08	India
2 nd International Conference on Mechanical Engineering (INCOM 2024)	Mechanical Engineering Department, Jadavpur University, Kolkata,	2024-01-05	2024-01-06	India
27 th National and 5 th International Heat and Mass Transfer Conference (IHMTTC-2023)	IIT Patna	2023-12-14	2023-12-17	India

4.11.21 Ph.D. Supervision

Topic Name	Scholar	Supervisor	Status	Status Date
Studies on Flow Physics of a Vortex Tube	Ravi Kant Singh	Achintya Kumar Pramanick and Subhas Chandra Rana	DEGREE AWARDED	2023-08-07
Performance study of Wind Turbine selecting appropriate air foil	Arunabha Mahato	Dr. Subhas Chandra Rana	ONGOING	-
Performance study of 3D S-shaped diffuser	Asim Kumar Das	Dr. Subhas Chandra Rana	ONGOING	-
A Sharp Interface Coupled-Level-SetVolume-Of-Fluid MethodBased CmFD Development and its Applications for Analysis ofDroplet Dynamics	Orkodip Mookherjee	Dr. Shantanu Pramanik, Prof. Atul Sharma (IIT Bombay)	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Numerical Investigation of Fluid Flow and Heat Transfer Characteristics of Wall-Attached Turbulent Jets	Animesh Patari	Dr. Shantanu Pramanik	ONGOING	-
Defect modelling and diagnosis of fault/s in gear system	Rajeev Kumar	C. Mishra, R. K. Mitra	ONGOING	-
Condition monitoring of ball bearing: modelling and experimental evaluation	Samrat Mandal	C. Mishra, N. B. Hui	ONGOING	-
Condition monitoring of rotating machines: A study on bearing systems	Pankaj Bhardwaj	C. Mishra	ONGOING	-
Dynamics of unsteady flow past elliptical cylinders	Subhash Chandra Paramanik	Dr Deepak Kumar and Dr Jayabrata Dhar	ONGOING	-
Viscous instability in elastic porous medium	Abhishek Kumar	Dr Jayabrata Dhar and Dr Sirshendu Mondal	ONGOING	-
Active Instability and Biomechanics	Sachidananda Mahato	Dr Jayabrata Dhar	ONGOING	-
Photochemicqal machining for micro patterns	Sourav Das	Arjyayoti Goswami	ONGOING	-
Theoretical and Computational Findings in Newtonian and Non-Newtonian condensations for potential applications	Uttam Kumar Kar (21RME049)	Dr. Sayantan Sengupta, Dr. Shantanu Pramanik	DEGREE AWARDED	2024-07-08
Studies on hot embossing of polymer substrate for different applications	DeshmukhSwarup Sunil	Arjyayoti Goswami	DEGREE AWARDED	2024-11-04
Studies on Fiber Laser parameters for different applications	Tuhin Kar	Arjyayoti Goswami	ONGOING	-
Experimental and Numerical studies on Hot Embossing of polymers for different applications	Subir Datta	Arjyayoti Goswami	ONGOING	-
Rheological turbulence in internal flows	Arka Banerjee (22RME012)	Dr. Sayantan Sengupta, Dr. Shantanu Pramanik	ONGOING	-
Numerical investigation of solar chimney power plant	Avishek Mukherjee (23RME053)	Dr. A. K.Pramanick, Dr. Sayantan Sengupta	ONGOING	-
Study on Wire Arc Additive Manufacturing of Nickel-based superalloy for Industry 4.0 Applications	Subhadeep saha	Dr. Ratnesh Kumar	ONGOING	-
Ceramic based additive manufacturing process	Manish kumar thakur	Dr. Ratnesh Kumar	ONGOING	-
Numerical Simulation to Study the Effects of Mixing Vane Spacer on Flow and Thermal Characteristics of Fluid in Nuclear Fuel Channels	Mr. Satish Kumar Dhurandhar	Dr. (Miss). Shobha Lata Sinha and Dr. Shashi Kant Verma	DEGREE AWARDED	2024-02-23
Numerical Investigation of Flow and Heat Transfer Characteristics in Subcooled Flow Boiling for Pressurized Water Reactor Applications	Mr. Gulab Verma	Dr. Shobha Lata Sinha, Dr. Tikendra Nath Verma and Dr. Shashi Kant Verma	ONGOING	-
Numerical Investigation of a supersonic jet.	Amiruzzahan Mondal	Saif Akram, S. K. Verma	ONGOING	-
Supply Chain Statistics and Management	Pravanjan Bera	Dr. Nirmal Baran Hui & Dr. Debabrata Das	ONGOING	-
Manufacturing Analytics	Tarak Nath De	Dr. Nirmal Baran Hui & Dr. Chandan Mondal	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Block-chain Adoption in Medical Supply Chain System	Arghya Bagchi	Dr. Nirmal Baran Hui & Dr. Saurabh Pratap	ONGOING	-
Nonlinearity	Vivek Kumar	Sirshendu Mandal, Aparesh Datta,	ONGOING	-
Heat Transfer and Fluid flow	Malwika Choudhary	R N Barman	ONGOING	-
Fluid Flow and Convective Heat Transfer past a Slotted Circular Cylinder	Bishwajit Sharma	R N Barman	Degree Awarded	2023-06-13
Cooling Performance Of Electronic Sink With Phase Change Material (PCM) And Study Of Biomass Based Form- Stable PCM for thermal storage system	Subham Show	Aparesh Datta, Sirshendu Mandal	ONGOING	-
Augmentation Of Heat Transfer in Rectangular Microchannel With Rib And Other Structures	Deepak Kumar Raj	Aparesh Datta	ONGOING	-
Experimental And Numerical Study On Thermal And Hydraulic Performance Of Microchannel With Disruptive Structure	Vivek Kumar	Aparesh Datta, Sirshendu Mandal	ONGOING	-
Improvement in maintainability of asset in steel plant	Arka chatterjee	Jagannath de	ONGOING	-
Flow and Thermal Characteristics of Solar Air Heater with Extracted and Extended Roughness	Jay Shankar Prasad	Sirshendu Mondal	ONGOING	-
Viscous Instability	Abhishek Kumar	Jayabrata Dhar and Sirshendu Mondal	ONGOING	-
Natural Circulation Loop	Dinabandhu Rout	Sirshendu Mondal	ONGOING	-
Study on Dissimilar Joining of Al-alloys with CFRP sheets using Friction Stir Welding	Lalita Prasad Nayak	Prof. Asit Baran Puri	ONGOING	-
Experimental Investigation on Micro Friction Stir Welding of Dissimilar Al/Mg Alloys	Meghnath Sen	Prof. Asit Baran Puri	ONGOING	-
An approach to designing of dies and rolls in the manufacturing of forged railway wheels through finite element simulation, experimental study, and optimization	MAINAK CHAKRABORTY	Nilotpal Banerjee	DEGREE AWARDED	2023-12-19
Investigations into the influence of nano additives on the corrosion behavior of Electroless Ni-P coatings on Al-Mg alloy	Shetha Daniel	Nilotpal Banerjee, M.C. Majumder	DEGREE AWARDED	2024-06-24
Nonlinear dynamics and active control of flexible systems under periodic excitation	Ranjan Kumar	Dr. Ranjan Kumar Mitra	ONGOING	-
Active, passive control and dynamic stability of nonlinear flexible System	S S Mondal	Dr. R K Mitra and Prof. A K Banik and	ONGOING	-
Dynamics and time delayed feedback control of piece-wise nonlinear systems	Ponnada Durgaprasad	Dr. R K Mitra	ONGOING	-
Analysi of bimodular composite laminated sandwich beams	Yogesh Kumar	kallol Khan	ONGOING	-
Thermodynamic Analysis and Performance Improvement of Coal-fired Thermal Power Plants	Goutam Khankari	Sujit Karmakar	DEGREE AWARDED	2024-11-22

Topic Name	Scholar	Supervisor	Status	Status Date
Thermodynamic Analysis of Oxy–Coal fired Thermal Power Plants	Soumya Jyoti Chatterjee	Sujit Karmakar	SUBMITTED	2024-11-22
Thermodynamic Analysis of Advanced Coal based Power Generation Systems with CO2 Capture	Rajesh Kumar	Sujit Karmakar	DEGREE AWARDED	2024-11-22
Thermodynamic Analysis of Integrated Gasification–Fuel cell Combined Cycle based Power Generation Systems	A Pruthvi Deep	Sujit Karmakar	SUBMITTED	2024-11-22
Techno–Economics of Renewable based Energy systems for various loads: Some case studies in India	Nagendra Kumar	Sujit Karmakar	DEGREE AWARDED	2024-11-22
Combined Power and Cooling through Waste heat recovery from Thermal Power Plants and other sources	Nitesh Kumar Choudhary	Sujit Karmakar	DEGREE AWARDED	2024-11-22
Vortex dynamics behind square shape cylinders	Satrajit Halder	Dr. Deepak Kumar and Dr. Sujit Karmakar	ONGOING	-
Experimental and Computational Studies on Thermal Performance Enhancement of Solar Air Heater with Novel Hybrid Tape	Soumya Ghosh	Biswajit Halder and Suvanjan Bhattacharyya	ONGOING	-

4.11.22 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Modulation of Bioconvective Transport at Pore–scale Resolution	Jayabrata Dhar	SERB	2268530.0	2023
Design of high–performance microsinks with disruptive structure like cavity, secondary branch and rib	Dr. Aparesh Datta, Prof. Amit Agrawal, Dr. Sirshendu Mondal	SERB	3494202.0	2022
Development of Assembly Auto Alignment Methodology	Dr. Nirmal Baran Hui & Dr. Ranjan Kumar Mitra	Advanced Systems Laboratory Hyderabad, DRDO	1943500.0	2019
Identification and Control of Instabilities in Natural Circulation Loops (NCLs) in Thermal and Nuclear Power Plants using Dynamical Systems Theory	Prof. Achintya Mukhopadhyay, Prof. Koushik Ghosh, Dr. Aranyak Chakravarty, Dr. Sirshendu Mondal	MoE–STARS	6107000.0	2023
Capacity building for human resource development in Unmanned Aircraft System (Drone and related Technology)	Dr. Nilanjan Chattaraj (PI), Dr. Deepak Kumar (Co-PI), Dr. Jayati Dey (Co-PI), Dr. Aritro Dey (Co-PI)	Ministry of Electronics and Information Technology	15090000	2022
Self–sensing of ground proximity of multicopter UAV and adjustment of auto–landing speed for minimizing chances of crash–landing	Dr. Nilanjan Chattaraj (PI), Dr. Deepak Kumar (Co-PI), Dr. Sujoy Saha (Co-PI)	Ministry of Electronics and Information Technology	250000.0	2023
Capacity building for human resource development in Unmanned Aircraft System (Drone and related Technology)	Dr. Deepak Kumar, Dr. Nilanjan Chattaraj, Dr. Jayati Dey, and Dr. Aritro Dey	Ministry of Electronics and Information Technology	898702000	2022

Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Controlled assembly of main frame of the ballistic missile	Nirma I Baran Hui, Ranjan Kumar Mitra	Research Centre Imarat (RCI), Hyderabad, DRDO)	2200000.0	2019
Design of a Smart Material based Soft Lower Limb Exoskeleton to Assist Soldier	S. S. Roy	DRDO, New Delhi	8450000.0	2019
Design and development of force reflecting hand exoskeleton (haptic device) for application in remote handling in defence	S.S.Roy, A. Mahapatra (CMERI)	DRDO, New Delhi	940000.0	2019
Investigation of Thermo hydraulic performance of Artificially Roughened Solar air heater Using Infrared Thermography Technique	Apurba Layek	DST-SERB, Govt India	3925000.0	2019

4.11.23 Testing & Consultancy Services Rendered

Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
BitChem Asphalt Technologies Limited, Barjora, District –Bankura, West Bengal	Failure Investigation of Pipeline of Emulsion Storage Tank #4 to Drum Filling	125000.0	Completed

4.11.24 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Chintamani Mishra	JVET	Springer	2023-10-25
Achintya Kumar Pramanick	Proceedings of the Indian National Science Academy	Springer	2023-08-24
Achintya Kumar Pramanick	Proceedings of the Indian National Science Academy	Springer	2024-03-24
Jayabrata Dhar	Journal of Porous Media	Begell House	2023-08-06
Jayabrata Dhar	Physical Review Letters	American Physical Society	2023-10-07
Jayabrata Dhar	Soft Matter	Royal Society of Chemistry	2023-10-30
Sayantan Sengupta	Journal of Applied Fluid Mechanics	Isfahan University of Technology	2024-03-16
Sayantan Sengupta	Journal of Applied Fluid Mechanics	Isfahan University of Technology	2024-03-24
Sayantan Sengupta	Journal of Applied Fluid Mechanics	Isfahan University of Technology	2024-02-26
Sayantan Sengupta	Journal of Thermal Engineering	Yildiz Technical University	2023-12-22
Sayantan Sengupta	Sadhana	Springer India	2023-10-03
Sayantan Sengupta	Fluid Dynamics & Materials Processing	Tech Science Press	2024-01-02
Ratnesh Kumar	Journal of the Institute of Engineer (India): Series D	Springer	2024-02-16
Ratnesh Kumar	Journal of The Institution of Engineers (India): Series D	Springer	2024-03-27
Ratnesh Kumar	Sigma Journal of Engineering and Natural Sciences	Journal of engineering and natural sciences	2023-10-23

Reviewer	Name of the Journal	Publisher	Date of Final Review
Nirmal Baran Hui	Applied Soft Computing	Elsevier	2024-08-22
Nirmal Baran Hui	Journal of Intelligent & Fuzzy System	Springer	2024-04-29
Rabindra Nath Barman	7 th National and 5 th International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2023)	IHMTTC-2023	2023-12-09
Rabindra Nath Barman	International Journal of Thermofluids	Elsevier	2023-10-31
Rabindra Nath Barman	Physics of Fluids	AIP	2023-10-18
Debabrata Gayen	High Temperature Materials and Processes	De Gruyter	2023-07-11
Debabrata Gayen	International Journal on Interactive Design and Manufacturing	Springer	2023-03-10
Debabrata Gayen	Transactions of the Indian National Academy of Engineering	Springer	2023-08-01
Debabrata Gayen	Thermal Science and Engineering Progress	Elsevier	2023-08-02
Debabrata Gayen	Energy Technology	Wiley	2023-08-04
Debabrata Gayen	Journal of Energy Storage	Elsevier	2023-11-15
Debabrata Gayen	International Journal of Structural Integrity	Emerald Group Publishing	2024-01-10
Debabrata Gayen	Mechanical Systems and Signal Processing	Elsevier	2024-02-21
Reviewer	Name of the Journal	Publisher	Date of Final Review
Debabrata Gayen	Engineered Science	Engineered Science	2024-03-15
Asit Baran Puri	Journal of Non-Crystalline Solids	Elsevier	2023-04-10
Asit Baran Puri	Journal of The Institution of Engineers (India): Series C	Springer	2023-05-19
Asit Baran Puri	ECS Advances	IOPSCIENCE	2023-05-29
Asit Baran Puri	Multiscale and Multidisciplinary Modeling, Experiments and Design	Springer Nature	2024-02-03
Shashi Kant Verma	Heat Transfer Engineering Journal under the special issue of International Journal of Fluid, Thermal and Energy Systems (ICFTES-24)	Springer Nature	2024-11-21
Shashi Kant Verma	High Temperature Materials and Processes	De Gruyter	2024-03-26
Shashi Kant Verma	High Temperature Materials and Processes	De Gruyter	2024-03-08
Deepak Kumar	Physics of Fluids	American Institute of Physics	2024-02-09

4.11.25 Invited Examiners /Paper-Setters /Board of Studies

Name of the Faculty	Name of the Examination	University/ Institute	From Date	To Date
Asit Baran Puri	Ph.D thesis Examination and conducting open viva-voce	NIT Patna	2023-07-18	2024-10-19
Asit Baran Puri	Ph.D thesis Examination and conducting open viva-voce	VSSUT	2023-07-13	2024-01-10
Asit Baran Puri	Ph.D thesis Examination and conducting open viva-voce	VSSUT	2023-09-23	2024-02-12
Asit Baran Puri	Ph.D thesis Examination	GIET University	2024-01-30	2024-02-22

4.11.26 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/ Institute	From Date	To Date
Rabindra Nath Barman	NA	NA	2024-11-05	2024-11-05
Asit Baran Puri	Chairman of the Assessment Committee for upgradation of CSIR-JRF (GATE) and extension of tenure of CSIR-SRF	CSIR-CMERI Durgapur	2023-05-12	2023-05-12
Asit Baran Puri	External Expert of the Selection Committee for admission in PGDAMT programme of Academic of Scientific and Innovative Research (AcSIR)	CSIR-CMERI Durgapur	2023-05-23	2023-05-23
Asit Baran Puri	Chairman of the Expert Committee for upgradation of Fellowship from CSIR-JRF (GATE) to CSIR-SRF (GATE)	CSIR-CMERI Durgapur	2023-07-26	2023-07-26
Asit Baran Puri	Chairman of the Selection Committee for selection of Project Personnel (SRF/JRF/Project Assistant) under different projects	CSIR-CMERI Durgapur	2024-02-01	2024-02-01

4.11.27 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Nirmal Baran Hui	Robotics for School Children	Science day celebration	Trivenidevi Bhalotia College, Raniganj	2024-02-28	2024-02-28
Debabrata Gayen	Dynamic analysis of structural members made up of composite and functionally graded materials	Sustainable Advancements and Developments in Mechanical Engineering	NIT Manipur	2024-06-10	2024-06-14
Asit Baran Puri	Advancements in Micro Wire-cut EDM	Workshop on "MICRO MACHINING TECHNOLOGY (MMT-2023)"	Jadavpur University, Kolkata-32	2024-10-06	2024-10-06

4.12 Department of Metallurgical and Materials Engineering

4.12.1 Department at a Glance:

Brief Outline of the Department:

The Department, which started its journey in the year 1960, presently offers B.Tech. (Metallurgical and Material Engineering), M.Tech.(Metallurgy and Materials Technology) and Ph.D Programme. The Department maintains high level of interactions with other academic institutes (IIT Kharagpur, Jadavpur University, IIST (Shibpur) and NIFTT (Ranchi)), CSIR Laboratories, SAIL and other steel plants in India. At present, fifteen highly qualified and dedicated faculty members are serving this Department.

Teaching & Research Activities:

The teaching at B.Tech level focuses on the fundamental knowledge base development in various areas of Metallurgical and Materials Engineering, such as, Extractive Metallurgy, Physical Metallurgy, Mechanical Metallurgy and Corrosion Science and Engineering. M.Tech level teaching emphasizes on advanced knowledge input in new material development and latest techno-scientific progress in Metallurgical Industry. The research activities of the Department are centered on B.Tech and M.Tech Projects, Ph.D Programmes and sponsored research projects. Many research papers have been published in reputed peer reviewed Journals.

4.12.2 Mission & Vision

Mission:

- » To produce highly educated, well-rounded and motivated graduates possessing fundamental understanding and knowledge in Metallurgical and Materials Engineering, who can provide service and leadership to the nation and the world.
- » To pursue creative research and new technologies in Metallurgical and Materials Engineering in order to cater the needs of industry, government and society.
- » To accomplish visibility by active participation in conferences and technical activities.

Vision:

- » 1. To prove and be accepted globally as a leading department and as a quality establishment for gathering and disseminating knowledge in the field of metallurgical and materials engineering.

4.12.3 Faculty

Name	Designation	Email-id
Ghosh Karuna Sindhu, PhD	Professor	ksgghosh2001@mme.nitdgp.ac.in
Maity Joydeep, Ph.D	Professor	joydeep.maity@mme.nitdgp.ac.in
Show Bijay Kumar, Ph.D	Associate Professor	bijay.show@mme.nitdgp.ac.in
Ghosh Madan Mohan, Ph.D	Associate Professor	madanmohan.ghosh@mme.nitdgp.ac.in
Mondal Manas Kumar, Ph.D	Associate Professor	manas.mandal@mme.nitdgp.ac.in
Bera Supriya, PhD	Associate Professor	sbera.mme@nitdgp.ac.in
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Maji Barnali, Ph.D	Assistant Professor	bmaji.mme@nitdgp.ac.in
Mallik Manab, Ph.D	Assistant Professor	mmallik.mme@nitdgp.ac.in
Mandal Arup Kumar, PhD	Assistant Professor	arup.mandal@mme.nitdgp.ac.in
Mandal Durbadal, Ph.D	Associate Professor	dmandal.mme@nitdgp.ac.in
Yagati Krishna Priya, Ph.D	Assistant Professor	kp.yagati@mme.nitdgp.ac.in
Roy Barna, Ph.D.	Assistant Professor	broy.mme@nitdgp.ac.in

4.12.4 Equipments

Sl. No.	Name of the equipment	Date of Purchase	Amount (Rs.)
1	EDM wire cut machine	13/12/2022	1,42,780
2	Vacuum Arc melting Furnace	28/09/2022	8,48,400
3	Polishing Machine with Double Disc (3 Nos)	08.07.2022	44, 92,996
4	Vickers Hardness Tester (01 No)	20/04/2022	45,800
5	Die and Punch	20/04/2022	89,775

4.12.5 Labs

Sl. No.	Name of Laboratory	Major equipment
1	X-Ray Diffraction Laboratory	XRD
2	Mechanical Working Laboratory	Rolling Mill
3	Transport Phenomena Laboratory	Bernoulli's Theorem Apparatus
4	Thermodynamics of Materials Laboratory	Gas-Solid Dissociation Unit and Oxidation Furnace, Fluidized Bed Furnace(High Temperature)
5	Metal Joining Laboratory	Welding Unit

Sl. No.	Name of Laboratory	Major equipment
6	Composites Laboratory	Stir-Casting Unit
7	Agglomeration Laboratory	Disk Pelletizer, Sintering Unit, Ball Mill
8	Foundry and Casting Laboratory	Sand Casting Unit
9	Powder Metallurgy Laboratory	Planetary Ball Mill
10	Heat Treatment Laboratory	Furnaces
11	Metallography Laboratory	Optical Microscopes
12	Corrosion Testing Laboratory	SSRT, Potentiostat
13	Surface Engineering Laboratory	Potentiostat / Galvanostat
14	Extractive Metallurgy Laboratory	Grinding Ball Mill, Pelletizer, Sintering unit
15	Plastic Deformation and Strengthening of Materials Laboratory	UTM Instron-100kN Hardness Tester Impact testing machine Torsion testing machine
16	Manufacturing Processes Laboratory	Melting Furnace, Indirect Arc Melting Furnace
17	Mineral Beneficiation Laboratory	Flotation Cell, Sieve Shaker
18	Nanomaterials Laboratory	Particle Size Analyser, Thermal Conductivity Measuring Equipment
19	Computation Laboratory	Computers, Servers
20	Reducibility Testing Laboratory	Reducibility Testing Unit
21	Materials Characterization Laboratory	DSC, Composition analyser, Wear testing unit
22	Mechanochemical synthesis Lab	PM400 planetary Ball Mill PM200 Planetary Ball Mill Polishing Unit Micro oven Weighing Balance
23	Advanced Casting Lab	AM200 Arc melting unit Spectrometer
24	Mineral Beneficiation Laboratory	Froth Floatation Jaw Crusher Roll Crusher Ball Mill Cyclone Separator
25	Precision Sample Cutting Laboratory	EDM wire cut

4.12.6 PhD degree awarded till 2023-24

Two.

4.12.7 Any other relevant information

NIL

4.12.8 Specialization

- » Physical Metallurgy
- » Physical Metallurgy (Structure-property correlation)
- » Physical Metallurgy
- » Foundry Technology, Manufacturing Processes, Corrosion Engineering, Physical Metallurgy, Metal Joining, Casting, Composite Materials., Physical Metallurgy
- » Green Steel; Decarbonization; Iron and Steel Making; Circular economy
- » Mechanical Metallurgy, Advance Materials
- » Process Metallurgy
- » Advanced Materials
- » Mechanical Metallurgy
- » Computational Materials Science
- » Corrosion Engineering, Characterisation of Alloys and Welding Technology

4.12.9 Proposed Plan for Research

- » Alloy development for aerospace/automobile applications
- » Development of Al-based alloys for high temperature applications
- » Development of Cu-based alloys for electrical applications
- » Development of high entropy alloys for bio implant
- » Computational Modelling and additive Manufacturing
- » Composite materials.
- » Development of Al alloy based composites for wear resistant applications
- » Green Steel Making with Hydrogen and Biomass
- » Metal recovery from Industrial Solid waste by Plasma smelting
- » Development of low cost materials for hydrogen production
- » Increase utilization of Indian coal for coke making
- » Development of Ilmenite Ore Pellet
- » Development of conductive nano ink
- » Ceramic 3D printing
- » Synthesis and characterization of shape memory alloy
- » Development of advanced materials through computation and experiment
- » SCC and HE of Al-alloys, Mg-alloys and Welded Joints

4.12.10 Area of Research Interest

- » Alloy Development, Metal Matrix Composites and Advanced Materials
- » Development Light metal & Alloys & its composite
- » Micromechanics of materials
- » Finite Element Modeling
- » Wire Arc Additive Manufacturing (WAAM)
- » Tribological behaviour of materials
- » Biomaterials, Phase transformation, New alloy development
- » Non-ferrous metal casting route, composite Materials, Additive manufacturing.
- » Microstructure-property correlation and wear behaviour of different materials
- » Process Metallurgy
- » Extractive Metallurgy
- » Thermal stabilization, Bulk nanostructured materials
- » Utilization of low grade ore and coal
- » Nanomaterials
- » Ceramics
- » Nitinol
- » Materials Modelling and Simulation, Design and Development of Advanced Materials, Materials for Biomedical Applications, Nanomaterials, Development of Challenging Materials for Aircraft Turbines
- » Characterisation of Corrosion and Welding

4.12.11 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
SAIL DSP and ISP	Green Steel and Decarbonization, Circular economy	Joint project, research, short term course on Green Steel
CMERI, NML, IT SMME of Plumule Research LLP	Corrosion and Welding and AI on these fields	Research work i.e., AI with Plumule Research LLP

4.12.12 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
CSIR-National Metallurgical Laboratory, Jamshedpur - 831007, India	Mechanical Behaviour of Materials	Dr. H. N Bar	Jointly Supervisor for Ph.D Work

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
Indus University, Ahmedabad - 382115, India	Materials characterisation	Dr. Sujoy K. Chaudhury	Paper and Patent
CSIR-Central Mechanical Engineering Research Institute, Durgapur, West Bengal 713209, India	Material Characterization	Dr. Himadri Roy & Dr. Manidipto Mukherjee	Joint Research Work, Publications
Sikkim Manipal University, Majhitara, East Sikkim 737136, India	Material Characterization	Dr. Joydeep Biswas	Joint Research Work, Publications
CGCRI Kolkata	Biomaterials	Dr. M Das	Joint PhD student
Erich Schmid Institute of Materials Science, Austria	Erich Schmid Institute of Materials Science, Austria	Dr. P Ramasamy	Joint work and publications
Narula Institute of Technology, Kolkata	Magnetic Materials	Dr. S Chabri and Mr. A. Sarkar	Joint PhD
IIT Roorkee	AlCuNi alloys	Dr. S Das	Joint DST project
KNU, Asansol	Biomaterials	Dr. A. Sinha and Dr. G. Mandal	Joint work and publications
CSIR-CMERI	Welding	Barnali Maji	Research work
CSIRO Australia	Green Steel and Decarbonization	Dr. Arup Kumar Mandal	Joint project, research, student exchange, short term course
NIAMT Ranchi	Research and knowledge transfer	Prof. Debdas Roy and Prof. Kaushik Sikdher	Knowledge transfer, Doing joint research
NIT Raipur	Alloy development	Prof. Sudip Sinha	Alloy processing
Indian Institute Of Technology Kharagpur	Thermodynamics Analysis	Dr. Manas Paliwal	Joint Research Work, Publications
RDCIS Ranchi	Low grade ore utilization	Dr. Golap Md Chowdhury	PhD Research work
ISCO Burnpur	Increasing Indian coal utilization in Cokeoven	Kashinath Mallik	PhD Research work
Rensselaer Polytechnic Institute (RPI), Troy, NY, USA	Molecular Dynamics based Studies on Domain Switching of BaTiO ₃ with Oxygen Vacancy	Dr. M. M. Ghosh & Prof. Pawel Keblinski (Professor of Rensselaer Polytechnic Institute (RPI), Troy, NY, USA)	Collaborated for a M.Tech thesis
Bhabha Atomic Research Centre	Research collaboration for development of advanced materials	Dr. M. M. Ghosh and Dr. Manoj Warrier	Collaboration in Computation
DMRL (DRDO)	In a project funded by DRDO	Dr. S. Banumathy (DMRL)	Interaction with the collaborator for the project on "Design and Development of a Promising Ternary γ -Titanium Aluminide Alloy Containing Niobium for Aerospace Applications"

4.12.13 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
NIL		

4.12.14 Journal: Published in 2022–2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Sudeep Paul, Sanjib Mondal, Sutanu Dutta, Durbadal Mandal, Supriya Bera Mitun Das	Effect of SrTiO ₃ incorporation in Mg matrix Microstructure, Mechanical, corrosion and in vitro bioactivity study	Materials Letters	Volume:358 Issue No: Page No:135826 Year:2024 Month:
Rahul Bhandari, Prosanta Biswas, Manab Mallik, and Manas Kumar Mondal	Dry and Lubrication Sliding Wear Characteristics and Wear Mechanism Mapping for In Situ Al–25Mg 2Si Composites	Advanced Engineering Materials	Volume:26 Issue No:2 Page No:2300845 (1–23) Year:2024 Month:Jan
Ramesh Kumar, Avash Kumar Saha & Arup Kumar Mandal	Removal of C, Mn, Si, P, and S from liquid iron under hydrogen plasma	JOM	Volume:75 Issue No: Page No:5667–5675 Year:2023 Month:Jul
Krishnan Bandyopadhyay, Ajay Kumar Mishra, Sujoy Das, K.S. Ghosh and M.M. Ghosh	A Multiscale Model based Scheme for the Design and Development of Nanocomposites for Advanced Structural Applications	Journal of Materials Engineering and Performance	Volume:32 Issue No:13 Page No:5798–5812 Year:2023 Month:Jul
K. Bandyopadhyay, S. Das, K.S. Ghosh and M.M. Ghosh	Molecular Dynamics based Scheme of Designing Nanostructured Cu–Ni Alloy Thin Film for Coating on Advanced Structural Components in Naval Vessels	Journal of Materials Engineering and Performance	Volume:32 Issue No:8 Page No:3401–3419 Year:2023 Month:Apr
Imran Rizwi, B. Hazra, Subhadip Paul, D. Mandal, B.K Show	Wear behavior of a novel hybrid aluminium based nano–composite	Journal of Materials Engineering and Performance	Volume: Issue No: Page No: Year:2023 Month:Oct
Prosanta Biswas, Manas Paliwal, and Manas Kumar Mondal	Thermochemical behaviour, solidification, thermal stability and oxidation of Al–Mg ₂ Si composites: An experimental and thermodynamic study	Materials Today Communications	Volume:23 Issue No: Page No:105913 Year:2023 Month:Jun
Debabrata Bej, Nilanjan Chattaraj, Rajat Mahapatra, Manas Kumar Mondal & Chiranjib Ghosh	Fabrication of a CO ₂ Gas Sensor Based on ZnO Thin Film from the Perspective of Sensing Vehicle Tailpipe–Emitted Pollution	Journal of Electronic Materials	Volume:52 Issue No: Page No:3983–3990 Year:2023 Month:Apr
Ajit Mondal, Prosanta Biswas, Manas Kumar Mondal, Srikanta Karmakar, Debasish Roy, Sanjib Bhattacharya, & Amit Mallik	Influence of Fe on Crystallization Behaviour and Electrical Conductivity of V ₂ O ₅ –MoO ₃ –CdO–ZnO Glass Nanocomposite	ChemistrySelect	Volume:8 Issue No:28 Page No:e202205010 Year:2023 Month:Jul
Sadhna Rai, Suveksha Tamang, Aditya Chettri, Rabina Bhujel, Manas Kumar Mondal, Pradipta Ghosh, Nayan Kamal Bhattacharyya, Bibhu Prasad Swain, & Joydeep Biswas	Simultaneous reduction of graphene oxide and incorporation of cobalt oxide using Eupatorium glandulosum Kunth	Bulletin of Materials Science	Volume:46 Issue No:3 Page No:157 Year:2023 Month:Jul
Ritwik Das, Manas Kumar Mondal, & Susanta Pramanik	Enhancement of strength of blast furnace flue dust–iron oxide–fly ash composite briquette using ANOVA based mathematical model	Ironmaking & Steelmaking	Volume:50 Issue No:8 Page No:1085–1093 Year:2023 Month:Sep
Prosanta Biswas, Subhajit Das, Sushil Chandra Das, Manas Paliwal, Himadri Roy, & Manas Kumar Mondal	Thermochemical modelling and mechanical property of the Al–7.6Si–xZr alloy	Materials Science and Technology	Volume:39 Issue No:18 Page No:3229–3243 Year:2023 Month:Dec

Author(s) Name	Paper Name	Journal Name	Others Info
Sougata Barik, Rahul Bhandari, & Manas Kumar Mondal	Optimization of Wire Arc Additive Manufacturing Process Parameters for Low-Carbon Steel and Properties Prediction by Support Vector Regression Model	Steel Research International	Volume:95 Issue No:1 Page No:2300369 Year:2024 Month:Jan
Joydeep Maity and Anupam Sharma	A novel analytical approach to ascertain hardenability of plain carbon steel	Philosophical Magazine	Volume:103 Issue No:5 Page No:407-434 Year:2023 Month:Mar
Joydeep Maity	An analytical model to ascertain the fragmentation of cementite lamella at lamellar fault sites	Philosophical Magazine	Volume:103 Issue No:7 Page No:611-629 Year:2023 Month:Apr
J. Maity, S. A. Rahman, S. Alam, K. K. Singh, P. Kumar and S. Hembram	On ascertaining hardness-microstructure relationship in annealed steel for varying carbon content	Material Science and Engineering Technology (Materialwissenschaft und Werkstofftechnik)	Volume:54 Issue No:3 Page No:335-344 Year:2023 Month:Mar
J. Maity, B. S. Poona, M. Kumar, A. Pal, B. Hazra, S. Sahin, A. Biswas	Quantitative hardness-carbon content-microstructure correlation in normalized plain carbon steel	Material Science and Engineering Technology (Materialwissenschaft und Werkstofftechnik)	Volume:54 Issue No:11 Page No:1444-1453 Year:2023 Month:Nov
S Paul, S Mondal, S Dutta, D Mandal, S Bera, M Das	Effect of SrTiO ₃ incorporation in Mg matrix: Microstructure, mechanical, corrosion and in vitro bioactivity study	Materials Letters	Volume:358 Issue No: Page No:135826 Year:2023 Month:
S Maity, BK Show, S Bera	Fascinating microstructural evolution during consolidation and remarkable hardening behaviour of micro alloyed Al-Cu-Ni alloys	Advanced Powder Technology	Volume:34 Issue No:10 Page No:104183 Year:2023 Month:
MI Rizwi, S Paul, B Hazra, D Mandal, BK Show	Wear Behavior of a Novel Hybrid Aluminium Based Nanocomposite	Journal of Materials Engineering and Performance	Volume:Published Online Issue No: Page No: Year:2023 Month:Oct
Shubhadeep Maity, Bijay Kumar Show and Supriya Bera	Fascinating microstructural evolution during consolidation and remarkable hardening behaviour of micro alloyed Al-Cu-Ni alloys	Advanced Powder Technology	Volume:34 Issue No:10 Page No:104183-01 to 104183-18 Year:2023 Month:Oct
Ankita Mallick, Rupam Mandal, Nitesh Mondal, Subhasish Sarkar, Nisantika Biswas, Barnali Maji, Gautam Majumdar	Parametric optimization and minimization of corrosion rate of electroless Ni-P coating using Box-Behnken design and Artificial Neural Network	Results in Surfaces and Interfaces	Volume:15 Issue No:100228 Page No:https://doi.org/10.1016/j.rsufi.2024.100228 Year:2024 Month:May
G. Awasthi, K. Mistry, N. Jamnapara, M. Salot, K. Santhy, D. Mandal, S.K Chaudhury	Effect of Stirring on Characteristics of Electrochemically Exfoliated Graphene	Materials	Volume:30 Issue No: Page No:101818 Year:2023 Month:Aug
M.M. Ghosh*, Satadipa Banerjee, Hrishikesh Kumar and K.S. Ghosh	The Journey of the Department of Metallurgical and Materials Engineering, NIT Durgapur, Towards Achieving Academic Excellence	Indian Metallurgy	Volume: XX Issue No: XX Page No:389-399 Year:2023 Month:Nov

Author(s) Name	Paper Name	Journal Name	Others Info
Ramesh Kumar, Avash Kumar Saha & Kashi Nath Malik, Arup Kumar Mandal	Comparative Study on the Characteristics of Fluidized Bed Combustion and Pulverized Coal Combustion Bottom Ash Bricks	Journal of The Institution of Engineers (India): Series D	Volume:105 Issue No: Page No:839–851 Year:2023 Month:Jul
Avash Kumar Saha,	Investigation on mechanical	Journal of The Institution of	Volume:105 Issue No: Page No:1041–1046
Ramesh Kumar, & Kashi Nath Malik, Arup Kumar Mandal	characteristics of fluxed composite pre-reduced pellets made with high ash coal	Engineers (India): Series D	Year:2023 Month:Aug

4.12.15 Journal: Accepted for Publication in 2022–2023 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Chandan Choudhary, H.N Bar, Sk. Md. Arif, K.L Sahoo, D.Mandal	Effect of structural refinement and modification on the mechanical properties of Al–7Si alloy	Journal of Materials Engineering and Performance	Volume: Issue No: Page No: Year:2023 Month:
Prosanta Biswa & Manas Kumar Mondal	Evaluation of a Cast Al–Mg ₂ Si Composite for Automobile Disk Brake Rotor Application	Journal of Materials Engineering and Performance	Volume: Issue No: Page No: Year:2023 Month:Oct
Rahul Bhandari, Prosanta Biswas, Manab Mallik, & Manas Kumar Mondal	Dry and Lubrication Sliding Wear Characteristics and Wear Mechanism Mapping for In Situ Al–25Mg ₂ Si Composites	Advanced Engineering Materials	Volume:26 Issue No:2 Page No:2300845 Year:2023 Month:Nov
Amrit Raj Paul, Manidipto Mukherjee, Dilpreet Singh, Manivannan Raja, & Manas Kumar Mondal	Influence of deposition mode on microstructural and mechanical properties of wire arc additive manufactured 308L stainless steel structures	Journal of Materials Engineering and Performance	Volume: Issue No: Page No: Year:2023 Month:Jul
Rahul Bhandari, Prosanta Biswas, Manab Mallik, & Manas Kumar Mondal	High Temperature and Lubricating Wear Behaviour of In–Situ Al–20Mg ₂ Si Composite	International Journal of Metalcasting	Volume: Issue No: Page No: Year:2023 Month:Oct
Prosanta Biswas & Manas Kumar Mondal	Dry Sliding Wear Behaviour of Al–7.6Si–xZr Alloys: Understanding the Impact of Zr on Wear Characteristics, Mechanics, and Transition	International Journal of Metalcasting	Volume: Issue No: Page No: Year:2024 Month:Mar
A. K. Jaiswal, B. Maji, M. Kumar and J. Maity	Structure–Property Correlation of a Newly Synthesized 6351Al/Body–Centered Tetragonal Boron Nitride Composite	Journal of Materials Engineering and Performance (Springer Nature, ASM international, USA)	Volume:https://doi.org/10.1007/s11665-023-08838-w Issue No: Page No: Year:2023 Month:Oct
Joydeep Maity	An analytical model to ascertain A.C. electrical conductivity of metal matrix composites	Philosophical Magazine	Volume:https://doi.org/10.1080/14786435.2024.2375325 Issue No: Page No: Year:2024 Month:Jun
Joydeep Maity, Maharshi Ghosh Dastidar, Suvajit Mandal, Sourav Sharma, Sujeet Kumar Chaudhary and Atanu Saha	Development of significantly hard hypereutectoid plain carbon steel through incomplete austenitization based cyclic quenching treatment	Material Science and Engineering Technology (Materialwissenschaft und Werkstofftechnik)	Volume: Issue No: Page No: Year:2024 Month:Jul

Author(s) Name	Paper Name	Journal Name	Others Info
Kashi Nath Malik, Satadal Ghorai & Arup Kumar Mandal	Studies on increased utilization of high ash Indian coal in coke making	International Journal of Coal Preparation and Utilization	Volume: Issue No: Page No: Year:2024 Month:
S. Sarkar, M.K. Mondal, and Manab Mallik	Correlation Between Pressureless Sintering, Microstructure, and Properties of ZrB ₂ -SiC-Y ₂ O ₃ Composites	Journal of Materials Engineering and Performance	Volume:33 Issue No: Page No:5487-5500 Year:2024 Month:Mar
Rahul Bhandari	High Temperature and	International Journal of	Volume:18 Issue No: Page No: 2225-2253 Year:2023
Prosanta Biswas, Manab Mallik and Manas Kumar Mondal	Lubricating Wear Behaviour of In-Situ Al-20Mg2Si Composite	Metalcasting	Month:Oct
Kashi Nath Malik, Satadal Ghorai, and Arup Kumar Mandal	Studies on increased utilization of high-ash Indian coal in coke-making	International Journal of Coal Preparation And Utilization	Volume: Issue No: Page No: Year:2024 Month:Mar
Avash Kumar Saha, Ramesh Kumar, Arup Kumar Mandal	Modern steel production using biomass energy in 21 st century: blessing or curse?	International Journal of Oil, Gas and Coal Technology	Volume: Issue No: Page No: Year:2024 Month:Mar

4.12.16 Journal: Published in Others in 2022-2023

Author(s) Name	Paper Name	Journal Name	Others Info
M.M. Ghosh, Satadipa Banerjee, Hrishikesh Kumar and K.S. Ghosh	The Journey of the Department of Metallurgical and Materials Engineering, NIT Durgapur Towards Achieving Academic Excellence	IIM Platinum Jubilee Commemorative Volume "Indian Metallurgy: The Platinum Years"	Volume: Issue No: Page No: Year:2023 Month:Nov

4.12.17 Journal: Accepted in Others in 2022-2023

NIL

4.12.18 Conference: Published in Others in 2022-2023

Author(s) Name	Paper Name	Conference Name	Others Info
Arup Kumar Mandal, Ramesh Kumar	An environment-friendly steel-making process to minimize slag generation by hydrogen plasma and its parameter optimization by Taguchi method	3 rd International Conference on Management and Recycling of Metallurgical Wastes	DOI/ISBN: NA Volume: Issue No: Page No: Year:2024 Month:Feb Presenter:SELF

4.12.19 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
NIL				

4.12.20 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
Indo-German Conference on Innovation and Global Cooperation for Sustainability, New Delhi (March 2024)	DAAD	2024-03-12	2024-03-14	India

Name of the Programme	Organized By	From Date	To Date	Organizing Country
36 th National Convention of Metallurgical and Materials Engineers	The Institution of Engineers (India)	2024-02-29	2024-02-29	India
Workshop on "Differential Equations: Fundamentals to Applications (DEFA2023)"	NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR, Department of Mathematics	2023-12-11	2023-12-15	India
Presented in the 6 th Regional Science and Technology Congress (Region 3) 2024	Durgapur Government College	2024-01-09	2024-01-10	India

4.12.21 Ph.D. Supervision

Topic Name	Scholar	Supervisor	Status	Status Date
Development of Cu-Co-Ni Alloys for Magnetic Applications	A. Sarkar	S. Bera, S. Chabri	ONGOING	-
Development of Cu-based alloys and alloy composite for electrical applications	Amar Mahato	S. Bera, BK Show	ONGOING	-
ZrB ₂ based ultrahigh temperature ceramic composites for high temperature applications	Sayandip Sarkar	Dr. Manab Mallik & Dr. Manas Kumar Mondal	ONGOING	-
Development of novel copper based hybrid composite with adequate combination of physical and mechanical properties	Logachander K	Dr. Manas Kumar Mondal and Prof. (Dr.) Joydeep Maity	ONGOING	-
Development of low-density boron carbide reinforced aluminium based metal matrix composite	Anjan Pal	Prof. (Dr.) Joydeep Maity and Dr. Manas Kumar Mondal	ONGOING	-
Synthesis and Characterization of Mg-based alloys for biomedical application	Sudeep Paul	S. Bera, D. Mandal, M Das	ONGOING	-
Synthesis and Characterization of Titanium based alloys for biomedical applications	S Arulmozhiselvar	S. Bera, D. Mandal	ONGOING	-
Processing, microstructure and characterization of biomaterials	A. Dhar	M. Mallik, S. Bera	ONGOING	-
Development of Al-Cu-Ni alloys for high temperature applications	Sagar Das	S. Bera, BK Show	ONGOING	-
Development of nano-AlN and nano-TiN reinforced aluminum metal matrix composite by stir casting method	Md. Imran Rizwi	Dr. B. K. Show and Dr. S. Bera	ONGOING	-
Coupled multi-scale modeling and experimental approach to develop carbon fiber reinforced epoxy resins composites with enhanced mechanical properties for advanced structural applications	Ajay Kumar Mishra	Dr. M. M. Ghosh and Dr. B. K. Show	ONGOING	-
Development of Cu-based alloys and alloy composite for electrical applications	Amar Mahato	Dr. S. Bera and Dr. B. K. Show	ONGOING	-
Hybrid thermal stability of INVER alloys	Ajfarul Islam	Dr. Barna Roy	ONGOING	-
Bulk nanostructured materials	Iqbal Akhtar	Dr. Barna Roy	ONGOING	-
Wire Arc Additive Manufacturing: Integrating Process Driven Approach for Alloy	Sougata Barik	Dr. Manas Kumar Mondal	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Equal Channel Angular Pressing (ECAP) of in-situ Al-Mg ₂ Si composites: Mechanical and Tribological properties.	Rahul Bhandari	Dr. Manas Kumar Mondal & Dr. Manab Mallik	ONGOING	-
Studies on enhanced utilization of Indian coking coal in coke making	Kashinath Mallik	Arup Kumar Mandal and Satadal Ghorai	ONGOING	-
Study on Development of Ilmenite Ore Pellet	Rahul Dhibar	Satadal Ghorai	ONGOING	-
Synthesis of calcium ferrite using microwave susceptor heating	Raj Kumar Kalshyan	Satadal Ghorai and Golap Md Chowdhury	ONGOING	-
Synthesis and Characterization of Mg-based alloys and composites for biomedical application	Sudeep Paul	Supriya Bera, Durbadal Mandal and Mitun Das (CSIR-CGCRI)	SUBMITTED	-
Study on microstructure and Fatigue behavior of multiphase low carbon microalloyed steels	Sk. Md. Arif	Durbadal Mandal, H.N Bar (CSIR-NML)	ONGOING	-
Development of Nano AlN and Nano TiN reinforced Al metal matrix composites by stir casting method	Md. Imran Rizwi	B.K Show and Durbadal Mandal	ONGOING	-
Synthesis and Characterization of Titaniumbased alloys for biomedical applications	S Arulmozhiselvar	Supriya Bera and Durbadal Mandal	ONGOING	-
Low-Cost Synthesis and Characterization of Boron Nitride Reinforced Aluminium Based Metal Matrix Composite	Arvind Kumar Jaiswal	Dr. Barnali Maji and Dr. Joydeep Maity	DEGREE AWARDED	-
Design and Development of Ti-based Alloys for Biomedical Applications	Pritam Sadhukhan	Dr. Barnali Maji and Dr. Madan Mohan Ghosh	ONGOING	-
Structure property correlation of ceramics	Abhishek Kumar	Dr. Manab Mallik and Dr. Barnali Maji	ONGOING	-
Design and Development of Zr-Nb Nano structured Alloys for Biomedical Applications	Satadipa Banerjee	Dr. Madan Mohan Ghosh and Dr. Barnali Maji	ONGOING	-
Coupled multi-scale modeling and experimental approach to develop carbon fiber reinforced epoxy resins composites with enhanced mechanical properties for advanced structural applications.	Ajay Kumar Mishra	Dr. M. M. Ghosh and Dr. B. K. Show	ONGOING	-
ZrB ₂ based ultrahigh temperature ceramic composites for high temperature applications	Sayandip Sarkar [22RMM038]	Dr. Manab Mallik and Dr. Manas Kumar Mondal	ONGOING	-
Structure property correlation of magnesia (MgO) refractory	Abdur Rouf [22RMM037]	Dr. Manab Mallik and Dr. Krishna Priya Yagati	ONGOING	-
Structure Property Correlation of Nitinol	Amit Dhar [21MM1107]	Dr. Manab Mallik and Dr. Supriya Bera	ONGOING	-
Structure property correlation of ceramics	Abhishek Kumar [23MM11021]	Dr. Manab Mallik and Dr. Barnali Maji	ONGOING	-
Severe plastic deformation processing of insitu cast Al-Mg ₂ Si composites	Rahul Bhandari [20RMM035]	Dr. Manab Mallik and Dr. Manas Kumar Mondal	ONGOING	-
Desulphurization studies of liquid iron by hydrogen in an indigenously fabricated transferred arc plasma furnace	Ramesh Kumar	Arup Kumar Mandal	DEGREE AWARDED	-

Topic Name	Scholar	Supervisor	Status	Status Date
Studies on enhanced utilization of Indian coking coal in coke making	Kashi Nath Malik	Arup Kumar Mandal; Satadal Ghorai	ONGOING	-
Production of Steel by green DRI using biomass as a reductant	Avash Kumar Saha	Arup Kumar Mandal	ONGOING	-
Iron ore reduction with Hydrogen	Santanu Sengupta	Arup Kumar Mandal	ONGOING	-
Design and Development of Nanostructured Cu-Ni Alloy Thin Film Coated Structural Materials for Naval Applications	Hrishikesh Kumar	Dr. M. M. Ghosh & Dr. S. Pramanik	ONGOING	-
Multiscale Model based Design and Development of Carbon Fibre Reinforced Epoxy Resin Composites for Advanced Structural Applications	Ajay Kumar Mishra	Dr. M. M. Ghosh & Dr. B. K. Show	ONGOING	-
Designing Ti-based Alloy by Multiscale Modelling to Manufacture through 3D Printing Technique for Applications as Orthopaedic Implants	Pritam Sadhukhan	Dr. M. M. Ghosh & Dr. B. Maji	ONGOING	-
Design and Development of Zr-based Alloy with Enhanced Radiation Tolerance Properties for Nuclear Reactors	Satadipa Banerjee	Dr. M. M. Ghosh & Dr. B. Maji	ONGOING	-
Deformation Behaviour of Steel Strip in Rolling : Experiments and Modelling	Arijit Banerjee	Dr. M. M. Ghosh & Prof. K. S. Ghosh	ONGOING	-
Characterisation of 7075 Al-Zn-Mg-Cu Alloy tempers and their effects on Environmental Assisted Cracking	Abhishek Kumar Sinha	Prof. K.S. Ghosh & Dr. M. M. Ghosh	ONGOING	-
1. Study of Transfer Bar Thickness profile and its Impact on Ridge Defect of Hot Strips	Arijit Banerjee Part time, and Abhishek Kumar Sinha Regular	K S Ghosh and M M Ghosh	ONGOING	-
2. Characterisation of Aluminium Alloys and Stress Corrosion Cracking Behaviour				

4.12.22 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
Studies on Sustainable Steelmaking in 2050 using biomass as a reductant	Arup Kumar Mandal	SERB-DST	3564000.0	2023
Design and Development of a Promising Ternary γ -Titanium Aluminide Alloy Containing Niobium for Aerospace Applications	Dr. M. M. Ghosh (PI) and Prof. K. S. Ghosh (Co-PI)	Defence Research and Development Organization (DRDO)	3533605.0	2024
Design and Development of a Promising Ternary γ -Titanium Aluminide Alloy Containing Niobium for Aerospace Applications	M M Ghosh and K S Ghosh (Co-PI)	DRDO	3533605.0	2023

4.12.23 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
Tailoring the architecture of microstructure in Al-based AlCu-Ni alloys to improve the mechanical properties	S. Bera, BK Show, S Das	DST-SERB	2024

Title of the Project	Investigator	Sponsor Authority	Complete Year
Tailoring the architecture of microstructure in Al-based AlCu–Ni alloys to improve the mechanical properties	PI: Dr. Supriya Bera NIT Durgapur Other Investigators: Dr. Sourav Das IIT Roorkee Dr. Bijay Kumar Show NIT Durgapur	DST–SERB	2024
Development of Al–Si alloys with and without grain refiner or eutectic modifier by strain induced melt activation process	Dr. Durbadal Mandal	SERB, Govt of India	2023
Effect of Y ₂ O ₃ Addition on Oxidation Behavior of Pressure-less Sintered ZrB ₂ –SiC Composite	Dr. MANAB MALLIK	DST–SERB	2024
“MD–Stochastic Model based Design and Development of Nanofluids for Advanced Thermal Applications”	M.M. Ghosh	DST	2016
Studies of Microalloyed STEEL Producing special HSLA Studies of corrosion of dental Amalgam	KS Ghosh and D K Mondal and Nivedita Dutta Chowdhury	NRBDRDO CSIR DST	2018

4.12.24 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Supriya Bera	JMEP	Springer	2023–10–15
Supriya Bera	Canadian Met. Quater	Scimago	2024–02–20
Supriya Bera	JMST	Elsevier	2024–01–05
Supriya Bera	JMRT	Elsevier	2023–11–27
Supriya Bera	TIIM	Springer	2024–03–19
Bijay Kumar Show	Engineering Research Express	IOPScience	2023–06–22
Bijay Kumar Show	Materials Today Communications	Elsevier	2023–07–17
Manas Kumar Mondal	Advanced Engineering Materials	Wiley–VCH GmbH	2023–10–26
Manas Kumar Mondal	Engineering Fracture Mechanics	Elsevier	2023–12–13
Manas Kumar Mondal	International Journal of Lightweight Materials and Manufacture	Elsevier	2023–09–30
Manas Kumar Mondal	International Journal of Mechanical Sciences	Elsevier	2023–12–21
Manas Kumar Mondal	International Journal of Metalcasting	Springer	2024–02–24
Manas Kumar Mondal	Journal of Cleaner Production	Elsevier	2023–08–31
Manas Kumar Mondal	Journal of Magnesium and Alloys	Elsevier	2024–11–29
Manas Kumar Mondal	Journal of Materials Science & Technology	Elsevier	2023–07–16
Manas Kumar Mondal	Metals	MDPI	2024–02–04
Manas Kumar Mondal	Materials	MDPI	2023–07–09
Manas Kumar Mondal	Materials Research Express	IOP Publishing	2023–10–15
Manas Kumar Mondal	Materials Today Communications	Elsevier	2023–09–10
Manas Kumar Mondal	Lubricants	MDPI	2023–07–30
Manas Kumar Mondal	steel research international	Wiley–VCH GmbH	2023–11–30
Manas Kumar Mondal	Transactions of Nonferrous Metals Society of China	Elsevier	2023–12–01
Manas Kumar Mondal	Transactions of the Indian Institute of Metals	Springer	2023–10–15
Satadal Ghorai	Transactions of the Indian Institute of Metals	Springer	2023–07–20
Satadal Ghorai	Transactions of the Indian Institute of Metals	Springer	2023–10–13
Satadal Ghorai	Transactions of the Indian Institute of Metals	Springer	2024–01–18

Reviewer	Name of the Journal	Publisher	Date of Final Review
Satadal Ghorai	Transactions of the Indian Institute of Metals	Springer	2024-03-28
Satadal Ghorai	Journal of Alloys and Compounds	ScienceDirect	2023-06-05
Satadal Ghorai	Journal of Alloys and Compounds	ScienceDirect	2023-07-13
Durbadal Mandal	Journal of Alloys and Compounds	Elsevier	2023-06-11
Durbadal Mandal	Transactions of the Indian Institute of Metals	Springer	2023-10-20
Manab Mallik	Journal of Alloys and Compounds	Elsevier	2024-02-21
Manab Mallik	Journal of Alloys and Compounds	Elsevier	2023-05-20
Manab Mallik	Ceramics International	Elsevier	2024-03-21
Manab Mallik	Ceramics International	Elsevier	2023-09-07
Manab Mallik	Ceramics International	Elsevier	2023-07-25
Manab Mallik	Journal of the European Ceramic Society	Elsevier	2023-10-31
Manab Mallik	Journal of the European Ceramic Society	Elsevier	2023-04-26
Manab Mallik	Wear	Elsevier	2023-05-17
Arup Kumar Mandal	Journal of the Institution of Engineers (India): Series D	Springer	2023-04-01
Arup Kumar Mandal	JOM	Springer	2023-05-01
Arup Kumar Mandal	Journal of Sustainable Metallurgy	Springer	2023-08-01
Arup Kumar Mandal	Journal of Mining and Metallurgy: Section B:Metallurgy(JMMB)	University of Belgrade, Serbia	2023-08-30
Arup Kumar Mandal	Biomass Conversion and Biorefinery	Springer	2023-10-02
Arup Kumar Mandal	Journal of Hazardous Materials	Elsevier	2023-11-14
Karuna Sindhu Ghosh	Journal of Alloys and Compounds	Springer	2023-12-21
Karuna Sindhu Ghosh	Journal of Alloys and Compounds	Elsevier	2023-12-28
Durbadal Mandal	Transactions of the Indian Institute of Metals	Springer	2023-10-20

4.12.25 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Supriya Bera	Semester Exam	KNU	2023-11-24	2024-11-24
Supriya Bera	Semester Exam	KNU	2023-07-21	2023-07-21
Satadal Ghorai	Non-teaching staff recruitment	NIT Rourkela	2023-07-03	2023-07-15
Durbadal Mandal	External Examiner for evaluating the project dissertations and conducting the viva-voce examination of Dual-Degree M.Tech/5 yrs. M.Sc./2 yrs M.Sc./B.Arch(final year students) students in the specialisation METALL & MAT.ENGG. METALL.ENGG. (M.Tech Dual 5Y)	IIT Kharagpur	2024-05-03	2024-05-03
Manas Kumar Mondal	PhD Thesis Examination	AcSIR CSIR-Central Mechanical Engineering Research Institute, Durgapur	2024-01-10	2024-02-22

4.12.26 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	From Date	To Date
Supriya Bera	Learning is a fun	Student Induction	KNU, Asansol	2023-09-14
Supriya Bera	Development of ex-situ and in-situ Al-based alloy composites	36 th National Convention of Metallurgical and Materials Engineers on the theme "Green composites, the new generation sustainable composite materials: Specific features and applications"	Kolkata	2024-02-29
Satadal Ghorai	Disintegration of Steel Slag	New Green and Cost Effective Technology for Ferrous and Non-Ferrous Castings	Fortune Hotel Durgapur	2023-09-07
Satadal Ghorai	Steel Slag Utilization: Challenges & Remedies towards Sustainable Development	World Standards Day as Keynote Speaker on 'Shared Vision for a Better World: Incorporating SDG 3'	IEI, Durgapur Local Centre	2023-10-15
Manab Mallik	Densification, microstructure and wear behavior of ZrB ₂ based ultra high temperature ceramic composites	High End Workshop (KARYASHALA) Sponsored by SERB and organized by Department of Mechanical Engineering at BIT Mesra, Ranchi, Jarkhand, India	BIT Mesra, Ranchi, Jarkhand, India	2023-12-22
Arup Kumar Mandal	An environment-friendly steel-making process to minimize slag generation by hydrogen plasma and its parameter optimization by Taguchi method	3 rd International Conference on Management and Recycling of Metallurgical Wastes	IIT(BHU), Varanasi	2024-02-11
Arup Kumar Mandal	A new approach towards sustainable steel refining by hydrogen	International Conference on Processing of Minerals, Metals, and Materials: Beyond Tomorrow (ICPMMM2024)	Science City, Kolkata	2024-03-28
Arup Kumar Mandal	"Introduction to greensteels and importance of its usage for the environment	Stake holders meet on Green Steel	Durgapur House	2023-08-03

4.12.27 Patents

NIL

4.12.28 Participation in National Committees/Visits

Name of the Faculty	Name of the Committee	Place of Visit	From Date	To Date
Arup Kumar Mandal	All India Council Member of The Indian Institute of Metals	Kolkata	2023-10-01	2024-09-30
Arup Kumar Mandal	CSIRO Australia	Melbourne	2024-08-11	2024-11-17

4.12.29 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Satadal Ghorai	All India Seminar on Cost-Effective and Emerging Effluent Treatment Technologies (CEEETT-2023)	IEI, Durgapur Local Centre	3:30 pm to 6:00 pm	2023-10-07	2023-10-07
Karuna Sindhu Ghosh	NA	NA	NA	2024-10-28	2024-10-29
Karuna Sindhu Ghosh	NA	NA	NA	2024-01-02	2024-02-06

4.13 Department of Management Studies

4.13.1 Department at a Glance:

DMS offers MBA with specialization in Marketing, Finance, OB & HR and Systems and Operations. DMS in Collaboration with Mathematics and Computer Science and Engineering Departments offer M Tech in Operation Research. DMS offers Courses Like Principle of Management and Accounting for all streams of B Tech courses and open

elective courses namely Marketing Research and Analytics, Security and Stock Market Analysis and Industrial Marketing. Already DMS has started offering Minor programs namely Financial Management and Marketing Management in BTech streams.

4.13.2 Mission & Vision

Mission

To deliver rigorous and relevant education of international standing that inspires students to implement their professional skills in an enterprising manner and become architects of an equitable world. Through vibrant collaboration, and innovation we drive excellence in teaching and research to contribute to the intellectual, social and economic development of the communities. We serve thereby shaping a responsible future for both business and society.

Vision

To become center of academic excellence with commitment to provide quality education in management, liberal studies, entrepreneurship and related fields to the students and working executives with a holistic approach, to develop them as entrepreneurs and future leaders of the industry.

4.13.3 Faculty

Name	Designation	Email-id
Dr. Mousumi Roy	Professor	mroy.dms@nitdgp.ac.in
Dr. Avijan Dutta	Professor	adutta.dms@nitdgp.ac.in
Dr. Gautam Bandyopadhyay	Professor	gbandyopadhyay.dms@nitdgp.ac.in
Dr. Neelotpaul Banerjee	Associate Professor	nbanerjee.dms@nitdgp.ac.in
Dr. Kaushik Mandal	Associate Professor	kmandal.dms@nitdgp.ac.in
Dr. Anupam De	Associate Professor	ade.dms@nitdgp.ac.in
Dr. Durba Pal	Associate Professor	dpal.dms@nitdgp.ac.in
Dr. Amlan Ghosh	Associate Professor and HOD	aghosh.dms@nitdgp.ac.in
Dr. Subhadip Sarkar	Assistant Professor	ssarkar.dms@nitdgp.ac.in
Dr. Ujjwal Kanti Paul	Assistant Professor	ukpaul.dms@nitdgp.ac.in
Dr. Umamaheswarrao Jada	Assistant Professor	ujada.dms@nitdgp.ac.in

4.13.4 Labs

Sl. No.	Name of Laboratory	Major equipment
1	Business Laboratory for MBA	Desktop Computer
2	Finance Lab for Minor program Financial Management	Desktop computers
3	Marketing Lab for Minor Program Marketing Management	Desktop computers/ Laptop

4.13.5 PhD degree awarded till 2023-24

Fifty eight

4.13.6 Any other relevant information

Unique Selling Proposition of DMS

- » High Return on Investment (ROI) for students (Average package/Total expenditure for the study)
- » Multiple courses relevant to Business analytics
- » Focus on practical implementation through hybrid courses (theory and practical)
- » Inadequate space for expansion of laboratories and setting up new laboratories
- » Limited access to case studies, and full text research articles of international peer-reviewed journals
- » Inadequate number of equipped class rooms
- » Budget constraint for promotion of MBA and PhD courses

SWOT of DMS

Strengths:

- » Well-qualified and motivated faculty members with industry background
- » An ideal mix of experience and youth in the faculty members
- » Regular revision of curricula and syllabi with the help of experts from academia and industries
- » Large number of publication and reviews by faculty members.
- » Students encouraged to take up research early
- » Faculty development programmes given highest priority
- » Low tuition fee, higher average package
- » Over 50 PhDs earned by the students of the DMS since its inception
- » Providing exposure to all the BTech students through core, minor and open elective courses

Weaknesses:

- » Inadequate facilities for the post graduate laboratories and research
- » Limited number of Institute research scholars
- » Limited number of students in reserved categories
- » Inadequate number of technical and supporting staffs

Opportunities

- » Globalisation of education opening up huge opportunities for market driven courses and research
- » Government focus on skill based education and entrepreneurship.
- » Huge demand for job oriented courses
- » Rising demand for online and executive management programs
- » Corporate Spending on CSR has increased as per new regulation. Thus, scopes for CSR based consultancies have risen.

Threat

- » Challenges from newer IIMS and private management Institutes including newer branches spread over the country.
- » Gradual reduction in number of applicants (CAT, XAT)
- » Declining industrial activities in and around Durgapur
- » Limited job opportunities in few specialisation areas like OB& HR, Systems and operations Management and Finance.
- » Availability of online courses (certificate, regular and executive MBA)

4.13.7 Specialization

- » Finance
- » Operations Manageme
- » Financial Management
- » System and Operation Management
- » Organizational Behavior and Human Resource Management
- » Marketing Management, Digital Marketing, Sustainable Marketing, Rural Marketing
- » Managerial Economics, International Business, Sustainable Development Strategy, Knowledge Management, Environmental Economics
- » Marketing Management Brand and Product Management Social Marketing

4.13.8 Proposed Plan for Research

- » Pension
- » Designing algorithms for solving QP and LP
- » Financial Inclusion, Application of Multi-criteria Decision Making (MCDM)

- » Research in derivative markets
- » Marketing
- » Portfolio Optimization
- » Employee Engagement, Green Human Resource Management, Psychological Capital, Workplace Resilience
- » eWoM and EV adoption
- » Developing Sustainable Energy Management Strategy, Human Resource Management in tribal society, Sustainable business strategy in Painting industry, Education management for a better society

4.13.9 Area of Research Interest

- » Pension/Banking/Insurance
- » Operations management & optimization
- » Capital markets
- » Marketing
- » Financial Market
- » Organizational Citizenship Behaviour, Psychological Capital, Employee Green Behaviour, Workplace Adaptability, Gender Equality in the Workplace, Workplace Diversity & Inclusion.
- » Leadership, Employee Behavior, Workplace Ostracism
- » Marketing Management, Digital Marketing, Sustainable Marketing, Rural Marketing
- » Sustainable Industrial Development Strategy, Education Management for a better society, Human Resource management in tribal society, Knowledge management, Green Marketing
- » Societal Marketing. Branding. Consumer Behavior. Sales Management. Service Marketing

4.13.10 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
PRISM JOHNSON LTD	Demand forecasting and logistics planning	To impart knowledge to our Mba students about the Practical issues within the firm

4.13.11 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
NIT Silchar	PhD supervision	Prof.Gurudas Das, Ujjwal Kanti Paul	Joint PhD supervision, research

4.13.12 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Prof. G Bandyopadhyay, Dr. Anupam De, Dr. Kauhsik Mandal, Dr. Subhadip Sarkar	MDP ON SQC & SPC	2023-07-11

4.13.13 Journal: Published in 2023-2024 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Nayanjyoti Bhattacharjee and Anupam De	Understanding the Risks in Faith-Based Equity Investments: A Markov Regime Switching Analysis	Iranian Economic Review, Journal of the University of Tehran	Volume:27 (2023) Issue No:4 Page No:1220-1242 Year:2023 Month:Dec
DR SUBHADIP SARKAR	ABC classification using extended R-model, SVM and Lorenz curve	OPSEARCH	Volume:60 Issue No:3 Page No:1433-1455 Year:2023 Month:Sep
DR SUBHADIP SARKAR	Identification of Groups Due to Generic Strategies among Private Primary Schools using CFA	Asian Journal of Management Science and Applications	Volume:8 Issue No:1 Page No:1-30 Year:2023 Month:Oct

Author(s) Name	Paper Name	Journal Name	Others Info
Bijoy Kumar Dey, Ujjwal Paul and Gurudas Das	Are handloom micro-enterprises in India efficient? Estimation based on DEA and bootstrap truncated regression approach	Research Journal of Textile and Apparel	Volume:27 Issue No:3 Page No:452-471 Year:2023 Month:Apr
Bijoy Kumar Dey and Ujjwal Paul	What Drives the Profitability of Indian Handloom Enterprises? An Insight based on the Seemingly Unrelated Regression mode	Research Journal of Textile and Apparel	Volume:27 Issue No:3 Page No:472-487 Year:2023 Month:Apr
Ameet kumar Banerjee, Soumen Chatterjee, Avijan Dutta	Market power, industry concentration and earnings management: does corporate governance matters	The Journal of Risk Finance	Volume:25 Issue No:1 Page No:1-18 Year:2024 Month:
Jha, Indu Nath., Pal, Durba., Sarkar, Subhadip.	Unlocking the Secret to Workplace Happiness: The Power of Inclusive Leadership, Organizational Justice, and Workplace Inclusion.	Journal of Management Development	Volume:43 Issue No:2 Page No:200-221 Year:2023 Month:Aug
Jha, Indu Nath., Pal, Durba., Sarkar, Subhadip.	Embracing diversity and igniting excellence: Unveiling the impact of workplace inclusion on organizational outcomes in the Indian IT sector.	Journal of Human Behavior in the Social Environment.	Volume:https://doi.org/10.1080/10911359.2023.2289481 Issue No: Page No:1-18 Year:2023 Month:Dec
Subhash Karmakar, Gautam Bandyopadhyay, Dragan Pamucar, Jayanta Nath Mukhopadhyaya, Sanjib Biswas	Impact of COVID-19 on systemic risk for Indian financial institutions	International Journal of Applied Decision Sciences	Volume:16 Issue No:6 Page No: 686-716 Year:2023 Month:Jan
Arpan Chattopadhyay, Supriya Pal, Gautam Bandyopadhyay, Kalyan Adhikari	A multi-attribute decision-making model for selecting centralized or decentralized municipal solid waste management facilities: a study from the Indian perspective	Process Integration and Optimization for Sustainability	Volume:7 Issue No:4 Page No:861-886 Year:2023 Month:Mar
K K Prasad and Amlan Ghosh	A Genetic Algorithm Approach to Optimal Asset Allocation of Defined Contribution Pension Funds: Evidence From India's National Pension System	Compensation & Benefits Review	Volume:56 Issue No:4 Page No:pp. 195-210 Year:2023 Month:Aug
Dipanita Deb, Anupam De and Philippe Gillet	Examining the association between corporate social responsibility and corporate financial performance: a scientometric analysis	International Journal of Economics and Business Research	Volume:Vol 1 (2023) Issue No:1 Page No:594-626 Year:2023 Month:Nov
Jada, Umamaheswararao, Deepika Swain, Tony John, and Lalatendu Kesari Jena	Does leadership style and HRM Practices promote employee wellbeing post onset of the new normal? a mixed-method approach	South Asian Journal of Human Resources Management	Volume: Issue No: Page No:1-27 Year:2023 Month:

4.13.14 Journal: Accepted for Publication in 2023–2024 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Swarup Mukherjee, Anupam De, and Supriyo Roy	Supply Chain Risk Prioritization: A Multi-Criteria Based Intuitionistic Fuzzy Topsis Approach	International Journal of Quality & Reliability Management, Emerald	Volume:DOI: 10.1108/IJQRM-07-20230214 Issue No: Page No: Year:2024 Month:Jan
K K Prasad and Amlan Ghosh	Exploring Asset Allocation Approaches in Pension Plans: A Comprehensive Review and Future Research Agenda	Int. J. of Services, Economics and Management	Volume: Issue No: Page No: Year:2024 Month:Mar

4.13.15 Conference: Published in 2023–2024 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
P. Sahoo, Neelotpaul Banerjee, &K.Mandal	The impact of pandemic uncertainty on consumers buying behaviours.	International Conference of Marketing on Consumer Experience in Digital Era – 2023, held at Indian Institute of Management Bodh Gaya.	DOI/ISBN: 978-93-5890932-6 Volume: Issue No: Page No: Year:2023 Month:Apr Presenter:CO-AUTHOR
Kaushik Mandal and Anwesha Mazumdar	Relationship between purchase intention and gender equal stand in reference to a Famvertising Ad: An empirical Analysis	ICM2023	DOI/ISBN: 978-93-5890932-6 Volume: Issue No: Page No:32 Year:2023 Month:Apr Presenter:CO-AUTHOR
Kaushik Mandal P Sahoo N Banerjee	The impact of Pandemic uncertainty on consumer buying behavior	ICM2023	DOI/ISBN: 978- 93 -5890 932- 6 Volume: Issue No: Page No:54 Year:2023 Month:Apr Presenter:CO-AUTHOR

4.13.16 Conference: Published in Others in 2023–2024

Author(s) Name	Paper Name	Conference Name	Others Info
Jha, Indu Nath, Sarkar,	'From Inclusion to Excellence: Exploring	India Strategy Conference 2023 (Indian	DOI/ISBN: N.A. Volume:
Subhadip, Pal, Durba	Sequential Mediation in Inclusive Leadership'	Institute of Management, Bangalore).	Issue No: Page No:30 Year:2023 Month:Dec Presenter:CO-AUTHOR
Mandal, Vikash. & Pal, Durba.	'Exploring Green Inclusive Leadership and Organizational Citizenship Behaviour towards Environment.'	'India Strategy Conference-2023', at Indian Institute of Management Bangalore.	DOI/ISBN: N.A. Volume: Issue No: Page No:34 Year:2023 Month:Dec Presenter:CO-AUTHOR
Kritisha Sharma & M Roy	Leveraging factors towards promotion of sustainable marketing	SUSCON-X	DOI/ISBN: ISBN Volume: Issue No: Page No: Year:2023 Month:Nov Presenter:CO-AUTHOR
Kritisha Sharma & M Roy	Technology Acceptance model towards online Marketing	Global Business Environment(GBE), IMI, Bhubaneswar	DOI/ISBN: ISBN Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR

4.13.17 Conference: Accepted in Others in 2023-24

Author(s) Name	Paper Name	Conference Name	Others Info
Aishwarya Mitra and Dr. Anupam De	Rethinking Financial Self-efficacy in Rural Households: A Mediated Approach via Financial Capability	Management Education and Research Colloquium (MERC) 2023	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:May Presenter:CO-AUTHOR
Aishwarya Mitra and Dr. Anupam De	Decoding M-wallet Adoption Intention in Indian IT Sector: Insights from SEM-ANN Approach	India Strategy Conference (ISC) 2023	DOI/ISBN: NA Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR

4.13.18 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
Amlan Ghosh		Research in Finance	Relationship between Financial Market Freedom and Economic Growth: An Empirical Evidence from India	Publisher: Emerald (978-1-80117-839-6) Publication Date: 2023-08-23
Kaushik Mandal	S Banerjee	Resilience and Sustainable development	A Journey towards societal a: An empirical validation dvertisement	Publisher: Bloomsbury Publication Publication Date: 2023-06-14

4.13.19 Ph.D. Supervision

Topic Name	Scholar	Supervisor	Status	Status Date
Wavelet Based Multi-Horizon Investment Analysis in an Economy Dominated by Heterogeneous Agents	Anindya Chakrabarty	Dr. Anupam De	DEGREE AWARDED	2016-05-16
Capital Structure Determinants and Decisions during Pre and Post Period of the Recent Financial Crisis in Global Economy: An Empirical Study on Indian Scenario	Arindam Banerjee	Dr. Anupam De	DEGREE AWARDED	2017-01-25
Financial Analysis and Planning in Indian Urban Local Self Governments: A Theoretical and Empirical Study	Smriti Ranjan Bhattacharyya	Dr. Anupam De	DEGREE AWARDED	2018-08-08
Impact of Financial Cognition and Mental Accounting on Personal Financial Planning – A Study on Indian Households	Mousumi S. Mahapatra	Dr. Anupam De & Dr. Jayasree Raveendran	DEGREE AWARDED	2018-09-28
Study on Predictability of Stock Returns and Behavioral Biases	Arindam Banerjee	Dr. Anupam De & Dr. Gautam Bandtopadhyay	DEGREE AWARDED	2018-11-02
The Market Impact of Corporate News Release: Indian evidence	Nayanjyoti Bhattacharjee	Dr. Anupam De	DEGREE AWARDED	2019-11-29
Frauds in Public Sector Banks of India: A Study to Find out the Factors and Impact	Souvik Kumar Ghosh	Dr. Anupam De	DEGREE AWARDED	2021-04-23
A Study on Corporate Social Responsibility and its Impact on the Performance of Indian Corporate Sector	Dipanita Deb	Dr. Anupam De and Dr. Philippe Gillet	DEGREE AWARDED	2023-05-24

Topic Name	Scholar	Supervisor	Status	Status Date
Economic Sustainability and Strategic Management of Cultural Capital: An Exploratory Study with Special Reference to West Bengal	Asmita Basu	Dr. Anupam De	SUBMITTED	2024-03-31
Impact of Financial Literacy on Financial Inclusiveness with the Mediating Role of Behavioral Bias: An Empirical Study in Indian Context	Aishwarya Mitra	Dr. Anupam De	ONGOING	-
A Study in Business Risk Assessment Methodologies under Multi-Criteria Fuzzy environment having Applications in Integrated Steel Plant	Swarup Mukherjee	Dr. Anupam De and Dr. Supriyo Roy	ONGOING	-
Factors Affecting Investment Behaviour In mutual Fund Industry-An Indian Perspective	Soumya Banerjee	Prof. G Bandhyopadhyay and Amlan Ghosh	DEGREE AWARDED	2024-09-28
Optimum assets allocation of DC pensions funds in India	Keshav Kant Prasad	Amlan Ghosh	ONGOING	-
Understanding behavioural aspects of unorganized sector workers' Retirement planning in India	Srijana Tamang	Amlan Ghosh	ONGOING	-
Evaluating techniques for strategic asset allocation of pension funds in India	Abhisikta Basak	Amlan Ghosh	ONGOING	-
Implementation and Performance Evaluation of Enterprise Resource Planning (ERP) in Durgapur Steel Plant, under Steel Authority of Indian Ltd.	Sumit Ranjan Dasgupta	Dr. Debasis Chakraborty, Retd. Prof. P.P. Sengupta, Dr. Anupam De	SUBMITTED	2024-03-31
Industrial Efficiency and Its Impact on Firm Level Performance: A Case Study of Handloom Micro Enterprises of Assam.	Bijoy Kumar Dey	Gurudas Das & Ujjwal Kanti Paul	DEGREE AWARDED	2023-10-20
Migration and Development: A Micro-Level Analysis with reference to Rural Jharkhand	Suchi Smita Swain	Gurudas Das & Ujjwal Kanti Paul	ONGOING	-
A Study on the Adoption Intention of Electric Cars in India	Divya Singh	Ujjwal Kanti Paul	ONGOING	-
Three Essays on eWOM	Krishna Roy	Ujjwal Kanti Paul	ONGOING	-
Essay's on Earning management of Indian firms with special emphasis on family business and the role of corporate governance	Soumen Chatterjee	Avijan Dutta , Ameet Kumar Banerjee	SUBMITTED	2024-11-06
Investor behavior in Durgapur and Asansol Region	Amrita Bhattacharya	Avijan Dutta	DEGREE AWARDED	2023-12-07
Strategy for dairy development in India	Avijit sarkar	Avijan Dutta	DEGREE AWARDED	2022-06-15

Topic Name	Scholar	Supervisor	Status	Status Date
Stress in Police personnel: A study on occurrences, consequences within west Bengal police service and coping strategies	Malini Nanda Majumder	Avijan Dutta	DEGREE AWARDED	2017-03-22
Psychological contract with reference to Employment relationship	Anitha Thomas	Avijan Dutta	DEGREE AWARDED	2016-12-30
A study on consumer buying decision in the time of pandemic.	Pabitra Sahoo	Neelotpaul Banerjee & K.Mandal	ONGOING	-
Chatbots in service industry: Relevance, adoption, and impact.	Sarmistha Ghatak	Neelotpaul Banerjee & S Sarkar	ONGOING	-
Exploring Green Organizational Citizenship Behaviour vis-à-vis Its Correlates among the Employees of Indian Organizations: An Empirical Investigation	Vikash Mandal.	Dr.Durba Pal.	ONGOING	-
Exploring Antecedents and Consequences of Workplace Inclusivity among Employees of Indian Organizations: An Empirical Study	Indu Nath Jha.	Dr.Durba Pal (Co-Supervisor); Dr.Subhadip Sarkar	ONGOING	-
A Study on The Determinants Of Sports Leadership of A Group Of Physical Educators in the Academic Institutions of West Bengal	Hillol Mukherjee.	Dr.Durba Pal.	ONGOING	-
A Study on Workplace Adaptability: An Indian Perspective	Sujata Bose.	Dr.Durba Pal.	DEGREE AWARDED	2022-05-31
Estimation of Systemic Risk and Identification of Systemically Important Firms in India	Mr. Subhash Karmakar	Prof. Gautam Bandyopadhyay	DEGREE AWARDED	2024-03-29
Optimal Portfolio Selection of Equity Mutual Funds Using Soft Computing Techniques: An Indian Perspective	Mr. Soumya Banerjee	Prof. Gautam Bandyopadhyay & Dr. Amlan Ghosh	DEGREE AWARDED	2024-03-29
A Comprehensive Soft-Computing Approach for Construction of Conservative Portfolio in Indian Equity Market	Mr. Sayan Gupta	Prof. Gautam Bandyopadhyay	DEGREE AWARDED	2023-05-16
Empirical Inference of investment Decision Making from Operations Research Context: An Insight of Fmcg and Consumer Durable Sectors in India	Mr. Sanjib Biswas	Prof. Gautam Bandyopadhyay	DEGREE AWARDED	2023-05-24
Comparative Analysis of Listed Banks using Financial Indicators and Stock Returns in Indian Scenario	Mr. Vinay Kumar Shaw	Prof. Gautam Bandyopadhyay	SUBMITTED	2024-07-03

Topic Name	Scholar	Supervisor	Status	Status Date
Sustainable lifestyle for greener future in emerging economies	Kritisha Sharma	Prof. M Roy	ONGOING	-
Issues of Human Resource Development Among The Selected Santal Tribal in Eastern India	Aloke Emmanuel Kisku	Prof. M Roy	ONGOING	-
Strategy Development for Sustainable Energy Use towards Net Zero Economy	Iman Ghosh Dastidar	Prof. P. Pal & Prof.M.Roy	ONGOING	-
Sustainable Business Strategy for Emulsion Coating Product	Sayantana Ghosh Dastidar	Prof.MRoy &Prof P Pal	ONGOING	-
A Quest for relationship among socio demographic variables and various facets of consumer loyalty	Saswati Roy	Kaushik Mandal	DEGREE AWARDED	2024-03-14

4.13.20 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount(in Rs.)	Starting Year
A Study on the Antecedents of Electric Car Adoption in India	Ujjwal Kanti Paul	ICSSR	456000.0	2023
Evaluation of CSR activities	Prof. Gautam Bandyopadhyay, Dr. Avijan Dutta, Dr. Neelotpaul Banerjee, Dr. Kaushik Mandal, Dr. Amlan Ghosh	DSP	550000.0	2023
Social Entrepreneurial Intentions among Young Women: A Case of Select Universities/ Institutes in India	Umamaheswararao Jada(PI), Dr. Susmita Mukhopadhyay (CoPI)	ICSSR	800000.0	2023

4.13.21 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
The Social Impact of Corporate Social Responsibilities of the Major Public Sector Undertakings in India: A Case Study of West Bengal	Dr. Anupam De	Indian Council of Social Science Research (Ministry of Human Resource Development)	2021

4.13.22 Testing and Consultancy Services Rendered

Sponsoring Industry / Institute Name	Title of the Project	Total Amount (in Rs.)	Remarks
Durgapur Steel plant	CSR impact Study	512870.0	Completed
Durgapur Steel Plant, Durgapur, India.	The Impact Assessment Study on CSR initiatives of Durgapur Steel Plant 2022-23.	512870.0	Completed
DSP, Durgapur	Impact assessment of CSR activities of DSP in 2022-23	512000.0	Joint consultancy project by Prof A Dutta Prof. G Bandyopadhyay Dr K mandal Dr N Banerjee Dr A De and Dr Amlan Ghosh.
DSP SAIL	Impact Assessment Study on CSR initiatives of DSP under the CSR scheme of DSP for financial year 22-23	512870.0	Completed

4.13.23 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Subhadip Sarkar	RAIRO OPERATIONS RESEARCH	RAIRO	2024-10-31
Amlan Ghosh	South Asian Journal of Management	Association of Management Development Institutions in South Asia (AMDISA)	2023-08-18
Amlan Ghosh	Cogent Economics and Finance	Taylor and Francis	2023-06-21
Gautam Bandyopadhyay	YUJOR	Faculty of Organizational Sciences, Belgrade	2024-03-29
Umamaheswararao Jada	IIMT Journal of Management	Emerald	2024-07-28

4.13.24 Participation in National Committees/Visits

Name of the Faculty	Name of the Committee	Place of Visit	From Date	To Date
Mousumi Roy	External Senate member	NIT, Jamsedpur	2024-08-30	2024-08-30

4.13.25 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Amlan Ghosh	Board of Studies (MBA)	University of North Bengal	2023-04-01	2024-03-31
Amlan Ghosh	PhD	Tezpur University	2023-06-07	2023-11-15
Gautam Bandyopadhyay	Department of Management & Marketing	WBSU	2024-03-31	2024-04-06
Amlan Ghosh	PhD	Andhra University	2023-06-24	2023-11-19
Amlan Ghosh	Members of the Syllabus Committee for the Ph.D. Course Work in Management	University of North Bengal	2023-04-01	2023-09-09
Mousumi Roy	PhD Thesis Examiner	MNNIT, Allahabad	2023-03-31	2023-03-31
Mousumi Roy	Examiner of Doctoral Thesis	Banaras Hindu University	2023-08-21	2023-08-21
Mousumi Roy	PhD Viva voce and evaluation	Sant Longwall Institute of Engineering & Technology	2023-09-19	2023-09-19

4.13.26 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Gautam Bandyopadhyay	Selection Committee for the Faculty Recruitment (Dept. of HSS)	NIT Silchar	2023-10-05	2023-10-05
Gautam Bandyopadhyay	MBA	MCKV Institute of Engineering	2023-06-08	2023-06-08
Gautam Bandyopadhyay	Business Administration/Supply Chain Management	Dr. B.C. Roy Academy of Professional Courses	2023-08-25	2023-08-25

4.13.27 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Subhadip Sarkar	"SEM, using R",	FDP	B. C. ROY	2023-05-15	2024-10-17
Anupam De	Requisite for Effective Presentation, Case Based Presentations related to industries with key message for effective decision making	Orientation Course for CA students	Durgapur	2023-06-14	2023-06-15

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Anupam De	Analysis of Variance with a practical application	5-days Faculty Development Program on Advances Research Methodology conducted by Dr. B.C. Roy Academy of Professional Courses, Durgapur	Durgapur	2024-03-06	2024-03-06
Anupam De	Introduction to SQC & SPC using Ms-Excel and SPSS	A Five Day Training Program on SQC and SPC, Conducted by DMS, NIT Durgapur	Durgapur	2023-07-29	2023-08-26
Gautam Bandyopadhyay	Supply chain Management Analytics	Seminar	Durgapur	2023-07-21	2023-07-21
Gautam Bandyopadhyay	Data Analytics & Business Analytics in the field of Technology, Management, Healthcare & Hospitality	FDP	DSMS college Durgapur	2023-05-04	2023-05-04
Gautam Bandyopadhyay	'Qualitative & Quantitative Research Methods	FDP	Bharatiya Vidya Bhavan Institute of Management Science, Kolkata	2023-05-23	2023-05-27
Gautam Bandyopadhyay	Capacity Building Programme(CBP) for Young Faculty Members in Social Sciences	St. Xavier's University Kolkata, sponsored by ICSSR	St. Xavier's University Kolkata	2023-06-12	2023-06-14
Amlan Ghosh	Longivity Risk	AHOVAAN 2024-Industry – Institute Convergence Programme	Dept of Management, University of North Bengal	2024-03-21	2024-03-22
Amlan Ghosh	Basic of Time Series Analysis & its Application	5-days Online Faculty Development Programme (FDP-II) On Advanced Research Methodology with Analytical Softwares"	Department of Business Administration & Department of Supply Chain Management, Dr. B. C. Roy Academy of Professional Courses in Durgapur, West Bengal, India.	2024-03-07	2024-03-07
Umamaheswararao Jada	Hands on experience: SPSS and Smart PLS for social science Research	Faculty Development Programme on Research	ISBM, Pune	2023-06-12	2023-06-17

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Kaushik Mandal	Cluster Analysis using SPSS	5 days FDP	BC Roy Engineering College Durgapur	2024-03-04	2024-03-08

4.13.28 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Durba Pal	India Strategy Conference 2023	Indian Institute of Management Bangalore	chaired a session-09; Track6 (Leadership and Human Capital), 16 th Dec, 2023.	2023-12-14	2023-12-17
Gautam Bandyopadhyay	Training Program on SQC &SPC	NIT Durgapur	2023-2024	2023-07-29	2023-08-26
Umamaheswararao Jada	Management Doctoral Colloquium 2024	VGSoM, IIT Kharagpur	OB & HRM Track	2024-02-01	2024-02-02

4.14 Department of Physics

4.14.1 Department at a Glance:

This is one of the oldest departments of the institute which has been providing the basic knowledge of physics to all the undergraduate students of this institute who come to become engineers of future. Physics is one of the core subjects along with mathematics that drive engineering and innovation as it teaches us about the laws of nature and its consequences in both microscopic and macroscopic domain. Over the years, the department has also established its identity as an independent knowledge centre for physical science studies and research through two postgraduate programs and PhD. Programs across diverse disciplines of Physical sciences. Currently, the interest of the department of physics spreads over many interdisciplinary areas of science and the boundaries are not rigidly defined. The department encourages and appreciates new ideas in physics that have relevance to technologies useful for the mankind.

The department currently boasts of several state-of-the-art research laboratories which provide the infrastructural support for cutting edge multidisciplinary research which is primarily focused on various aspects of synthesis, properties and applications of materials and in particular

nanostructured materials. In recognition of the high-quality research in materials science and engineering conducted by its faculty members, the department has been selected by the MHRD, Govt. of India for the prestigious "Centre of Excellence" grant in 2013 (in partnership with the department of MME of this institute). In recent years, department has recruited several new faculty members to add more diversity to the knowledge and expertise. As a consequence, the department is now also very much active in terms of research in areas such as exploration of helium and geothermal power, earthquake precursory studies, environmental radioactivity, Water geochemistry, nonlinear systems and time series analysis, study of chaotic behavior of electronic circuits and systems and application of chaos in cryptography, nanomaterials for optical sensors, solar cells, photocatalyst, standard model and beyond standard model, B meson decays, boson phenomenology, biophysics and biostatistics, artificial intelligence and machine learning in physical and biological phenomena, etc. The research in the above-mentioned areas are conducted in the various laboratories which are described in the Laboratory section.

4.14.2 Mission & Vision

Mission

- » To provide quality education to students with sound understanding of the fundamentals and applications of physics for the advancement of science & technology with the following aims:
- » To provide high quality teaching and research.

- » To improve global visibility of the department through highly qualified and internationally acclaimed faculty and staff.
- » To provide the most up to date and purposeful curriculum and the state-of-the-art laboratory facilities in a "student centric" approach to empower them in finding suitable employment.

- » To improve employability of our graduates by arranging close interaction with nearby industries, so that our programs and graduates are highly regarded and accepted in their workplace.
- » To provide necessary knowledge, experience and ethical values to the students leading them to responsible citizens of the nation

Vision

- » To impart quality education & focus on research in basic and applied sciences leading to advancement of technology to cater to the need of the country.

4.14.3 Faculty

Name	Designation	Email-id
Ajit Kumar Meikap	Professor (HAG)	ajit.meikap@phy.nitdgp.ac.in
Pathik Kumbhakar	Professor (HAG)	patihk.kumbhakar@ phy.nitdgp.ac.in
Amit Kumar Chakraborty	Professor	amit.chakraborty@phy.nitdgp.ac.in
Sukadev Sahoo	Associate Professor	sukadev.sahoo@ phy.nitdgp.ac.in
Mrinal Kanti Mandal	Associate Professor	mrinalkanti.mandal@phy.nitdgp.ac.in
Soumen Basu	Associate Professor	soumen.basu@phy.nitdgp.ac.in
Hirok Chaudhuri	Associate Professor	hirok.chaudhuri@phy.nitdgp.ac.in
Aniruddha Mondal	Associate Professor	aniruddha.mondal@phy.nitdgp.ac.in
Soumik Das	Assistant Professor	soumik.das@phy.nitdgp.ac.in
Hemachander Subramanian	Assistant Professor	hemachander.subramanian@phy.nitdgp.ac.in
Sayantari Ghosh	Assistant Professor	sayantari.ghosh@phy.nitdgp.ac.in
Abhijit Ghosh	Assistant Professor	abhijit.ghosh@phy.nitdgp.ac.in
Arghya Chatterjee	Assistant Professor	Achatterjee.phy.nitdgp.ac.in
Karthikeyan Jeyakumar	Assistant Professor	kjeyakumar.phy@nitdgp.ac.in

4.14.4 Labs

Sl. No.	Name of Laboratory	Major equipment
1	Electronics Laboratory	Oscilloscope 1GHz, RF Signal generator 3GHz, Spectrum Analyzer, Function Generator, Programmable power supply, Caddo-71 PCB Designer.
2	Nanoscience Laboratory	UV-Vis. absorption spectrophotometer, Photoluminescence spectrofluorometer.
03	Carbon Nanotechnology Laboratory	Centrifuge, vacuum furnace, hot air oven, rotary vacuum evaporator, spin coater, bath sonicator and probe sonicator, diamond wheel saw, fume hood, etc.
04	Materials Science Laboratory	DTA-TGA Perkin Elmer, Autolab 302N Electrochemical workstation, Agilent LCR meter, High temperature electrical measurement setup.
05	Facility for the theoretical study	Two GPU-based HP workstations with different computational software
06	Optical Sensor Laboratory	E-Beam evaporation cum GLAD system (), Thermal evaporation cum GLAD system, VLS GLAD system, PerkinElmer UV-Vis spectrophotometer (Model No: LAMDA 365+), Photocurrent measurement system, Keithley make source meter unit (I-V Meter) (Model no: 2450), LCR Meter (Model No: IM3536), Helium Cryostat.
07	Low-Temperature Characterization Laboratory	1 tesla electromagnet, Closed Cycle He-Cryostat, Liq. N2 Cryostat, Impedance Analyser (Hz to MHz & MHz to GHz) LCR meter, Keithley Electrometer, PH Multimeter, High Temp. furnace etc.
08	UG and PG Laboratories	The UG and PG laboratories are equipped with standard experimental setup B. Tech and MSc Physics student

Sl. No.	Name of Laboratory	Major equipment
09	Facility for research on Helium & Geothermal Exploration, and Earthquake Precursor Study and Environmental radioactivity	Rad 7 radon-222 semiconductor detector with aqua kit Alpha Guard ionisation chamber Radon detector Soil moisture, soil temperature detector
10	Facility for research on Water geochemistry, and photocatalyst for organic pollutant removal	Photocatalytic reactor, Muffle Furnace, Hot Air Oven, Ultrasonic Bath, Digital Balance, Wastewater treatment laboratory set up, Membrane set up for wastewater treatment, Multiparameter analyser for water

4.14.5 PhD degree awarded till 2023-24

Ninety Seven.

4.14.6 Specialization

- » High Energy Nuclear and Particle Physics
- » Materials Science
- » Condensed Matter Theory
- » Nuclear Physics
- » Theoretical High Energy Physics
- » Electronics & Condensed Matter Physics
- » Nanomaterials; Photonics; Energy Generation; Supercapacitor; Nonlinear optics; Random laser • Electronics
- » Condensed matter physics
- » Laser Physics
- » Theoretical Biology
- » Condensed matter experiments
- » Materials for Environmental Applications, Environmental Radioactivity, Nonlinear Analysis, Helium and Geothermal Explorations
- » Biophysics

4.14.7 Proposed Plan for Research

- » Nanostructured Materials
- » Study the electronic structure of low dimensional to understand their physical and chemical property with a speical focus on catalyst design for the sustaibale energy technologies
- » Experimental Physics
- » Study of some physical observables of different B, D and K meson decays in beyond standard models (Z' model, W' model and Leptoquark model)
- » Study on Energy Storage Materials
- » Development and characterization of nanomaterials using laser
- » Synthesis and Characterization and Study of Optical and Nonlinear Optical Properties of Semiconducting and Metallic Nanoparticles and Quantum Dots
- » Development of 2D TMDC materials and applications
- » Development of Random lasers
- » Chaos & cryptography and Optical logic processors
- » Development of lead-free pervoskite materials for optoelectronic applications
- » Holographic Optical Elements
- » Finding the structure function relationship of DNA
- » Understanding information storage and processing in biological systems
- » Error correction in DNA replication
- » Chemical engineering of nanomaterials for energy storage application
- » Synthesis and Characterization of Materials for Environmental Applications
- » Monitoring of Environmental Radioactivity
- » Nonlinear Analysis of Geochemical and Geophysical data, Climate data and Biological data
- » Helium and Geothermal Explorations
- » Resource allocation in subcellular processes
- » Energy optimization and cell motility
- » Reinforcement learning in Bacterial systems

4.14.8 Area of Research Interest

- » High Energy Physics
- » Particle Physics
- » Relativistic Heavy Ion Collisions
- » Quark-gluon-plasma
- » Nano-catalyst for fuel cell
- » Density Functional Theory Calculations
- » Electronic Structure of Nanomaterials for Sustainable Catalyst Design
- » Nuclear Physics
- » Experimental Physics
- » B, D and K meson decays in beyond standard model
- » Experimental Condensed Matter Physics
- » Nanomaterials; Random laser; Supercapacitor
- » 2D materials; Nonlinear optics; Photocatalysis
- » Electronics: Nonlinear Dynamics, Chaos & Cryptography
- » Image Processing, Optical logic processors.
- » Thin-film technology
- » Photodetectors
- » Memory devices
- » Optics, Holography, Laser Applications
- » DNA replication
- » Supercapacitors, Lithium and sodium ion batteries and hybrid capacitors, electrocatalysts for green hydrogen by water splitting, gas sensors
- » Study on water pollution (geochemical investigation, water chemistry, antibiotic pollution) in Damodar River Basin and Ganga River
- » Development of novel material for wastewater treatment
- » Development of novel material for Geo jute textile for its use in mining and rural roads
- » Environmental Radioactivity monitoring (in water bodies, sub-soil gas) in Damodar River Basin
- » Nonlinear Time Series Analysis (FFT, MFDFA, EMD, SOC) of climate data, geochemical data, medical data
- » Development of a network of MPGOs (Multi-parametric Geophysical Observatories): Geochemical precursors, Electromagnetic (EM) precursors, seismo-geochemical & seismo-geophysical modeling of earthquake precursors.
- » Investigation on Geochemical and Geophysical Aspect for Geothermal Exploration.
- » Large scale Extraction of helium from petroleum deposits and hydrothermal gas and its purification
- » Statistical physics
- » Nonlinear dynamics
- » Foundations of Statistical Machine learning

4.14.9 Institute Industry Collaboration

Collaborating Institute Organization	Areas of collaboration	Collaboration Activities
Mangalswastik Imperial Ssr Construction & Development Private Limited	Helium Exploration, Fly ash	Joint R&D Project

4.14.10 Collaboration with Academic and Research Institutions

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
RHIC-STAR collaboration at Brookhaven National Laboratory, USA	Relativistic Heavy Ion Collisions	Dr. Arghya Chatterjee, Dr. Sukadev Sahoo	Presently working in the large-scale physics data analysis of the data taken by the STAR Collaboration at Brookhaven National Laboratory (Au-Au collisions at 7.7 GeV/nucleon to 200 GeV/nucleon). Responsibilities include data analysis, physics paper publications and supervision of PhD students in the group
CSIR- CGCRI, Kolkata	Nanomaterials for sensor applications	Dr. S Basu	Joint research
Banaras Hindu University	Multiferroics materials	Dr. S Basu	Joint research
NIT Raipur	Research work	Dr. B. K. Sahoo	Research work
TDB College Raniganj	Collaborative research	Dr. B. Sahoo	Collaborative research & paper publication
B. B. College Asansol	High Energy Physics	Dr. Ambalika Biswas	Joint DST-SERB TARE Project
Asansol Engineering College	Multiferroic Materials	Dr. Ranjita Sinha	Joint PhD Programme
IIT Kharagpur	Machine learning	Dr. S Bhattacharya	Joint paper
Burdwan University	Nonlinear Dynamics	Prof. T. Banerjee	Publication
B. B. College Asansol	Optical logic processors	Dr. K. Mukherjee	Publication & Supervision of Ph.D. scholar
Rajiv Gandhi Institute of Petroleum Technology	Theoretical Magnetism and Catalysis	Prof. A. S. K. Sinha and Dr. T. Basu	Theoretical Catalysis and Magnetism
Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
University of Oulu	2D materials	Dr. Hannu Pekka Homsa	Research and Joint Publication
Indian Institute of Technology Bhubaneswar	Theoretical Catalysis	Prof. U. Ojha	Joint Publication
IIT (ISM) Dhanbad	Optics	A. K. Nirala	Research activity
University of Tyumen, Russia; East China University of Technology, Nanchang, China; Tomsk Polytechnic University, Tomsk, Russia	BRICS NU Project and BRICS STI Project on Water	Dr. Evgeniya Soldatova; Prof. Sun Zhanxue; Dr. Natalia Guseva;	Joint Publication and Joint Research Project
Visweshwaraiya National Institute of Technology – Nagpur	battery and supercapacitor	Dr. Pradyumna Chaturvedi	Joint research project
Indian Institute of Technology Bombay	battery and supercapacitor	Prof. Sagar Mitra	Joint research project

Collaborating Institute Organization	Areas of collaboration	Faculty Members Involved	Collaboration Activities
Indian Institute of Technology Bombay	Supercapacitor	Prof. Sumit Saxena	Joint research paper
Jadavpur University	Sensor	Prof. Rajib Bandyopadhyay and Dr. Bipan Tudu	Joint research paper
Moulana Abul Kalam Azad University of Technology (MAKAUT), Kolkata	lead free solder	Dr. Monalisa Char	Joint research paper
Jagadish Bose National Science Talent Search, Kolkata	lead free solder joint	Dr. Abhijit Kar	Joint research paper
Central University of Jharkhand, Ranchi	lead free solder joint	Dr. Arnab Shankar Bhattacharya	Joint research paper

4.14.11 Innovations and Technology Transfer

Title	Inventors	Application Nos	Date of Filing
A unique set up for temperature dependent reflectance measurement of substrates/thin film samples including stable VO ₂ thin film	Dr. Aniruddha Mondal, Subrata Saha, Dr. Arka Dey, Dr. Arjun Dey, Gunjan Rastogi, Sridhara N	No.202331030788 A	2023-04-28
Nanotechnology based Jute Geptextile for pavement construction and method of production thereof	Sahinur Rahaman Mondal, Supriya Pal, Mrinal Kanti Mandal, Rajib Ghosh Chaudhuri, Hirok Chaudhuri	202331056396, Ref. No. : 1/65573/2023-Kol,	2023-08-23

4.14.12 Workshops/Seminars Organized

Name of Key Speaker(s)	Name of the Programme	Date of the Programme
Dr. Jean-Michel Nunzi, Queen's University, Canada and Dr. Alexy Tameev, HSE University, Russia	Advances of The Material Science and Engineering	2023-09-22

4.14.13 Journal: Published in 2023-2024 SCI/SCOPUS/Web of Science

Author(s) Name	Paper Name	Journal Name	Others Info
Taposhree Dutta, Neha Yadav, Yongling Wu, Gary J Cheng, Xiu Liang, Seeram Ramakrishna, Aoussaj Sbai, Rajeev Gupta, Aniruddha Mondal, Zheng Hongyu, Ashish Yadav	Electronic properties of 2D materials and their junctions	Nano Materials Science	Volume:6 Issue No:1 Page No:1-23 Year: 2024 Month:Feb
Mohamed Abdallah, Bassam Aboona, ..., Arghya Chatterjee, others [STAR Collaboration] (alphabetical order)	Measurements of the elliptic and triangular azimuthal anisotropies in central $\sqrt{s_{NN}}$ $^{3}\text{He}+\text{Au}$, $\sqrt{s_{NN}}$ $\text{d}+\text{Au}$ and $\sqrt{s_{NN}}$ $\text{p}+\text{Au}$ collisions at $\sqrt{s_{NN}} = 200 \text{ GeV}$	Physical Review Letters	Volume:130 Issue No: Page No:242301 Year:2023 Month:Jun
Mohamed Abdallah, Bassam Aboona, ..., Arghya Chatterjee, others [STAR Collaboration] (alphabetical order)	Event-by-event correlations between Λ (anti- Λ) hyperon global polarization and handedness with charged hadron azimuthal separation in $\text{Au}+\text{Au}$ collisions at $\sqrt{s_{NN}} = 27 \text{ GeV}$ from STAR	Physical Review C	Volume:108 Issue No: Page No:014909 Year:2023 Month:Jul

Author(s) Name	Paper Name	Journal Name	Others Info
Mohamed Abdallah, Bassam Aboona, ..., Arghya Chatterjee, others [STAR Collaboration] (alphabetical order)	Measurement of electrons from open heavy-flavor hadron decays in Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV with the STAR detector	Journal of High Energy Physics (JHEP)	Volume:2023 Issue No:06 Page No:173 Year:2023 Month:Jun
Mohamed Abdallah, Bassam Aboona, ..., Arghya Chatterjee, others [STAR Collaboration] (alphabetical order)	Global polarization of Lambda and anti-Lambda hyperons in Au+Au collisions at $\sqrt{s_{NN}}=19.6$ and 27 GeV	Physical Review C	Volume:108 Issue No: Page No:014910 Year:2023 Month:Jul
Mohamed Abdallah, Bassam Aboona, ..., Arghya Chatterjee, others [STAR Collaboration] (alphabetical order)	Elliptic Flow of Heavy-Flavor Decay Electrons in Au+Au Collisions at $\sqrt{s_{NN}} = 27$ and 54.4 GeV at RHIC	Physics Letters B	Volume:844 Issue No:2023 Page No:138071 Year:2023 Month:Jul
Mohamed Abdallah, Bassam Aboona, ..., Arghya Chatterjee, others [STAR Collaboration] (alphabetical order)	Measurements of Dielectron Production in Au+Au Collisions at $\sqrt{s_{NN}}= 27, 39$, and 62.4 GeV from the STAR Experiment	Physical Review C	Volume:107 Issue No:2023 Page No:L061901 Year:2023 Month:Jun
Mohamed Abdallah, Bassam Aboona, ..., Arghya Chatterjee, others [STAR Collaboration] (alphabetical order)	Energy dependence of intermittency for charged hadrons in Au+Au collisions at RHIC	Physics Letters B	Volume:845 Issue No: Page No:138165 Year:2023 Month:Sep
Mohamed Abdallah, Bassam Aboona, ..., Arghya Chatterjee, others [STAR Collaboration] (alphabetical order)	Hyperon Polarization along the Beam Direction Relative to the Second and Third Harmonic Event Planes in Isobar Collisions at $\sqrt{s_{NN}}=200$ GeV	Physical Review Letters	Volume:131 Issue No: Page No:202301 Year:2023 Month:Nov
Mohamed Abdallah, Bassam Aboona, ..., Arghya Chatterjee, others [STAR Collaboration] (alphabetical order)	Longitudinal and transverse spin transfer to Lambda and anti-Lambda hyperons in polarized p+p collisions at $\sqrt{s} = 200$ GeV	Physical Review D	Volume:109 Issue No:2024 Page No:12004 Year:2024 Month:Jan
Mohamed Abdallah, Bassam Aboona, ..., Arghya Chatterjee, others [STAR Collaboration] (alphabetical order)	Observation of the Electromagnetic Field Effect via Charge-Dependent Directed Flow in Heavy-Ion Collisions at the Relativistic Heavy Ion Collider	Physical Review X	Volume:14 Issue No: Page No:011028 Year:2024 Month:Feb
Renna Shakir, Hannu Pekka Komsa, Karan Kumar Paswan, ASK Sinha, J Karthikeyan	Unlocking Exceptional CO ₂ Reduction Selectivity at Neutral Conditions: A First-Principles Study on Chlorinated Single Iron Doped Graphitic Carbon Nitride	The Journal of Physical Chemistry C	Volume:128 Issue No:13 Page No:5505–5514 Year:2024 Month:Mar
Shadab Saifi, Gargi Dey, Renna Shakir, Jeyakumar Karthikeyan, Ravi Kumar, D Bhattacharyya, ASK Sinha, Arshad Aijaz	Single-Atomic Co–N ₄ Sites with CrCo Nanoparticles for Metal–Air Battery-Driven Hydrogen Evolution	Inorganic Chemistry	Volume:63 Issue No:16 Page No:7218–7232 Year:2024 Month:Apr
Iman Biswas, Arka Dey, Avijit Dalal, Subrata Saha, Jean-Michel Nunzi, Aniruddha Mondal	Stable, self-biased Cs ₂ AgBiBr ₆ thinfilm based photodetector by three-step vapor-deposition	Journal of Alloys and Compounds	Volume:976 Issue No: Page No:172903 Year:2024 Month:Mar

Author(s) Name	Paper Name	Journal Name	Others Info
Faisal S Al Mashary, Joao Paulo de Oliveira Lima, Aniruddha Mondal, Sanjib Mondal, Anupam Ghosh, Dier A Jameel, Sultan Alhassan, Maryam M Al Huwayz, Saud Alotaibi, Mohamed Henini, Jorlandio Francisco Felix	Effect of erbium-doping concentration on the electrical, structural and morphological properties of heterostructures based on TiO ₂ thin films	Bulletin of Materials Science	Volume:47 Issue No:1 Page No:42 Year:2024 Month:Feb
Mohamed Abdallah, Bassam Aboona, ..., Arghya Chatterjee, others [STAR Collaboration] (alphabetical order)	Beam Energy Dependence of Triton Production and Yield Ratio (Nt×Np/N2d) in Au+Au Collisions at RHIC	Physical Review Letters	Volume:130 Issue No: Page No:202301 Year:2023 Month:May
Ajay Kumar, Rajib Saha, Avijit Dalal, Aniruddha Mondal, Subhananda Chakrabarti	Investigation of highly efficient selfpowered photo-detector performance of all inorganic lead-free halide perovskites (CsSnCl ₃) nanocrystals (NCs) decorated Er: ZnO nanowires (NWs)/Si heterojunctions	Optical Materials	Volume:147 Issue No: Page No:114671 Year:2024 Month:Jan
Madhuri Mishra, Rajib Saha, Archishman Saha, Avijit Dalal, Ankita Sengupta, Aniruddha Mondal, Sanatan Chattopadhyay, Subhananda Chakrabarti	Investigation of Highly Efficient DualBand Photodetector Performance of Spin-on-Doping (SOD) Grown p-Type Phosphorus Doped ZnO (P:ZnO)/n-Ga ₂ O ₃ Heterojunction Device	IEEE Transactions on Electron Devices	Volume:71 Issue No:3 Page No: Year:2023 Month:Nov
Chiranjib Ghosh, Arka Dey, Iman Biswas, Rajeev Kumar Gupta, Vikram Singh Yadav, Ashish Yadav, Neha Yadav, Hongyu Zheng, Mohamed Henini, Aniruddha Mondal	CuO–TiO ₂ based self-powered broad band photodetector	Nano Materials Science	Volume:6 Issue No:3 Page No:345–354 Year:2023 Month:Nov
Rahul Mandal, Abhijit Ghosh and A K Nirala	Speckle photography and double aperture speckle interferometry using both sides of a suitably designed hololens imaging configuration	Laser Physics	Volume:33 Issue No: Page No:086202 (6pp) Year:2023 Month:Jun
Ankita Dawn, Saroj Khutia, Chiranjit Maji, Hirok Chaudhuri	Health risk assessment due to natural gamma radiation in Durgapur industrial zone and Bakreswar geothermal area, India	Journal of Radioanalytical and Nuclear Chemistry	Volume: Issue No: Page No:1-13 Year:2023 Month:
Avishek Adhikary; Sandeep Kumar; Supriya Pal; Sudipta Ghosh; Hirok Chaudhuri; and Mrinal Kanti Mandal	Efficacy Evaluation of Silty-Sandy Soil and Chrysopogon zizanioides to Attenuate Doxycycline from Wastewater in a Constructed Wetland System	Journal of Environmental Engineering	Volume:149 Issue No:6 Page No:04023024 (1-12) Year:2023 Month:
Saroj Khutia, Ankita Dawn, Kankana Seala, Hirok Chaudhuri, Chiranjit Maji, Suvashree Mukherjee	Age-dependent potential health risk assessment due to radioactive radon-222 in the environs of highly populated Durgapur industrial zone and nearby Bakreswar hot spring, India	Environmental Geochemistry and Health	Volume:45 Issue No: Page No:5727 –5759 Year:2023 Month:

Author(s) Name	Paper Name	Journal Name	Others Info
P Chakraborty, S Ghosh	Quantitative modeling of diffusion- driven pattern formation in iroRNAregulated gene expression	The European Physical Journal Plus	Volume:138 Issue No:(7) Page No:630 Year:2023 Month
P Chakraborty, MK Jolly, U Roy, S Ghosh	Spatio-temporal pattern formation due to host-circuit interplay in gene expression dynamics	Chaos, Solitons & Fractals	Volume:167 Issue No: Page No:112995 Year:2023 Month:
Santanu Dey, Chandan Kumar Raul, Riju Karmakar, Arghya Chatterjee, Ajit Kumar Meikap, Soumen Basu	Enhanced electrocatalytic activity of Cu@Ag core-shell nano catalyst for borohydride oxidation using MWCNT as catalyst support	Ionics	Volume:29 Issue No: Page No:4191-4202 Year:2023 Month:Aug
Chandan Kumar Raul, Santanu Dey, Monalisa Halder, Riju Karmakar, Soumen Basu, Ajit Kumar Meikap	Synthesis of AuxCo100- x/ MWCNT nanoparticles as an efficient anode electrocatalyst for borohydride oxidation in alkaline medium	Journal of Applied Electrochemistry	Volume:53 Issue No:5 Page No:977-990 Year:2023 Month:May
S Dey, CK Raul, R Karmakar, A Chatterjee, AK Meikap, S Basu	Enhanced electrocatalytic activity of Cu@ Ag core-shell nano catalyst for borohydride oxidation using MWCNT as catalyst support	Ionics	Volume:29 Issue No:10 Page No:4191-4202 Year:2023 Month:Oct
Arup Kanti Kole, Srikanta Karmakar, Ashim Pramanik, Pathik Kumbhakar	Transition metal dichalcogenides nanomaterials based piezocatalytic activity: recent progresses and outlook	Nanotechnology	Volume:34 Issue No:28 Page No:282001 Year:2023 Month:Apr
Arindam Dey, Ashim Pramanik, Koushik Mondal, Subrata Biswas, Udit Chatterjee, and Pathik Kumbhakar	Emission peak shifted incoherent random laser through the combined effects of coupling of surface plasmons in a triangular shaped silver nanostructure, microbubbles, and the waveguiding mechanism	Journal of the Optical Society of America B	Volume:40 Issue No:5 Page No:1039-1046 Year:2023 Month:Apr
Arindam Dey, Ashim Pramanik, Koushik Mondal, Subrata Biswas, Udit Chatterjee, Fabrizio Messina, and Pathik Kumbhakar	Replica symmetry breaking in a colloidal plasmonic random laser with gold-coated triangular silver nanostructures	Optics Letters	Volume:48 Issue No:15 Page No:4141-4144 Year:2023 Month:Jul
Mir Sahanur Ali, Rashbihari Layek, Mir Sahidul Ali, Surajit Tudu, Koushik Dutta, Bhuman Gangopadhyay, Devdas Karmakar, Amit Mallik, Subrata Panda, Anupam Maiti, Debajyoti Ghoshal, Srikanta Karmakar, Pathik Kumbhakar, Dipankar Chattopadhyay	Ultrahigh energy density solid state supercapacitor based on metal halide perovskite nanocrystal electrodes: Real-life applications	Journal of Energy Storage	Volume:65 Issue No:15 Page No:107215 Year:2023 Month:Aug
S. Mahata, M. Mandal, S. Biswas, A. Biswas and S. Sahoo	Investigation of $B_{(d(s))^*} \rightarrow d^+ (D_s^+) \rightarrow \nu \mu \mu$ decays in W^+ model and scalar leptoquark model	International Journal of Modern Physics A	Volume:38 Issue No:22 & 23 Page No:2350113 (24 pages) Year:2023 Month:Oct
S. Biswas, M. Mandal, S. Mahata and S. Sahoo	Study of new physics effects in lepton flavour violating $B \rightarrow K_2^* (1430) \ell \ell$ decays	Modern Physics Letters A	Volume:38 Issue No:26 & 27 Page No:2350113 (17 pages) Year:2023 Month:Oct

Author(s) Name	Paper Name	Journal Name	Others Info
S. Pramanik, S. Das, R. Karmakar, S. K. Irsad Ali, S. Mukherjee, S. Dey, A. C. Mandal, A. K. Meikap, P. K. Kuiri	Enhancement of UV luminescence in Zn/ZnO nanocomposite synthesized by controlled thermal oxidation of Zn nano-octahedrals	Journal of Luminescence	Volume:257 Issue No:1 Page No:119746 Year:2023 Month:May
C. K. Raul, S. Dey, M. Halder, R. Karmakar, S.	Synthesis of AuCo _{100-x} /MWCNT Nanoparticles as an Efficient Anode	Journal of Applied Electrochemistry	Volume:53 Issue No:5 Page No:977-990 Year:2023 Month:May
Basu, and A. K. Meikap	Electrocatalyst for Borohydride Oxidation in Alkaline Medium		
S. Atta, M. Halder, V. Bharati, and A. K. Meikap	Impact of NiTbxFe ₂ -XO ₄ nanofiller in PVDF matrix for the characterization of magnetic, dielectric properties and effectiveness of EMI shielding	Journal of Materials Research	Volume:38 Issue No:9 Page No:2474-2485 Year:2023 Month:May
R. Karmakar, S. Sinha, A. K. Das, S. Dey, B. Dutta, S. Pramanik, P. K. Kuiri, S. Basu, and A. K. Meikap	Observation of synergistic effects in tungsten (W) -multiphase tungsten oxide (WO ₃) nanocomposite and its role in enhanced supercapacitive and photoluminescence properties	Mater. Chem. Phys.	Volume:305 Issue No:1 Page No:127915 Year:2023 Month:Sep
R. Karmakar, A. K. Das, B. Dutta, S. Sinha, S. Santra, S. Pramanik, P. K. Kuiri, and A. K. Meikap	Tuneable, reversible resistive switching behaviour of PVA-Zirconia nanocomposite films and validation of the trap-assisted switching mechanism by selective application of external bias voltages	Phys. Chem. Chem. Phys.	Volume:25 Issue No:23 Page No:15953-15969 Year:2023 Month:Jun
Karmakar, S. Sinha, H. Tripathi, S. Dey, S. Basu and A. K. Meikap	Controlled growth of highly energetic, less electron-dense tetrahedral Fe ³⁺ phase on the surface of α -Fe ₂ O ₃ nanoparticles towards enhanced optical, magnetic and supercapacitive performance	J. Phys. Chem. C	Volume:127 Issue No:26 Page No:12502-12519 Year:2023 Month:Jul
A. Maikap, R. Karmakar, A. K. Meikap, S. Samanta	Ultraflexible polyvinylidene fluoride film based amperometric enzyme-free sensor for selective detection of uric acid in a trace level	Biointerphases	Volume:18 Issue No:4 Page No:041003 Year:2023 Month:Jul
S. Saha, A. K. Das, S. Sinha, R. Karmakar, R. Hatada, W. Ensinger, S. Flege, K. Baba and A.K. Meikap	Dielectric response and current-voltage characteristic of Mo-doped diamondlike carbon thin films at room temperature	Diamond and Related Materials	Volume:139 Issue No:1 Page No:110384 Year:2023 Month:Nov
S. Dey, C. K. Raul, R. Karmakar, A. Chatterjee, A. K. Meikap and S. Basu	Enhanced electrocatalytic activity of Cu@Ag core shell nano catalyst for borohydride oxidation using MWCNT as catalyst support	Ionics	Volume:29 Issue No:10 Page No:4191-4202 Year:2023 Month:Oct

Author(s) Name	Paper Name	Journal Name	Others Info
S. Dubey, B. Biswas, D. Halder, S. Mallick, I.Saha, K. Gupta, S. Giri, A. Patra, C. Rizzoli, A. K. Meikap, S. Bhattacharjee and R. Saha	A Multifunctional Interpenetrated 3D Supramolecular Structure Based on 1D Coordination Polymer: Selective Adsorption, Magnetism, Optical Property, Theoretical Analysis and Electrical Conductivity	Crystal Growth & Design	Volume:23 Issue No:10 Page No:7066–7075 Year:2023 Month:Oct
S. Pramanik, B. Kuiri, R. Karmakar, S. Mukherjee, S. Das, S. Mondal, A. K.Meikap, A. S. Patra and P. K. Kuiri	Tuning the band gap of 2D metallic Zn nanostructures	J. Appl. Phys.	Volume:134 Issue No:16 Page No:164301 Year:2023 Month:Oct
Partha Kumbhakar, Indrani Das Jana, Subhadip Basu, Sandip Mandal, Saptarshi Banerjee, Subhanita Roy, Chinmayee Chowde Gowda, Anyesha Chakraborty, Ashim Pramanik, Pooja Lahiri, Basudev Lahiri, Amreesh Chandra, Pathik Kumbhakar, Arindam Mondal, Prabal K Maiti and Chandra Sekhar Tiwary	Utilization of DNA and 2D metal oxide interaction for an optical biosensor	Physical Chemistry Chemical Physics	Volume:25 Issue No:26 Page No:17143–17153 Year:2023 Month:May
Rashbihari Layek, Koushik Mondal, Srikanta Karmakar, Rajat Sarkar, Dipankar Chattopadhyay, Pathik Kumbhakar	Synergistic effect in chemically synthesized noble metal nanoparticles and 2D MoSe ₂ nanocomposite for enhanced electrochemical performance	Materials Today Communications	Volume:38 Issue No: Page No:108342 Year:2024 Month:Mar
Arghya Pathak, Jayashree Karmakar, Debashis Nandi and Mrinal Kanti Mandal	Feature enhancing image inpainting through adaptive variation of sparse coefficients	Signal, Image and Video Processing	Volume:17 Issue No: Page No:1189–1197 Year:2023 Month:
Shadab Saifi, Gargi Dey, J Karthikeyan, Ravi Kumar, D Bhattacharyya, ASK Sinha, Arshad Aijaz	Coupling Single-Ni-Atom with Ni-Co Alloy Nanoparticle for Synergistically Enhanced Oxygen Reduction Reaction	Inorganic Chemistry	Volume:62 Issue No:21 Page No:8200–8209 Year:2023 Month:May
Renna Shakir, Hannu-Pekka Komsa, ASK Sinha, J Karthikeyan	Electronic Origin of Enhanced Selectivity through the Halogenation of a Single Mn Atom on Graphitic C ₃ N ₄ for Electrocatalytic Reduction of CO ₂ from First-Principles Calculations	The Journal of Physical Chemistry C	Volume:127 Issue No:30 Page No:14694–14703 Year:2023 Month:Jul
Diksha Praveen Pathak, Anwesh Kumar, Balathanigaimani Marriyappan Sivagnanam, ASK Sinha, J Karthikeyan	A DFT Study of the Ammonia Decomposition Mechanism on the Electronically Modified Fe ₃ N Surface by Doping Molybdenum	The Journal of Physical Chemistry C	Volume:127 Issue No:33 Page No:16442–16452 Year:2023 Month:Aug
Santosh Semwal, Renna Shakir, Jeyakumar Karthikeyan, Akhoury Sudhir Kumar Sinha, Umraprasana Ojha	NiFeOOH-Co ₉ S ₈ -Intercalated Nanostructure Arrays for EnergyEfficient H ₂ Production and Sulfion Oxidation at High Current Density	ACS Applied Nano Materials	Volume:6 Issue No:20 Page No:18945–18956 Year:2023 Month:Oct

Author(s) Name	Paper Name	Journal Name	Others Info
M Vallinayagam, J Karthikeyan, M Posselt, D Murali, M Zschornak	Metalloid-doping in SMOSe Janus layers: first-principles study on efficient catalysts for the hydrogen evolution reaction	Journal of Materials Chemistry A	Volume:12 Issue No:13 Page No:7742-7753 Year:2024 Month:Feb
Ashutosh Dwibedi, Nandita Padhan, Arghya Chatterjee, Sabyasachi Ghosh	Transport Coefficients of Relativistic Matter: A Detailed Formalism with a Gross Knowledge of Their Magnitude	Universe	Volume:10 Issue No: Page No:132 Year:2024 Month:Mar
Ashim Pramanik, Partha Kumbhakar, Arindam Dey, Koushik Mondal, Dipanjan Banerjee, Venugopal Rao Soma, Pathik Kumbhakar, Chandra Sekhar Tiwary	Synthesis, Green Photoluminescence and Studies of Nonlinear Optical Spatial Self Phase Modulation Effect in 2D Ga ₂ Te ₃ Nanosheets	ACS Applied Optical Materials	Volume:1 Issue No:10 Page No:1634-1642 Year:2023 Month:Aug
Piyali Chatterjee and Amit K Chakraborty	Metal organic framework derived nanostructured ferropentacycline for waterborne Pb(II) ion sensing and organic dye removal	Optical materials	Volume:142 Issue No: Page No:114121 Year:2023 Month:Aug
P Chakraborty, S Dey, SK Kundu, S Basu	Influence of Sm and Fe Co-doping on structural and electrical features of yttrium chromite nanoparticles	Brazilian Journal of Physics	Volume:53 Issue No:3 Page No:60 Year:2023 Month:Jun
Anurup Chakraborty, and AK Chakraborty	Mn-doped NiCoFeO ₄ based hierarchical Ni foam as binder-free electrode for all-solid-state asymmetric supercapacitor	Journal of Energy Storage	Volume:81 Issue No: Page No:110442 Year:2024 Month:Jan
J Maji, S Pandey, S Basu	Enzyme Assays of E. coli and Bacillus sp. Treated with Fe Doped MgO Nanoparticles	Biology Bulletin	Volume:50 Issue No: Page No:S610-S616 Year:2023 Month:Dec
Manas Kumar Garai, Mrinal Kanti Mandal and Sisir Kumar Garai	An alternative approach of developing a frequency encoded data based asynchronous Counter in C-Band	Journal of Optics	Volume:https://doi.org/10.1007/s12596-023-01189-8 Issue No: Page No:Online Year:2023 Month:May
Dhousendra Mandal, Manas Kumar Garai, Mrinal Kanti Mandal, Sisir Kumar Garai	An alternative approach to design a frequency encoded 3-bit synchronous counter usingiconductor optical amplifier-based polarization switch	Journal of Optics	Volume:https://doi.org/10.1007/s12596-023-01447-9 Issue No: Page No:Online Year:2023 Month:Nov
S. Saha, A. Nandy, S.K. Pradhan and A.K. Meikap	Dielectric response of Mn doped ZrO ₂ nanocrystalline solid solution at and above room temperature	J. Mater Sci: Mater Electron.	Volume:34 Issue No:24 Page No:1701 Year:2023 Month:Aug
Parthasarathi Sahu, Sashikanta Barik, Koushik Ghosh, and Hemachander Subramanian	High nucleotide skew palindromic DNA sequences function as replication origins due to their unzipping propensity	Journal of Molecular Evolution	Volume: Issue No: Page No: Year:2024 Month:Sep
Barnali Ghatak, Hemanta Naskar, SK Babar Ali, Sanjoy Banerjee, Amit Kumar Chakraborty, Nityananda Das, Bipan Tudu, Soumyo Mukherji, Rajib Bandyopadhyay	Dysprosium particles decorated Ambroxol imprinted polymer sensor to detect carbide-treated mango	Sensors and Actuators A: Physical	Volume:358 Issue No: Page No:114420 Year:2023 Month:Aug

Author(s) Name	Paper Name	Journal Name	Others Info
Himadri Sekhar Tripathi, Piyali Chatterjee, Achintya Singha, Amit K. Chakraborty	Surface-Modified ZnCo ₂ O ₄ Nanoparticles as Binder-Free Electrode for All Solid-State Asymmetric Supercapacitor	ChemistrySelect	Volume:8 Issue No:41 Page No:e202301664 Year:2023 Month:Nov
Piyali Chatterjee and Amit K Charaborty	Enhanced photoelectrochemical water oxidation by Fe(II) modified nanostructured WO ₃ photoanode	Optical Materials	Volume:144 Issue No: Page No:114361 Year:2023 Month:Oct
Amit Mallik, Mir Sahidul Ali, S. Karmkar, K. Dutta , B. Gangopadhyay, Mir Sahanur Ali, T.D. Das, S. Panda, S. Bhattacharya, A. Chamuah, S. Bhattacharya, A.Chakraborty, A.K. Chakraborty, D. Chattopadhyay	Single step synthesis of amine functionalized graphene oxide/ Cu-Ni bimetallic nanocomposite and tuning its electrical properties Author links open overlay panel	Materials Science and Engineering: B	Volume:296 Issue No: Page No:116627 Year:2023 Month:Oct

4.14.14 Conference: Published in 2023-2024 DOI/ISBN

Author(s) Name	Paper Name	Conference Name	Others Info
B. Sahoo and S. Sahoo	A study on neutron skin thickness of finite nuclei using finite range effective interaction	International Conference on Natural Sciences and Engineering for Sustainable Development (NSES2024)	DOI/ISBN: 9788197108761 Volume: Issue No: Page No:45-46 Year:2024 Month:Mar Presenter:CO-AUTHOR
C. K. Raul, S. Meikap, M. Halder, A. K. Das and A. K. Meikap	Development of Flexible Polymer Composites Films for the Study of Charge Storage Ability	2023 IEEE Energy Conversion Congress and Exposition (IEEE-ECCE 2023)	DOI/ISBN: 10.1109/ECCE53617.2023.10362613 Volume: Issue No: Page No:557-562 Year:2023 Month:Nov Presenter:SELF
Ajay Kumar, Rajib Saha, Avijit Dalal, Aniruddha Mondal, Neelu Sharma, Subhananda Chakrabarti	Investigation of self-powered photoresponse performance of all inorganic lead-free halide perovskites (CsSnCl ₃) nanocrystals (NCs) decorated Er:ZnO nanowires/Si heterojunctions	Functional Material Applications: From Energy to Sensing	DOI/ISBN: https://doi.org/10.1117/12.3004180 Volume: Issue No: Page No:91-97 Year:2023 Month:Nov Presenter:CO-AUTHOR
Ankita Choudhury, Arka Dey, Aniruddha Mondal	Electrical characteristics of Mg doped GeO ₂ NWs based device	Materials Today: Proceedings	DOI/ISBN: https://doi.org/10.1016/j.matpr.2023.03.011 Volume: Issue No: Page No: Year:2023 Month:Mar Presenter:CO-AUTHOR
Rahul Mandal, Abhijit Ghosh	Designing of photovoltaic concentrators using multiplexed holographic lenses recorded in photopolymer film	4 th International Conference on Condensed Matter & Applied Physics, ICC 2023	DOI/ISBN: https://doi.org/10.1063/5.0225217 Volume: Issue No: Page No:050006-1-050006-5 Year:2023 Month:Oct Presenter:CO-AUTHOR
T. Chatterjee, S. Paul, S. K. Pradhan and A. K. Meikap	Mechanical and electrical behavior of green- routed silver-biphasic calcium phosphate nanocomposites	Proceedings of the 66 th DAE Solid State Physics Symposium	DOI/ISBN: Nil Volume: Issue No: Page No:399-402 Year:2022 Month:Dec Presenter:SELF

Author(s) Name	Paper Name	Conference Name	Others Info
C. K. Raul, M. Halder, S. Dey and A. K. Meikap	Development of MWCNT supported Gold- Cobalt bimetallic anode electrocatalyst for direct borohydride fuel cell	Proceedings of the 66 th DAE Solid State Physics Symposium	DOI/ISBN: Nil Volume: Issue No: Page No:496-499 Year:2022 Month:Dec Presenter:CO-AUTHOR
Rahul Mandal, Mayukh Mandal, Abhijit Ghosh and A.K. Nirala	Double Aperture Speckle Interferometer using Single Hololens Imaging Configuration	Conference on Optics, Photonics & Quantum Optics (COPaQ 2022)	DOI/ISBN: Volume: Issue No: Page No: Year:2022 Month:Nov Presenter:

4.14.15 Conference: Published in Others in 2022-2023

Author(s) Name	Paper Name	Conference Name	Others Info
Rahul Mandal and Abhijit Ghosh	Holographic Concentrators Recorded on Photopolymer Film for Photovoltaic Applications	International Conference on Optics, Photonics & Quantum Information (OPTIQ-2023)	DOI/ISBN: . Volume: Issue No: Page No: Year:2023 Month:Dec Presenter:CO-AUTHOR

4.14.16 Books Authored

Author Name	Co-Author	Title of the Book	Title of the Chapter	Publication Details
P. Kumbhakar	Arindam Dey, Ashim Pramanik, Subrata Biswas, Partha Kumbhakar	Handbook of Materials Science, Volume 1: Optical Materials	Developments of Random Laser: Fundamentals and Applications	Publisher: 2023 Publication Date: 2023-11-22
Hirok Chaudhuri	Kankana Seal, Rajalaxmi Nath	Climate Change, Sustainable Development And Human Rights Issues & Challenges In India	A study on the water pollution scenario of the Damodar river basin, India	Publisher: Satyam Law International, New Delhi Publication Date: 2023-0823
Hirok Chaudhuri	Kankana Seal, Rajalaxmi Nath	Education in Chemical Science and Technology, Special Issue on: Emerging trends and application of green technologies for sustainable development (Green Tech – 2022)	Study on structural anisotropy and surface hydroxylation of nanorod units of triphase mesoporous TiO ₂ for its application in photocatalytic degradation of organic pollutants in wastewater	Publisher: Indian Chemical Society, Kolkata Vol. 12, pp – 18-27, 2023 Publication Date: 2023-09-14

4.14.17 Seminars, Summer/Winter Schools, Short Term Courses Attended

Name of the Programme	Organized By	From Date	To Date	Organizing Country
2023 IEEE Energy Conversion Congress and Exposition (IEEE-ECCE 2023)	IEEE	2023-09-29	2023-11-02	USA
8 th International Conference on Advanced Nanomaterials and Nanotechnology – ICANN 2023	Centre for Nanotechnology, IIT Guwahati	2023-11-29	2023-12-01	India
Advanced School on Applied Machine Learning	ICTP	2023-05-27	2023-06-01	Italy

4.14.18 Ph.D. Supervision

Topic Name	Scholar	Supervisor	Status	Status Date
Study of Transport Phenomena in Rotating Hadron Gas in Relativistic Heavy Ion Collisions	Nandita Padhan	Dr. Arghya Chatterjee	ONGOING	-
Synthesis and Characterization of some Nanomaterial based Electrocatalysts to Investigate borohydride Oxidation performance for Fuel cell application	Santanu Dey	Dr. S BASU	DEGREE AWARDED	2024-07-05
Development of metal-oxide based polymer nanocomposites for opto-electronics application	Riju Karmakar 20RPH005	Prof. A K Meikap	SUBMITTED	2023-09-04
Development and characterization of functionalized carbon nanotube polymer nanocomposites having enhanced dielectric properties for charge storage device	Chandan Kumar Raul 21RPH074	Prof. A. K. Meikap	ONGOING	-
Development of ferroelectric polymer based Nanocomposites for solid state fractional order capacitors and memory device applications	Bilwadal Dutta 22RPH023	Prof. A K Meikap	ONGOING	-
The study of electrical transport properties of nanostructured yttrium chromite composites	Kripasindhu Kumar 22PHI501	Prof. A. K. Meikap & Dr. R. Sinha	ONGOING	-
Tailoring of 2D dichalcogenide (MoS ₂ , WSe ₂ , CoSe ₂) embedded spinel composites for next generation high performance supercapacitor	Dibyanjan Nayak 23PHI102	Prof. A. K. Meikap	ONGOING	-
Study of B meson decays in Beyond Standard Model	Supravat Mahata	Dr. S. Sahoo	ONGOING	-
Theoretical investigation of possible new physics with B and D meson decays in non- universal Z' model	Mansi Mandal	Dr. S. Sahoo	ONGOING	-
Theoretical investigation for new physics with B and K meson decays	Raja Ray	Dr. S. Sahoo	ONGOING	-
Phenomenological study of B and D meson decays	Hrushikesh Mahapatra	Dr. S. Sahoo	ONGOING	-
Development and Characterization of Polymer-Multiferroic Nanocomposites for Enhance Magneto Dielectric Behavior	Shubhadip Atta NITD/ PhD/PH/ 2018/01071	Prof. A. K. Meikap	DEGREE AWARDED	2023-08-11
Studies on Development of Some Luminescent and Scatterer Nanoparticles for Application in Optical Energy Harvesting	Arindam Dey	Prof. P. Kumbhakar	ONGOING	-
Investigations on Syntheses, Optical, Catalytic Properties of Some Nanocomposite Materials of MoSe ₂ and Energy Harvesting Applications	Rashbihari Layek	Prof. P. Kumbhakar	ONGOING	-
Quantitative Analysis of Resource Sharing in Gene Regulatory Dynamics	Priya Chakraborty	Dr. Sayantari Ghosh	SUBMITTED	2023-11-13

Topic Name	Scholar	Supervisor	Status	Status Date
Studies on some all optical logic processors effective for WDM-based data	Manas Kumar Garai	Dr. M. K. Mandal & Dr. S. K. Garai	ONGOING	-
Studies on Data Encryption Algorithm based on Hyperchaotic System	Subhashish Pal	Dr. M. K. Mandal	ONGOING	-
Studies on Sparse Representation for Data Processing and Applications	Arghya Pathak	Dr. M. K. Mandal	ONGOING	-
Studies on Design and Analysis of All Optical Logic Gates and Processors Utilizing Nonlinear Properties of Semiconductor Optical Amplifiers	Kajal Maji	Dr. M. K. Mandal & Dr. K. Mukherjee	ONGOING	-
Studies on AI-based Image Cryptosystems	Subhadip Rana	Dr. M. K. Mandal	ONGOING	-
Theoretical Designing of Superatomic Catalysis for Small Molecular Reduction	Dolan Acharya	Dr. Karthikeyan Jeyakumar	ONGOING	-
Computational Design and Optimization of Single-Atom and Multi-Atom Catalysts for CO ₂ Reduction Reaction	Renna Shakir at RGIPT, Jais	Co Supervisor: Dr. Karthikeyan Jeyakumar	ONGOING	-
Studies on MgO/TiO ₂ Heterostructure Nanowires based Optoelectronic Devices and Hybrid Materials as Ion-Sensors	Avijit Dalal	Dr. Aniruddha Mondal	DEGREE AWARDED	2024-01-25
Studies on opto-electronic properties of lowdimensional GeO ₂ and Ga ₂ O ₃ materials	Ankita Choudhury	Dr. Aniruddha Mondal & Dr. Soumik Das	SUBMITTED	2024-04-19
Studies on metal-oxide based phase change material for variable emittance applications	Subrata Saha	Dr. Aniruddha Mondal & Dr. Arjun Dey	ONGOING	2024-12-05
Studies on vapour deposited lead-free perovskite based opto-electronic devices	Iman Biswas	Dr. Aniruddha Mondal	ONGOING	-
Imaging and non-imaging Applications of holographic optical elements	Rahul Mandal	Abhijit Ghosh	ONGOING	-
Holography in optical Elements fabrication and Optical information processing	Yashwinder	Abhijit Ghosh	ONGOING	-
Role of asymmetric cooperativity in DNA replication	Parthasarathi Sahu	Hemachander Subramanian	ONGOING	-
Kinetic insights into genome editing and DNA repair	Sashikanta Barik	Hemachander Subramanian	ONGOING	-
Preserving information fidelity in DNA using asymmetric cooperativity	Koushik Ghosh	Hemachander Subramanian	ONGOING	-
Microplastic detection in water bodies	Miss Rupsa Biswas	Prof. Gopinath Haider, Hirok Chaudhuri	ONGOING	-
Investigation on antibiotic pollutants at the Damodar river basin and the state-of-the-art development of nanomaterials for the degradation of antibiotics	Miss Rajalaxmi Nath	Hirok Chaudhuri	ONGOING	-

Topic Name	Scholar	Supervisor	Status	Status Date
Investigation on climate science data using statistical physics and nonlinear analysis	Miss Debapriya Nandi	Hirok Chaudhuri, Dr. Sayantari Ghosh	ONGOING	-
Investigation on the environmental radioactivity profile of Asansol-Durgapur industrial zone by experimental techniques and statistical approaches	Mrs. Ankita Dawn	Hirok Chaudhuri	SUBMITTED	2024-11-22
Investigation on physics of nonlinearity of earth system data	Dr. Saroj Khutia	Hirok Chaudhuri	DEGREE AWARDED	2024-11-22
Study on geothermal activities by experimental techniques and nonlinear approaches	Dr. Chiranjit Maji	Hirok Chaudhuri	SUBMITTED	2024-11-22
Transition metal oxides and carbon nanostructures based electrochemical energy storage devices	Anurup Chakraborty	Amit K Chakraborty	ONGOING	-
Development of Novel Electrocatalysts for Green Hydrogen Production by Overall Water Splitting	Satyaki Mondal	Amit K Chakraborty	ONGOING	-
Development of highly efficient, low-cost electrodes for Sodium ion Hybrid Capacitor (SIHC)	Mitali Patra	Amit K Chakraborty	ONGOING	-

4.14.19 Ongoing Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Amount (in Rs.)	Starting Year
Some novel phenomenologies of Multi Higgs Doublet Models and higher dimensional operators in the light of Naturalness	(i) Dr. Ambalika Biswas, B. B. College, Asansol (ii) Dr. Sukadev Sahoo	SERB, DST, Govt. of India.	1830000.0	2021
Development and Characterization of Functionalized Carbon Nanotubes-Polymer Nanocomposites having enhanced Dielectric properties for charge storage device	Prof. A. K. Meikap	State DST&BT, WB	1588745.0	2019
Synthesis of Semiconductor and Metal Nanostructures and the Investigation of Their Role as Active or Passive Scatterer in Random Laser Generation "	Prof. P. Kumbhakar	DST, West Bengal	1430800.0	2019
Development of some 2d Transition metal Dichalcogenide semiconductor Nanostructures and nanocomposites for Photocatalytic dye Degradation, light energy Harvesting and hydrogen production"	Prof. P. Kumbhakar	CSIR	2043000.0	2020
High Throughput Density Functional Calculations to Develop Electrochemically Active Cluster Compounds for Multifarious Application	Dr. Karthikeyan Jeyakumar	DST, India	3500000.0	2020
Titanium dioxide (TiO ₂)/VO ₂ NWs heterostructure as a stable optical switch	Aniruddha Mondal (P.I)	DST (SERB)	4919992.0	2022
Thermo-Chromic Variable Emittance Coating	Aniruddha Mondal (P.I), Arjun Dey (Co-P.I)	ISRO	2178000.0	2022

Title of the Project	Investigator	Sponsor Authority	Amount (in Rs.)	Starting Year
A model for determination of DNA sequence from experimental data of DNA double-strand unzipping kinetics	Hemachander Subramanian	SERB	660000.0	2022
Development of an IoT Based Organic/Inorganic Contaminants Removal System (CRS) for Purifying Domestic Wastewater through Constructed Wetland using Durable, Nano-Composite Jute-Geotextile Sandwiched LECA Cartridges.	PI: Dr. M. K. Mandal Co PI: Dr. Supriya Pal, Dr. Hirok Chaudhuri, Dr. Rajib Ghosh Chaudhuri, Dr. T. K. Bera	Mission Steering Group (MSG)- National Technical Textile Mission (NTTM) Ministry of Textiles, Govt. of India	9996000.0	2023
Education Application under NTTM	PI: Dr. Supriya Pal, Co PI: Dr. M. K. Mandal, Dr. Hirok Chaudhuri, Dr. Rajib Ghosh Chaudhuri, Dr. T. K. Bera	National Technical Textile Mission (NTTM)-Ministry of Textiles, Govt. of India	84700000	2023
Development of nano-composite jute geotextile for high-speed railway embankment system to enhance the durability and its remotely health monitoring using Internet of Things (IoT.)	PI: Dr. Supriya Pal, Co PI: Dr. M. K. Mandal, Dr. Hirok Chaudhuri, Dr. Rajib Ghosh Chaudhuri, Dr. T. K. Bera	Mission Steering Group (MSG)- National Technical Textile Mission (NTTM) Ministry of Textiles, Govt. of India	9970000.0	2023
Performance Evaluation of Fly Ash-Cement Stabilized Coal Mine Overburden as a Potential Sub-base and Base Course Material in Flexible Pavement Systems (p380-395/C)	PI: Dr. Supriya Pal, Co PI: Dr. M. K. Mandal, Dr. Hirok Chaudhuri, Dr. Rajib Ghosh Chaudhuri	National Rural Infrastructure Development Agency (NRIDA), Govt. of India	1892000.0	2023
Nano technological Intervention on jute geotextile to adapt long term sustainability and enhanced durability for its cost effective and wide application in flexible pavement systems	PI: Dr. Supriya Pal, Co PI: Dr. Hirok Chaudhuri, Dr. M. K. Mandal. Dr. Rajib Ghosh Chaudhuri	National Jute Board (NJB), A Statutory Body, Ministry of Textiles, Govt. of India	6952000.0	2021
Development of guidelines to adopt the process of height increment of overburden dumps at open cast coal mines in India using jute-geotextile as reinforcing material	PI: Dr. Supriya Pal, Co PI: Dr. Hirok Chaudhuri, Dr. M. K. Mandal. Dr. Rajib Ghosh Chaudhuri	National Jute Board (NJB), A Statutory Body, Ministry of Textiles, Govt. of India	7172000.0	2021
Understanding Host-Circuit Interaction & Resource Sharing in Synthetic Biology	Sayantari Ghosh	DST	3500000.0	2019
Sustainable Technology for Smart Off-Grid Renewable Energy Transformation and Electrochemical Storage Management	Prof. Amit K Chakraborty	SERB, DST, GoI	14000000	2022

4.14.20 Completed Sponsored Projects Details

Title of the Project	Investigator	Sponsor Authority	Complete Year
Universal advanced low-cost nano-hybrid platform for air pollution, water, and bio-fluids	Aniruddha Mondal (P.I), R. N. Barman (Co-P.I), J. M. Nuzi, (P.I – Canada) A. Tameev (Co-P.I– Russia)	SPARC (IIT Kharagpur), Govt. of India	2023
Computational quantification of mutagenic potential of palindromic sequences in prokaryotic and eukaryotic genomes	Hemachander Subramanian	SERB	2024
“Nonlinear dynamics (NLD) of long range anticorrelated chaotic oscillation in plasmas and application of nonlinear dynamics to condensed matter and dark matter research, geo-chemical oscillations from hot springs and chaos control”	PI: Prof. A. N. Sekar Iyengar, CO-PI: Prof. K. SR. Menon, Dr. Hirok Chaudhuri	SERB, DST Govt. of India,	2024

4.14.21 Reviews of Manuscripts for Publication in Journal

Reviewer	Name of the Journal	Publisher	Date of Final Review
Arghya Chatterjee	International Journal of Modern Physics A	World Scientific Publishing Co Pte Ltd	2024-04-19
Sukadev Sahoo	Indian Journal of Physics	Springer	2023-06-18
Sukadev Sahoo	Pramana – Journal of Physics	Springer	2023-07-25
Ajit Kumar Meikap	Journal of Alloys and Compounds	Elsevier	2023-04-08
Ajit Kumar Meikap	Journal of Alloys and Compounds	Elsevier	2023-06-17
Ajit Kumar Meikap	Journal of Alloys and Compounds	Elsevier	2023-07-02
Ajit Kumar Meikap	Journal of Materials Science: Materials in Electronics	Springer	2023-08-06
Ajit Kumar Meikap	Heliyon	Cell Press	2023-09-01
Ajit Kumar Meikap	Journal of Alloys and Compounds	Elsevier	2023-09-03
Ajit Kumar Meikap	Materials Science & Engineering B	Elsevier	2023-09-24
Ajit Kumar Meikap	Physica E	Elsevier	2023-07-01
Ajit Kumar Meikap	Materials Letters	Elsevier	2023-10-05
Ajit Kumar Meikap	Ceramics International	Elsevier	2023-12-15
Ajit Kumar Meikap	Surfaces & Interfaces	Elsevier	2023-12-20
Ajit Kumar Meikap	Physics Status Solidi (b)	Wiley	2023-12-20
Ajit Kumar Meikap	Journal of Non-crystalline Solids	Elsevier	2024-02-06
Ajit Kumar Meikap	Ionics	Springer	2024-03-10
Pathik Kumbhakar	Advanced Science	Wiley	2024-03-08
Pathik Kumbhakar	Optics Letter	OPTICA	2024-02-23
Pathik Kumbhakar	Appl. Phys. Letter	AIP	2024-02-06
Pathik Kumbhakar	ACS Sustainable Chemistry & Engineering	ACS	2023-12-20
Pathik Kumbhakar	Inorganic Chemistry	ACS	2023-05-20
Pathik Kumbhakar	Nanoscale	RSC	2024-01-07
Pathik Kumbhakar	Nature communications	Nature	2023-10-29
Pathik Kumbhakar	Optical Materials	Elsevier	2023-04-14
Pathik Kumbhakar	Optical Materials	Elsevier	2023-06-11
Pathik Kumbhakar	Optical Materials	Elsevier	2023-07-15

Reviewer	Name of the Journal	Publisher	Date of Final Review
Pathik Kumbhakar	Optical Materials	Elsevier	2023-09-28
Mrinal Kanti Mandal	Int. J. of Signal and Imaging Systems Engineering	Inderscience Publishers	2024-02-23
Karthikeyan J	International Journal of Energy Research	Wiley	2023-09-01
Aniruddha Mondal	Journal of Alloys and Compounds	Elsevier	2023-11-07
Aniruddha Mondal	Transactions of the Indian Ceramic Society	Taylor & Francis	2024-03-31
Aniruddha Mondal	Thin Solid Films	Elsevier	2023-04-01
Sayantari Ghosh	Scientific Reports	Nature	2023-07-27

4.14.22 Participation in National Committees/Visits

Name of the Faculty	Name of the Committee	Place of Visit	From Date	To Date
Pathik Kumbhakar	WAST Sectional committee - II	Online	2023-12-08	2023-12-08
Pathik Kumbhakar	WAST Sectional committee - II	Online	2023-10-07	2023-10-07
Pathik Kumbhakar	R&D Expert Committee on Material Sciences & Nanotechnology, Department of Science & Technology and Biotechnology, Govt. of West Bengal,	Vigyan Chetana Bhavan, Block-DD, Plot-26/B, Salt Lake City, Kolkata-700064	2023-12-19	2023-12-19
Pathik Kumbhakar	R&D Expert Committee on Material Sciences & Nanotechnology, Department of Science & Technology and Biotechnology, Govt. of West Bengal	Vigyan Chetana Bhavan, Block-DD, Plot-26/B, Salt Lake City, Kolkata-700064	2024-02-09	2024-02-09
Pathik Kumbhakar	Constitution Meeting of ACS, DSTBT with R&D Expert Committee on Material Sciences and Nanotechnology	Vigyan Chetana Bhavan, Block-DD, Plot-26/B, Salt Lake City, Kolkata-700064	2023-07-06	2023-07-06

4.14.23 Invited Examiners/Paper-Setters/Board of Studies

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Arghya Chatterjee	Paper Setter : Quantum Mechanics -I (PG)	Kazi Nazrul University	2023-02-13	2024-02-20
Arghya Chatterjee	Paper Setter: Mechanics (UG)	Kazi Nazrul University	2024-01-17	2024-02-20
Arghya Chatterjee	External DC, Review and Scrutinize the progress work of PhD students	NIT Tiruchirappalli	2023-05-10	2023-06-23
Sukadev Sahoo	OTE, 2023-24	Odisha Public Service Commission, Cuttack, Odisha	2023-10-30	2023-11-24
Sukadev Sahoo	M. Sc. (Quantum Mechanics II)	Odisha University of Agriculture and Technology (OUAT),	2024-03-19	2024-03-26
Ajit Kumar Meikap	Moderator for M.Sc. question paper	Kazi Nazrul University, Asansol	2023-07-25	2023-07-25
Ajit Kumar Meikap	Ph.D. Viva-voc examination	Jadavpur University, Kolkata	2023-05-04	2023-05-04
Ajit Kumar Meikap	4 th sem PG project examination	Kazi Nazrul University, Asansol	2023-08-28	2023-08-28
Ajit Kumar Meikap	BOS Committee meeting	Vidyasagar University, Midnapur	2023-12-07	2023-12-07
Pathik Kumbhakar	Doctoral Committee Meeting	The University of Burdwan	2023-06-13	2023-06-13

Name of the Faculty	Name of the Examination	University/Institute	From Date	To Date
Pathik Kumbhakar	Doctoral Committee Meeting	The University of Burdwan	2023-08-17	2023-08-17
Pathik Kumbhakar	Paper –MSPH-306-5 (Lasers And Laser Spectroscopy) for the M.Sc. Semester-III in Physics Examinations, 2023	The University of Burdwan	2023-12-01	2023-12-01
Pathik Kumbhakar	PhD thesis Examination	Indian Institute of Science Education and Research (IISER) Mohali	2023-10-02	2023-10-02
Mrinal Kanti Mandal	Dr. M. K. Mandal	Amity University	2023-09-22	2023-09-22
Sayantari Ghosh	Fifth Semester	Kaji Nazrul University	2023-09-30	2024-10-09
Amit Kumar Chakraborty	BoS for Research, Physics dept.	Kazi Nazrul University, Asansol	2023-06-16	2027-06-15
Amit Kumar Chakraborty	BoS, Dept. of Physics	Netaji Subhas Open	2019-01-07	2026-01-06
Amit Kumar Chakraborty	BoS, Dept. of Materials Science	University, Kalyani MAKAUT, Kalyani	2022-11-22	2025-11-21
Amit Kumar Chakraborty	External Examiner for MSc dissertations	Visvabharati University	2023-05-24	2023-05-24

4.14.24 Invited Expert in Selection Committees

Name of the Faculty	Discipline	University/Institute	From Date	To Date
Sukadev Sahoo	Physics (Ph.D.) Selection)	IIT Bhubaneswar	2023-07-27	2023-07-27
Sukadev Sahoo	Physics (Assistant Professor Selection)	Bengal College of Engineering and Technology (BCET) Durgapur	2023-08-02	2023-08-02
Ajit Kumar Meikap	Physics	NIT Jamshedpur	2023-11-26	2023-11-28
Ajit Kumar Meikap	JRF selection in Physics	SRM Institute of Science and Technology	2023-07-14	2023-07-14
Ajit Kumar Meikap	Laboratory assistant selection in Physics	Kazi Nazrul University, Asansol	2023-08-25	2023-08-25
Ajit Kumar Meikap	Physics	Goa University	2024-03-04	2024-03-05
Mrinal Kanti Mandal	Physics, Subject Expert	DAV Model School	2023-04-08	2023-04-08
Amit Kumar Chakraborty	Physics	Senior scholars selection interview, Jagadish Bose National Science Talent Search, Kolkata	2023-10-07	2023-10-08
Amit Kumar Chakraborty	Physics	External examiner for University Post Doctoral Fellow selection committee	2023-11-18	2023-11-18
Amit Kumar Chakraborty	Physics	External Expert for selection of JRF in a DST funded PURSE project, BITS Pilani	2023-11-17	2023-11-17
Amit Kumar Chakraborty	Senior scholar selection	JBNSTS, Kolkata	2022-04-01	2023-03-31

4.14.25 Invited Lectures

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Pathik Kumbhakar	Interesting Optical Properties and Applications of Some 0D-2D Nanostructured Materials (Part I and II)	UGC Malaviya Mission Teacher Training Centre, the University of North Bengal, online Refresher Course on MATERIAL-PHYSICS & NANOTECHNOLOGY	Burdwan University	2024-02-17	2024-02-17
Pathik Kumbhakar	Fascinating Multiphoton Absorption Properties of Some Chemically Synthesized Graphene Oxide based Nanostructured Materials	International conference on "Advances in Spectroscopic Techniques and Materials (ASTM-2024)" Date: 18 - 20 January, 2024,	IIT (ISM) Dhanbad, India	2024-01-18	2024-01-20
Pathik Kumbhakar	Introduction to Laser Light and Nanotechnology: Contributions of Indian Scientists and Applications in Daily Life	SCIENCE FAIR ON NATIONAL SCIENCE DAY (NSD)	Durgapur Women's College, Durgapur	2024-02-28	2024-02-28
Karthikeyan J	Recent Development in Sustainable Energy Technologies	National Level Seminar	Oddanchatram, TN (Online)	2023-03-05	2023-03-05
Amit Kumar Chakraborty	Nanotechnology for Sustainable Development: Clean Energy and Environment	National Webinar on "Nanotechnology and Advanced Materials	Sikkim Manipal Institute of Technology, Sikkim	2023-09-02	2023-09-02
Amit Kumar Chakraborty	Nanotechnology for Sustainable Development: Clean Energy and Environment	Seminar cum workshop in Chemistry under DBT STAR college program	Durgapur Govt. College, Durgapur	2023-09-22	2023-09-22
Amit Kumar Chakraborty	Nanotechnology for Sustainable Development: Clean Energy and Environment	Refresher Course on MATERIAL-PHYSICS & NANOTECHNOLOGY	North Bengal University, Siliguri	2024-02-20	2024-02-20
Amit Kumar Chakraborty	Nanotechnology for Sustainable Development: Clean Energy and Environment	Global Conference on "Emerging Technologies Leading Towards Sustainable Economics, Supporting Green Environmental Practices and Business Growth	NSHM Knowledge Campus, Durgapur	2023-12-08	2023-12-08

Name of the Faculty	Title of the Lecture	Programme	Place	From Date	To Date
Amit Kumar Chakraborty	Nanoscale engineering of transition metal compounds for energy harvesting and storage applications	Condensed Matter Physics Tuesday Seminars, Department of Physics	University of Liverpool, Liverpool, United Kingdom	2024-03-12	2023-12-12
Amit Kumar Chakraborty	Nanotechnology for Sustainable Development: Clean Energy and Environment	13TH vidyasagar Satyandra nath Bose national Workshop on "emerging fields in theoretical and experimental Physics (eftep-2024)	VIDYASAGAR UNIVERSITY, MIDNAPORE	2024-03-05	2024-03-07
Amit Kumar Chakraborty	Popular science talk	"Meet the Icon" Student week program	Nadiha High School, Durgapur	2024-01-04	2024-01-04

4.14.26 Session Chair/Convenor

Name of the Faculty	Programme	Place	Session	From Date	To Date
Amit Kumar Chakraborty	International Workshop on "Advances of The Material Science and Engineering" (ATMSE2023)	NIT Durgapur, Durgapur	lecture session 3	2023-09-22	2023-09-22
Amit Kumar Chakraborty	International Conference on Natural Sciences and Engineering for Sustainable Development (NSESD2024)"	Kazi Nazrul University, Asansol	Keynote Session	2024-03-06	2024-03-07
Amit Kumar Chakraborty	1 st "International Conference on Renewable Energy Technologies and Bio Sustainability (ICRETBS-2024)	Mahishadal Raj College, Mahishadal, East Midnapore, WB,	Organising Chair of the entire conference	2024-02-21	2024-02-23

5. Centers

5.1 Center for Advanced Research on Energy (CARE)

5.1.1 Information regarding Center:

In the wake of environmental concerns and the global uproar about rapidly-declining reserves of fossil fuels the development of alternative fuels is crucial for the sustenance and development of human civilization. Climate change, pollution, and energy insecurity are significant problems, and addressing them requires major changes to energy infrastructures. Renewable energy technologies are essential contributors to the energy supply portfolio, as they contribute to world energy security, reduce dependency on fossil fuels, and provide opportunities for mitigating greenhouse gases. Climate-disrupting fossil fuels are being replaced by clean, climate-stabilizing, non-depletable sources of energy. Today, renewables are seen not only as sources of energy, but also as tools to address many other pressing needs, including: improving energy security; reducing the health and environmental impacts associated with fossil and nuclear energy; mitigating greenhouse gas emissions; improving educational opportunities; creating jobs; reducing poverty; and increasing gender equality. Renewables have entered the mainstream.

Due to the growing environmental concerns and depleting reserves of fossil fuels along with their expensive extraction and processing, more emphasis is being laid on finding alternative fuels which are non-polluting and renewable/abundant. Solar energy, being the most abundant of the renewable energy sources, is being sought after to cater to the increasing global power demand in order to minimise environmental damage. The average solar power received by the earth's surface stands at 173000 terawatts. This enormous amount of energy can act as source of energy if we can successfully convert and store it as electrical energy as per our requirement. One can achieve this by photovoltaic devices which can convert the

solar photons into electrons to create a current or can hydrolyse water (another abundant resource) by the means of a photo-catalyst through photo-electro-chemical water splitting. Both these approaches have enormous potential as alternative and renewable energy technology for the future generation.

In view of the above, and due to rapid urbanisation of Indian economy, the demand for alternative energy has been ever increasing in India. Durgapur being an industrial city, and due to Govt. of India's look east policy, need for developing technologies that can provide energy in a sustainable way for long term economic growth of the eastern India, it is high time that researchers at NIT Durgapur, take proactive role in transforming this growth process within the region. It is with these objectives, that a group of researchers as underlined below from several departments of NIT Durgapur, a premier technological institute, have come together to work jointly to develop technologies that can contribute significantly to the sustainable growth of the eastern region of India.

To establish a Center for Advanced Research on Energy (CARE) at NIT Durgapur is to promote multidisciplinary activities focused to various facets of energy technology and systems in the form of research, teaching and consultancy. The research activities in the centre will be in the form of research-based projects funded by various national and international funding agencies. Faculty members from various departments of the institute will be associated with the centre for the promotion of interdisciplinary research for sustainable energy. To support the research work in the projects, the centre will start academic programmes – Doctor of Philosophy (PhD) and M. Tech by Research.

5.1.2 Centre at a glance

- » To carry out advanced interdisciplinary research activities in the area of energy to the needs of the society.
- » To conduct training programmes in the related areas for professional skill development.
- » To facilitate incubation of business ideas from students and mentor them to develop as entrepreneurs in relevant areas.
- » To introduce post graduate courses in energy with certain specializations that will focus on emerging areas of energy devices Design and Development, sensors, smart materials, etc.
- » To provide a platform for interaction between industry fraternity with scientists and management experts from neighbouring institutions interested to work in identified topics by organizing regular seminar series.
- » To provide customized/flexible PhD Program to student(s) of any department of the institute on specific problems in energy.
- » To enter into collaborative research engagements with Extra-mural funding agencies and Industrial Organizations for better understanding of issues of scientific and technological management between different stakeholders.

5.1.3 Faculty & Staff details

Name	Designation	Email id (Institute & other id)
Prof. Parimal Acharjee, EE	Professor	parimal.acharjee@ee.nitdgp.ac.in
Prof. Kaustav Aikat, BT	Professor	kaustav.aikat@bt.nitdgp.ac.in
Prof. Atul Kumar Banik, CE	Professor	atul.banik@ce.nitdgp.ac.in
Prof. Tapas Kumar Saha, EE	Professor	tapas.saha@ee.nitdgp.ac.in
Prof. S. N. Mahato, EE	Professor	sankar.mahato@ee.nitdgp.ac.in
Dr. A. Mondal, PH	Associate Professor	aniruddha.mondal@phy.nitdgp.ac.in
Dr. J. Dey, EE	Associate Professor	jayati.dey@ee.nitdgp.ac.in
Dr. T. K. Bera	Assistant Professor	tusharkanti.bera@ee.nitdgp.ac.in

5.1.4 Papers/Projects/Books/Book Chapters/Patents

Journal Papers (No.)	Conference Papers (No.)	Projects (for 2023-24) (No.)		Book Chapters (No.)	Books/Edited Volume (No.)	Patents (No.)
		Ongoing	Completed			
20	25	05	02	04	02	NIL

5.1.5 Doctoral Programme (No. Only)

Ongoing	02
Completed	NIL

5.1.6 Facilities available

- » High speed Internet facility with Wi-Fi connectivity.
- » Workshop for any fabrication, model making requirements and design software.
- » Simulation software.
- » Computers with necessary software
- » Solar Simulator
- » Water and Electricity for 24 hours
- » Hardware and software laboratories
- » Library – books, journals (Hardcopy), unlimited journals, conference papers download, plagiarism Checking facility.

5.1.7 Equipment

Sl. No.	Name of the equipment	Date of Purchase	Amount
1	Solar Simulator I-V System with IPCE	23-03-2022	4803387.06

5.1.8 Future Plans

Future Plans are as follows:

- » Introduce post graduate courses on energy with certain specializations that will focus on emerging areas of energy devices, design and development, sensors, smart materials, etc.
- » Start PhD Program to student(s) on specific problems on energy.
- » Purchase Equipment which will be multi-disciplinary. Experimental set-up for PG course will be developed. Those purchased equipment will be helpful and useful for PG students, PhD scholars to perform multidisciplinary research.
- » Conduct workshop, seminar, Conference and training programmes in the related areas for professional skill development.
- » Collaborative research engagements with Extra-mural funding agencies and Industrial Organizations for better understanding of issues of scientific and technological management between different stakeholders.
- » Promote multidisciplinary activities focused to various facets of energy technology and systems in the form of research, teaching and consultancy.

5.2 Centre of Biomedical Engineering & Assistive Technology (BEAT)

5.2.1 Centre at a glance

The Centre of Biomedical Engineering & Assistive Technology (BEAT) is focused on specific research to solve complex biomedical problems that are crucial to human welfare and society, in general. It invites /aims at multidisciplinary perspective that include engineering sciences, physical sciences mathematical, and biological sciences. This centre is determined to enhance interdisciplinary engineering education & research, training of paramedical and medical skills of personnel in the field /application. The thematic focus areas for research under the BEAT are:

- (i) Biomaterials & Biofabrication,
- (ii) Biomechanics & Biomechanical Engineering,

- (iii) Biomedical Devices, Bio-Instrumentation & Bio-sensors,
- (iv) Assistive Technology & Rehabilitation Engineering.
- (v) At present, the center is having one professional category and one full-time PhD /research scholar supported by Institute fellowship, who are working in the interdisciplinary domain under the guidance of multiple Faculty members from different academic departments.

5.2.2 Faculty & Staff details

Name	Designation	Areas of Research Interest	Email id (Institute & other id)
Monidipa Ghosh	Asso Professor	Molecular Immunology, Biosensor development, Host-pathogen interaction	monidipa.ghosh@bt.nitdgp.ac.in
Supriya Bera	Asso Professor	Phase Transformation, Materials Characterization, Biomaterials,	supriya.bera@mme.nitdgp.ac.in
Manab Mallik	Asstt Professor	Structure property correlation of Biomaterials	manab.mallik@mme.nitdgp.ac.in
Madan M. Ghosh	Asso Professor	Simulation for Designing Structural Materials Nanomaterials – Nanoparticles, Nanocomposites	madanmohan.ghosh@mme.nitdgp.ac.in
Tushar K. Bera	Asstt Professor	Biomedical Instrumentation, Sensors and Actuators, Medical Electronics, EIHM	tusharkanti.bera@ee.nitdgp.ac.in
Ashis K. Dhara	Asstt Professor	Computer-aided Diagnosis System, AI & Machine Learning, Deep Learning in Med Image Analysis.	ashis.dhara@ee.nitdgp.ac.in
Suman Halder	Asstt Professor	Biomedical Instrumentation, Biomedical Modeling	suman.halder@ee.nitdgp.ac.in
Chiranjib Koley	Professor	Signal Processing, Pattern Recognition, Soft Computing, Process Control & Instrumentation	chiranjib.koley@ee.nitdgp.ac.in
NB Hui	Professor	Robotics, Soft Computing, Multi Agent Systems, Design Optimization	nirmal.hui@me.nitdgp.ac.in
K Khan	Asso Professor	Composite materials, bimodular composite, Finite element method, Functionally graded materials	kallol.khan@me.nitdgp.ac.in
SS Roy	Professor	Additive Manufacturing & 3D Printing, CAD/CAM, Robotics	shibendu.roy@me.nitdgp.ac.in
RN Barman	Asstt Professor	Computational Fluid Dynamics (CFD), Modeling and Simulation	rn.barman@me.nitdgp.ac.in

Name	Designation	Areas of Research Interest	Email id (Institute & other id)
Bibhash Sen	Asso Professor	Embedded System & its application in medical science, Assistive Technology	bibhash.sen@cse.nitdgp.ac.in
Mamata Dalui Chakraborty	Asstt Professor	Intelligent Biomedical Devices, Assistive Technology	mamata.dalui@cse.nitdgp.ac.in
Suchismita Roy	Professor	FPGA based Embedded System design	suchismita.roy@cse.nitdgp.ac
Aniruddha Mondal	Asso Professor	Fabrication of 1d metal oxide semiconductor nanostructure, hybrid semiconductor detectors, Bio sensor	aniruddha.mondal@phy.nitdgp.ac.in
Nilanjan Chattaraj	Asstt Professor	Smart materials based devices and Structronic Systems, Electromechanical systems, Flexible-Mechatronics System Engineering	nilanjan.chattaraj@ece.nitdgp.ac.in
Diptesh Das	Asso Professor	Passive, Semi-active and Hybrid Vib Control, AI and Soft Computing Offshore Struct. Engineering	diptesh.das@ce.nitdgp.ac.in
Dakshina Ranjan Kisku	Associate Professor	Biometrics, Machine Learning, Deep Learning, Image Processing, Pattern Classification, Affective Computing	drkisku@cse.nitdgp.ac.in
Debashis Nandi	Professor	Image Processing, Medical Imaging, Communication Security, Chaos and Security, Bio-inspired Optimization, Deep Learning in Computer Vision	debashis@cse.nitdgp.ac.in
Amiya K. Samanta	Professor	Comp. & exp. Mechanics, simulation of composite structures, innovative materials.	amiyak.samanta@ce.nitdgp.ac.in

5.2.3 R&D Activities

5.2.4 Papers/Projects/Books/Book Chapters/Patents:

Journal Papers (No.)	Conference Papers (No.)	Projects (for 2023-24) (No.)		Book Chapters (No.)	Books/Edited Volume (No.)	Patents (No.)
Ongoing	Completed					
0	0	--		0	-	0

5.2.5 Workshops/Seminars Organised (2023-24)

5.2.6 Doctoral Programme (Number Only)

Ongoing	02
Completed	NIL

5.2.7 Facilities available

5.2.8 Equipment

5.2.9 Future Plans

Centre of Biomedical Engineering & Assistive Technology (BEAT) wishes to widen its research perspective in the thematic areas along with the following future plans

- (i) Sponsored R&D project proposal submission.
- (ii) Initiate procurement of equipment and setting up of dedicated laboratory under HEFA proposal as soon as

lab area /space in Utkarsh Bhavan is received /handed over.

- (iii) Floating proposal for interdisciplinary MTech programme in BME.

5.3 Centre for Research on Environment and Water (CREW)

Ministry of Education, Govt through HEFA has approved the fund of Rs. 4 Crore to set up a Centre for Research on Environment and Water (CREW) at NIT Durgapur. This centre will be equipped with high valued analytical instruments with an aim to develop expertise to assist industries and municipal bodies in developing and implementing evaluation, remediation and management strategies for pollution related issues using sole and/or integrated treatment strategies and develop technologies to convert waste to value added products. As Durgapur is a rapidly developing city with a burgeoning population, increasing use of fossil fuels and generation of municipal wastes are associated with its development. In this localized scenario

as well as in the national scenario, a state of the art centre for studies and research on such environmental issues is extremely relevant. As the Centre is interdisciplinary in nature and made by multiple departments like Earth and Environmental Studies, Physics, Chemistry, Mathematics, Chemical Engineering, Biotechnology, Civil Engineering, Mechanical Engineering, Management Studies and Computer Science and Engineering to implement for ensuring total environmental compliance by industrial houses and municipal bodies. Finally, UG, PG students and research scholar are benefitted through such advanced centre for their better understanding with their interdisciplinary curriculum.

5.3.1 Centre at a glance

A centre with a multidisciplinary approach towards advanced research on environment and water in an institute of national importance, such as National Institute of Technology Durgapur can play a very effective role in this regard. Such a centre would need precision high value analytical instruments for this activity. The centre would aim to develop the expertise to assist industry and civic administrations in developing and implementing evaluation, remediation or management strategies for contamination issues and develop technologies to convert wastes to value-added products wherever feasible. Hybrid treatment

technologies encompassing chemical, biological and physico-chemical treatment schemes would be a viable and practical option to substitute inadequate conventional treatment systems. As the Centre is interdisciplinary in nature and made by multiple departments like Department of Earth and Environmental Studies, Physics, Chemistry, Mathematics, Chemical Engineering, Biotechnology, Civil Engineering, Mechanical Engineering, Management Studies and Computer Science & Engineering to implement for ensuring total environmental compliance by industrial houses and municipal bodies.

5.3.2 Faculty & Staff details

Name	Designation	Email id (Institute & other id)
Dr. Rajnarayan Saha	Professor and Coordinator	rajnarayan.saha@ch.nitdgp.ac.in
Dr. Hirok Chaudhuri	Associate Professor and Joint Coordinator	hirok.chaudhuri@phy.nitdgp.ac.in
Dr. Sandip Mondal	Assistant Professor and Joint Coordinator	sandip.mondal@ees.nitdgp.ac.in
Dr. Kalyan Adhikari	Professor	kalyan.adhikari@ees.nitdgp.ac.in
Dr. Apurba Dey	Professor (HAG)	apurba.dey@bt.nitdgp.ac.in
Dr. Kaustav Aikat	Professor	kaustav.aikat@bt.nitdgp.ac.in
Dr. Dalia Dasgupta Mandal	Professor	dalia.dasgupta@bt.nitdgp.ac.in
Dr. Surabhi Chaudhuri	Professor	surabhi.chaudhuri@bt.nitdgp.ac.in
Dr. Sufia Kazy	Associate Professor	sufia.kazy@bt.nitdgp.ac.in
Dr. Parimal Pal	Professor (HAG)	parimal.pal@che.nitdgp.ac.in
Dr. Tamal Mandal	Professor	tamal.mandal@che.nitdgp.ac.in
Dr. Susmita Dutta	Professor	susmita.dutta@che.nitdgp.ac.in

Name	Designation	Email id (Institute & other id)
Dr. Gopinath Halder	Professor	gopinath.halder@che.nitdgp.ac.in
Dr. Mrinal Kanti Mondal	Associate Professor	mrinalkanti.mandal@che.nitdgp.ac.in
Dr. Bimal Das	Assistant Professor	bimal.das@che.nitdgp.ac.in
Dr. Supriya Pal	Associate Professor	supriya.pal@ce.nitdgp.ac.in
Dr. Soumen Basu	Associate Professor	soumen.basu@phy.nitdgp.ac.in
Dr. Sankar Ch. Moi	Professor	sankar.moi@ch.nitdgp.ac.in
Dr. Jitamanyu Chakrabarty	Associate Professor	jitamanyu.chakrabarty@ch.nitdgp.ac.in
Dr. Sujit Sankar Panja	Associate Professor	sujit.panja@ch.nitdgp.ac.in
Dr. Utpal Adhikari	Associate Professor	utpal.adhikari@ch.nitdgp.ac.in
Dr. Tanmoy Kr. Saha	Assistant Professor	tanmoy.saha@ch.nitdgp.ac.in
Dr. Sujoy Saha	Assistant Professor	sujoy.saha@cse.nitdgp.ac.in
Dr. Anita Pal	Associate Professor	anita.pal@maths.nitdgp.ac.in
Dr. Mousumi Roy	Professor	mousumi.roy@dms.nitdgp.ac.in
Dr. Parag Kumar Guhathakurta	Assistant Professor	paragkumar.guhathakurta@cse.nitdgp.ac.in
Dr. Subhas Rana	Associate Professor	subhas.rana@me.nitdgp.ac.in
Dr. Arup Kumar Mandal	Assistant Professor	arup.mandal@mme.nitdgp.ac.in
Dr. Soumik Das	Assistant Professor	soumik.das@phy.nitdgp.ac.in
Dr. Nilanjan Chattaraj	Assistant Professor	nilanjan.chattaraj@ece.nitdgp.ac.in
Dr. Nibedita Mahata	Assistant Professor	nibedita.mahata@bt.nitdgp.ac.in
Dr. Sudipta Mondal	Assistant Professor	sudipta.mondal@bt.nitdgp.ac.in

5.3.3 Papers/Projects/Books/Book Chapters/Patents

Journal Papers (No.)	Conference Papers (No.)	Projects (for 2023-24) (No.) Ongoing	Completed	Book Chapters (No.)	Books/Edited Volume (No.)	Patents (No.)
05	04	NIL	NIL	3	1	NIL

5.3.4 Workshops/Seminars Organised

NIL

5.3.5 Doctoral Programme (No. Only)

Ongoing	02
Completed	NIL

5.3.6 Facilities available

Centre procured Geotechnical Centrifuge and AlphaGuard Radon Monitor

5.3.7 Future Plans

Development of low-cost technological solutions of industrial effluent treatment, particulates and gaseous emission control system and solid waste management system.

Precise assessment of contamination and transport mechanism of contaminants in soil and groundwater system and development of control mechanism.

Development of low cost highly sensitive environmental monitoring equipment, particularly electronic sensors with data logger.

Development of strategies to monitor environmental radioactivity and to provide feasible solutions.

Development of processes for bioremediation of wastes to convert them to harmless/less harmful forms or to yield value-added products

Direct interfacing with industries to solve their specific pollution control problems

5.4 IoT and Intelligent Systems (IoTIS)

Centre of Excellence on IoT and Intelligent Systems (IoTIS), funded by Higher Education Financing Agency (HEFA), MoE, Govt. of India.

5.4.1 Centre at a Glance

The proposed 'Centre of Excellence for Advanced Research on IoT and Intelligent Systems' (IoTIS) will focus on advanced interdisciplinary research activities in the area of Internet of Things (IoT) and assistive technologies related to Intelligent Systems to cater to the needs of the society. Another goal of IoTIS is to meet the challenges of the nation by encouraging research and entrepreneurship in interdisciplinary areas, encompassing engineering, sciences, and social sciences. IoTIS also aims to reach out to universities, research

institutions and industrial organizations with periodic continuing-education programs for proper utilization of national resources. As far as academic programs are concerned, the centre will be offering Masters, and PhD programs in Advanced Networking and Intelligent Systems. Going forward, the centre seeks collaboration with national and international institutes and partnership with social institutions and industries to realize its goals.

5.4.2 Faculty & Staff details

Name	Designation	Email id (Institute & other id)
Prasenjit Choudhury	Asso Prof	pchoudhury@cse.nitdgp.ac.in
Bibhas Sen	Asso Prof	bsen@cse.nitdgp.ac.in
Tandra Pal	Professor	tpal@cse.nitdgp.ac.in
Subrata Nandi	Professor	snandi@cse.nitdgp.ac.in
Sujoy Saha	Asst prof	ssaha@cse.nitdgp.ac.in
Chiranjib Koley	Professor	ckoley@ee.nitdgp.ac.in
Subhrabrata Choudhury	Professor	schoudhury@cse.nitdgp.ac.in
Anirban sarkar	Asso Prof	asarkar@cse.nitdgp.ac.in
Suvodip Batabyal	Asst prof	sbatabyal@cse.nitdgp.ac.in
Nilanjan Chattaraj	Asst prof	nchattaraj@ece.nitdgp.ac.in
Nilanjan Biswas	Asst prof	nbiswas@ece.nitdgp.ac.in
Aniruddha Bhattacharya	Asst prof	abhattacharya@ee.nitdgp.ac.in

5.4.3 R&D activities

5.4.4 Papers/Projects/Books/Book Chapters/Patents

Journal Papers (No.)	Conference Papers (No.)	Projects (for 2023-24) (No.)		Book Chapters (No.)	Books/Edited Volume (No.)	Patents (No.)
Ongoing	Completed					
06	02	NIL	NIL	NIL	NIL	NIL

5.4.5 Workshops/Seminars Organised

NIL

5.4.6 Doctoral Programme (No. Only)

Ongoing	NIL
Completed	NIL

5.4.7 Facilities available

At Present, an Eye tracker software is procured which is being utilised in association with EEG for studying cognitive load. Permission for purchase of some other equipments have been obtained and the process is initiated. However, the facilities for IoT test beds require permanent space which

is likely to be available with the handover of the HEFA CoE building. Currently, faculty members of the team are working on the related problems using the general facilities (including sponsored or RIG related projects) available in the Institute.

5.4.8 Equipments

Sl. No.	Name of the equipment	Date of Purchase	Amount
1	Eye tracker device	05.01.2021	9 lakhs

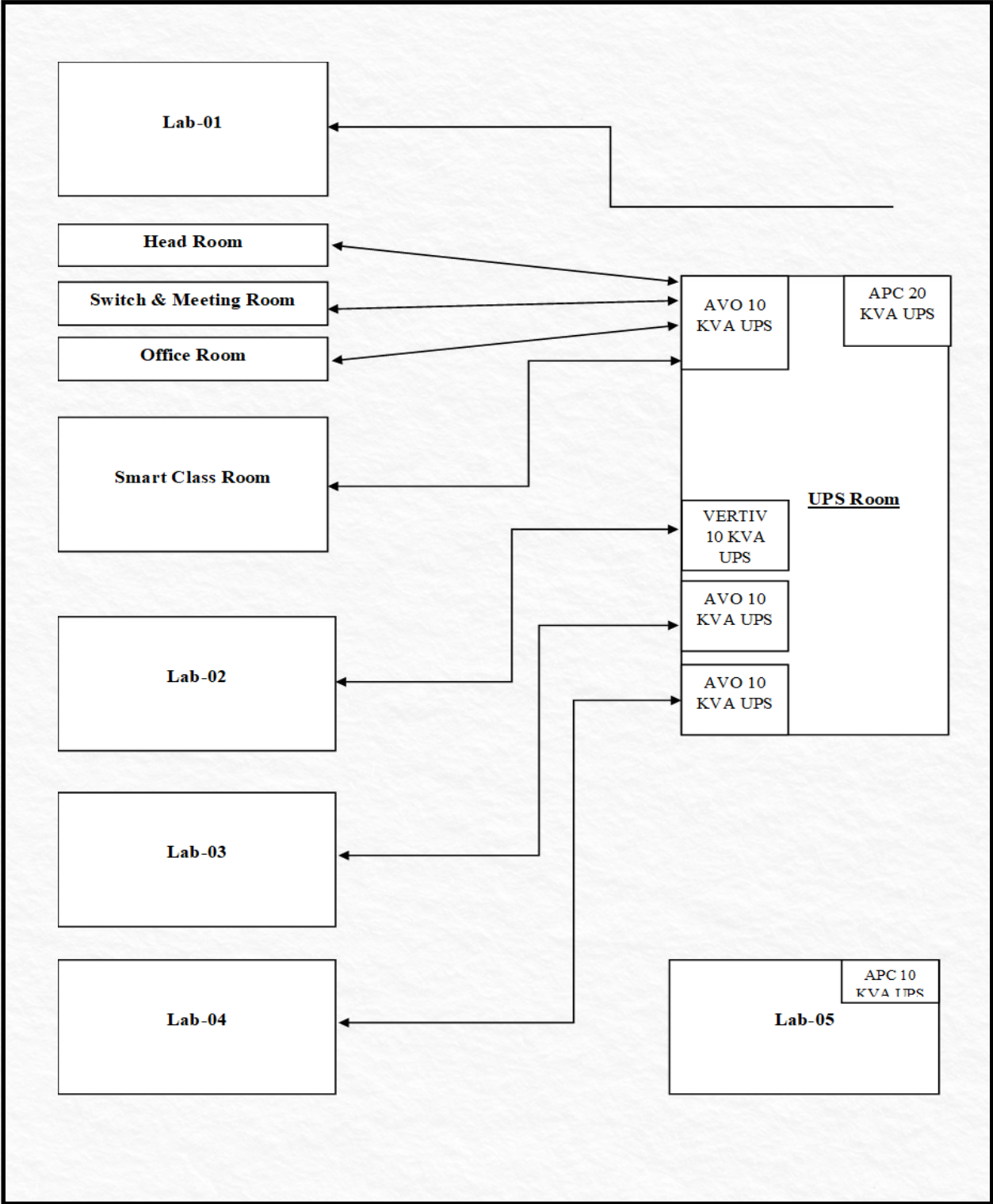
5.4.9 Future Plans

- » To create facility and test-bed for carrying out advanced interdisciplinary research activities in the area of Internet of Things (IoT) and related Intelligent Systems (and Smart Systems) to cater to the needs of the industry and society (in general).
- » Conducting training programmes and Master degree level courses in the related areas for professional skill development.
- » Generating Intellectual Properties (IP) in terms of patents and high quality technical publications.
- » Conducting consultancy works for industries covering, but not limited to, transportation, manufacturing, healthcare, agriculture etc.
- » Helping and guiding start-ups in relevant areas.
- » Using this as a general research facility to take up new research projects from industry and other bodies.

6. Centralised Services

Name of the Lab	Area of the Lab	Number of System	Configuration of the System	Software Used
LAB-01	40X24 sq.ft	Total capacity 68 Nos. system. System present 68 Nos. CCTV -- 02 Nos. Projector -- 01 No. APC 20 KVA UPS – 01 No. (PC-001 to PC-068)	Acer Veriton – Intel core i5-8500; 3.0 GHz; 1TB HDD; 16 GB RAM. -- 68 Nos.	Windows 10 Pro, Ubuntu, Dev c++, Java, winrar, adobe reader, LibreCAD, Mars, Codeblock, MySql, Xampp, Office365
LAB-02	34X24 sq.ft	Total capacity 44 Nos. system. System present 41 Nos. CCTV -- 02 Nos. Projector -- 01 No. VERTIV 10 KVA UPS – 01 No. (PC-069 to PC-112)	Acer Veriton – Intel core i5-8500; 3.0 GHz; 1TB HDD; 16 GB RAM. --10 Nos. HP Pro TWR 400 G9 – Intel core i5-12500; 3.0 GHz; 1TB HDD, 8 GB RAM. -- 31 Nos.	Windows 10 Pro, Ubuntu, Dev c++, Java, winrar, adobe reader, LibreCAD, Codeblock, MySql, Xampp, Office365
LAB-03	34X24 sq.ft	Total capacity 44 Nos. system. System present 44 Nos. CCTV -- 02 Nos. Projector -- 01 No. APC 10 KVA UPS – 01 No. (PC-113 to PC-156)	HP Pro TWR 400 G9 – Intel core i5-12500; 3.0 GHz; 1TB HDD, 8 GB RAM. -- 44 Nos.	Windows 10 Pro, Ubuntu, Dev c++, Java, winrar, adobe reader, LibreCAD, Codeblock, MySql, Xampp, Office365
LAB-04	34X24 sq.ft	Total capacity 44 Nos. system. System present 34 Nos. CCTV -- 02 Nos. Projector -- 01 No. AVO 10 KVA UPS – 01 No. (PC-157 to PC-200)	HP Elite Desk 800G – Intel core i5; 3.5 GHz; 500GB HDD 8 GB RAM. -- 34 Nos.	Windows 10 Pro, Ubuntu, Dev c++, Java, winrar, adobe reader, LibreCAD, Codeblock, MySql, Xampp, Office365
LAB-05	36X15 sq.ft	Total capacity 36 Nos. system. System present 27 Nos. CCTV -- 01 No. APC 10 KVA UPS – 01 No. (PC-201 to PC-236)	Lenovo Thinkcentre Intel core i5 Vpro, 3.3 GHz; 6GB RAM. --04 Nos. HP Elite Desk 800G – Intel core i5; 3.5 GHz; 500GB HDD 8 GB RAM. -- 23 Nos.	Windows 10 Pro, Ubuntu, Dev c++, Java, winrar, adobe reader, LibreCAD, Codeblock, MySql, Xampp, Office365
LAB-06	23X15 sq.ft	IOTIS Project Lab.		
Smart Class Room	24X23 sq.ft	Total capacity 36 Nos. system. System procurement under process. CCTV -- 01 No. Projector -- 01 No. AVO 10 KVA UPS – 01 No.		

6.1 Computer Centre



6.2 Library

6.2.1 About Us

The Central Library is one of the important central facilities of the Institute supports the study, teaching, research, and community to enhance their knowledge and skillsets. It is housed in a separate building having three floors on a plinth area of 1000 sq. mtrs. The library has a collection of 1,92,036 volumes, which includes text-books, reference books & bound volumes of Journals, Standards etc. The library subscribes to about 125 current e-Journals and a few e-Services. Library operations have been automated with the help of an integrated opensource library management software package, KOHA. The book database is accessible through OPAC (Online Public Access Catalogue). It has good collection of reference books for all branches of the Institute. It has a good collection of electronic resources in

its Digital Library.

Library has introduced Wi-Fi facility in the reading halls to access e-resources. It has also some Audio-Visual equipment like Direct Projectors, Multimedia Projectors, Studio recording, color copier etc.

The library is an institutional member of DELNET (Developing Library Network), and NPTEL (National Programme on Technology Enhanced Learning). It is also a beneficiary member of eSS (e-SodhSindhu) previously known as INDEST-AICTE (Indian National Digital Library in Engineering, Science & Technology) which provides Desktop Access to high quality e-resources (online journals and databases).

6.2.2 Facilities & Teaching and Learning Resources

Central Library extends various facilities to the students, faculties and researchers. The UG/PG students are supported with the Book-Bank, which allows them to borrow 6 (six) books in each semester. Moreover, they can also borrow reference books (limited in numbers). The Research Scholars can borrow more books for their references. Faculties and staff are also avail this facility.

Central Library has been subscribing various e-services which include e-Journals and e-Database and e-Services. All the electronic services are licensed on the Institute IP, hence users can access those services seamlessly within the local network. We also provide off-campus access through INFLIBNET portal.

6.2.3 Access to the Resources

Central Library is providing two types of services – the circulation and online service. The circulation includes all print book, reference books and study materials. The students of the institute, faculties and staff can avail the circulation facility. There is a collection of 'children book'. This facility is availed by the employees of the institute.

All online services are available on the Institute local network. There is no user login required. However, some e-Services are login based – iThenticate, Grammarly, etc.

The users can avail the reading room facility during the library hour. The reading room is wifi enable and temperature controlled.

6.2.4 Centre for Digital Learning (CDL) Studio (Lecture Recording System)

Central library has recently developed a studio for learning material development. The studio is equipped with interactive devices like digital board, Wacom, 50 seater student capacity, faculty and student microphones, etc. The studio is also supported with the editorial team.

The editorial office is equipped with the required devices and the software to produce the final product. The studio can be used to produce teaching learning contents for the NPTEL and MOOC courses.

6.2.5 List of E-Journals (eSS enlisted) (2024):

The Central Library individually subscribes several high-quality e-Journals and Databases, Tools from leading

publishers in the field of Engineering, Science & Technology to support teaching research to the Institute.

Sl. No.	Name of e-journals / Database
1	Elsevier Science Direct – 11 Subject Collection
2	Taylor & Francis – Science & Technology 4 Subject Online Journals Package (4 title)
3	Emerald e-Journals Premier e- Journal Collection (309 title)
4	ASTM Standards and Engineering Digital Library

Sl. No.	Name of e-journals / Database
5	CAS SciFinder Academic Unlimited Access Plan
6	IS Complete Set-Online (Renewal, 11-15 S.U., with updates)
7	ACI Material Structural Journal, Concrete International & Symposium
8	RSC Gold package
9	Sage Management & Organization Studies Collection & Materials Science & Engineering Subject
10	IEEE Electronic Library (IEEE IEL)
11	Scopus Elsevier / Allied Pub.--- (Database)
12	AMS E- Journals Package
13	IOP / ESS Licence Package

6.2.6 List of e-Journals (not eSS enlisted) (2024)

Sl. No.	Name of e-journals / Database
1	Wiley Journals Full Collection: Read & Publish Model (1044 title)
2	SAE International Journal of Passenger Vehicle systems
3	Proceedings of the National Academy of Sciences (PNAS)-Tier 3 /
4	Prowess IP and Economics Outlook IP (1+1)/ CMIE --- (Database)
5	Journal of Pension Economics and Finance
6	ACS All Publications Package+Legacy Archives Lease (1+1)
7	EPWRF India Time Series / EPWRF Research Foundation

6.2.7 e-Books

6.2.8

Sl. No.	e-Books	Validity
1	Taylor & Francis eBooks (2823 titles)	Perpetual (from 21.03.2024)
2	Wiley eBooks (Unit 1 & 2) (204+136 titles)	Perpetual (from 21.03.2024)
3	Springer Nature eBook collection 8078 titles	Perpetual (from 21.03.2024)
4	Elsevier eBooks for 10 subject collections (2464 titles)	Perpetual (from 22.03.2024)

6.2.9 Tools

Sl. No.	Name of Tools
1	iThenticate
2	Grammarly

6.2.10 Backfiles of e-journals (from Vol.1 to till date)

Backfiles of the e-journals are one of the important resources useful to the researchers which helps them to find the most relevant works for their research. In connection this library procured backfiles of core journals from some of the leading publishers.

1. Elsevier Backfiles Collection: Engineering & Technology (164 titles) and Chemical Engineering (36 titles)
2. Royal Society of Chemistry (RSC Gold): Archive 1841-2007
3. Emerald Backfiles Collections:
 - a. Accounting and Economics – 1974- 2006 (27 Journals)
 - b. Marketing -1967-2006 (18 Journals)
 - c. HR Learning and Organisational Studies -1952-2006 (28 Journals)
 - d. Operational Logistics and Quality – 1971-2006 (22 Journals)
 - e. Public Policy and Environment -1899- 2006 (10 Journals)

6.2.11 e-Books

E-books play an important role in accessing high quality books on campus as well as off-campus. Library procured eBooks from different leading publishers. Presently the library has around 16000+ ebooks.

1. E-Textbooks through <https://digital.elib4u.com/> platform. (Different Publishers)

2. Oxford e-Book collection for Mathematics and Physics
3. Springer eBook Collection, LNCS (Lecture Note in Computer Science) from 1973 to 2016
4. Elsevier eBooks
5. CRC Press

6.2.12 Print Collection

The Central Library has a good collection of print resources consists of books, standards, journals etc. collection are as below (up to 31.03.2022):

Collection (Books)	General Book	1,27,548
	Book Bank	42,104
	Bound Volume	7,744
	SC/ST	4,244
	BIS Code	5,072
	Gift	6,269
	Misc.(Bengali Lit, Theses etc.)	557
	TEQIP Books	3,546
	TOTAL	1,97,084

6.2.13 Library Hours

- » 8:30 A.M to 9:00 P.M. (Weekdays)
- » 9:00 AM to 5:00 P.M. (Weekends)
- » However, the library timing increases up to midnight during the examination. During vacations 8:30 A.M. to 5:30 P.M. (Institute holidays remain close).

Library is a growing organism and the collections of the Central Library is increasing, it is introducing new services day by day so that users can avail best services of its kind

6.3 SRCC

6.3.1 Projects

Research Projects	Completed		Ongoing	
	No.	Value	No.	Value
	19	41,28,472.00	107	12,68,79,643.00

6.3.2 Consultancy

Consultancy & Testing Projects	Completed No	Ongoing No
	42	10
	(Value= Rs. 1,57,02,688.00)	(Value=Rs. 52,27,400)

6.4 Training and Placement Cell

6.4.1 Placement

Training & Placement Department of the institute provides employment opportunities to the final year students and training to the 3rd year students after 6th semester. 566 UG students have been placed in the session 2023-2024. Apart from that few students have opted for higher studies in various IITs and IISc. 136 companies visited the campus including MICROSOFT, AMAZON, ORACLE, GOLDMAN SACHS, BNY MELLON, J.P. MORGAN, AMDOCS, IBM, L&T, TCS, WIPRO, CESC, HSBC, PWC, RELIANCE JIO, HERO MOTOCORP, VEDANTA.

54 companies visited the campus for M.Tech courses and 101 no of students have been placed in the academic session 2023-2024. Rest of the students have gone for higher studies.

04 companies visited for MBA and 11 students have been placed out of total eligible strength of 26.

05 companies visited for M.SC and 23 students have been placed out of total eligible strength of 95.

Training and Allied Activities

Industrial Training/ Vocational Training is provided to the students of 3rd year after passing 6th semester. Annexure-III provides the list of companies for each individual branch.

Along with training the department organizes seminars entitled from classroom to boardroom by reputed global players such as TCS, Wipro and IBM.

Student's development activities such as communication and interpersonal skills by reputed organizers are also conducted.

Each year 5 no of students go for Internship in CERN (European Council for Nuclear Research, Switzerland). Foreign universities like ANUS, Singapore also allows NIT students for internship.

The UG & PG statistics for placement respectively are:

PLACEMENT RECORDS

B.TECH: 2023-24

[0- Considered but not selected, (-) Not considered.]

NUMBER OF B. TECH STUDENTS PLACED (BRANCH WISE)

Sl. No.	COMPANY	BT	CE	CHE	CSE	ECE	EE	ME	MME	TOTAL
1	Microsoft	-	-	-	5	6	-	-	-	11
2	Accenture	1	0	1	3	1	2	3	0	11
3	Oracle	-	-	-	6	1	0	-	-	7
4	Texas Instruments	-	-	-	2	3	2	-	-	7
5	Futures First	0	0	0	0	0	0	0	0	0
6	Wells Fargo	-	-	-	11	0	1	-	-	12
7	Brane Enterprises	-	-	-	3	3	1	-	-	7
8	Media Dot Net	-	-	-	0	0	0	-	-	0
9	PwC India	-	-	6	13	12	17	18	-	66
10	BNY Mellon	-	-	-	7	1	0	-	-	8
11	WTW	-	-	-	2	-	-	-	-	2
12	ICICI Bank	-	1	1	0	1	0	5	-	8
13	Larsen & Toubro	-	0	2	0	0	2	0	0	4
14	Morphle	-	-	-	0	0	0	0	-	0
15	Cisco	0	0	0	0	0	0	0	0	0
16	Tata Elxsi	-	-	-	2	1	0	0	-	3
17	Merilytics	-	-	-	0	0	0	0	-	0
18	Tejas Networks	-	-	-	-	0	-	-	-	0

Sl. No.	COMPANY	BT	CE	CHE	CSE	ECE	EE	ME	MME	TOTAL
19	Carrier Technologies	-	-	-	0	0	1	-	-	1
20	Tredence Analytics	3	1	2	1	0	0	5	1	13
21	Samsung Research	-	-	-	1	0	0	-	-	1
22	BlackBuck	1	0	1	0	0	0	1	0	3
23	PayPal	0	0	0	0	0	0	0	0	0
24	Schneider Electric	-	-	-	-	-	1	-	-	1
25	Amdocs	-	-	-	4	5	0	-	-	9
26	Sigmoid	-	-	-	2	0	2	-	-	4
27	IBM	-	-	-	0	0	0	-	-	0
28	Zscaler	-	-	-	1	0	0	-	-	1
29	Teradata	-	-	-	0	-	-	-	-	0
30	Deloitte	-	2	-	3	2	1	5	-	13
31	Emami Limited	-	-	-	-	-	1	1	-	2
32	Winjit	-	-	-	0	0	0	-	-	0
33	Accolite	-	-	-	1	0	0	-	-	1
34	Aditya Birla	-	-	-	-	-	3	3	4	10
35	Alstom	-	-	-	3	-	-	2	-	5
36	JSW Group	-	-	4	-	-	6	11	15	36
37	MAQ Software	-	-	-	3	-	-	-	-	3
38	TA Digital	-	-	-	3	0	0	-	-	3
39	HUL	-	-	0	-	0	0	0	-	0
40	Meesho	-	-	-	-	0	0	0	-	0
41	TCS	4	1	0	8	7	5	3	0	28
42	GreyB	2	-	1	-	-	1	1	-	5
43	ABB	-	-	-	-	-	0	-	-	0
44	Himadri	-	-	2	-	-	0	1	-	3
45	HPCL	-	-	-	-	-	1	2	-	3
46	Saint Gobain	-	-	0	-	-	0	0	-	0
47	Hero MotoCorp	-	-	-	-	-	2	4	-	6
48	BPCL	-	4	-	-	-	4	10	-	18
49	Cubastion	-	-	-	0	0	0	-	-	0
50	Reliance Industries	-	2	7	0	-	5	5	7	26
51	ARM	-	-	-	0	1	0	-	-	1
52	Aware Dot AI	-	-	-	0	0	0	-	-	0
53	Reliance Retail	-	-	-	-	-	1	3	-	4
54	Jindal Steel Limited	-	-	4	-	-	2	7	8	21
55	Vikram Solar	-	-	-	-	-	1	-	-	1
56	Jindal Shadeed	-	-	-	-	-	1	3	-	4
57	Nuvoco Vistas	-	-	1	-	-	1	1	-	3
58	Ericsson	-	-	-	0	0	0	-	-	0
59	TCE	-	-	3	-	-	-	1	-	4
60	Hexaware	-	-	-	0	0	0	-	-	0
61	Samsung Noida	-	-	-	0	0	0	-	-	0

Sl. No.	COMPANY	BT	CE	CHE	CSE	ECE	EE	ME	MME	TOTAL
62	Tata Power DDL	-	-	-	-	-	0	-	-	0
63	Datawrkz	-	1	2	-	-	-	-	1	4
64	ITD Cementation	-	4	-	-	-	-	-	-	4
65	Tata Power	-	-	-	-	-	-	1	-	1
66	McDermott	-	1	0	-	0	0	0	-	1
67	Publicis Sapient	-	-	-	4	-	-	-	-	4
68	Aakash Institute	1	0	0	0	0	0	0	0	1
69	Ashiana	-	1	-	-	-	-	-	-	1
70	SMFAL	-	-	-	-	-	0	1	0	1
71	Afcons	-	1	-	-	-	0	0	-	1
72	AMNS	-	-	0	0	0	2	9	1	12
73	Titan	-	-	-	0	-	-	-	-	0
74	Rodic Consultant	-	-	-	2	-	0	-	-	2
75	Tech Mahindra	-	-	-	0	0	-	-	-	0
76	C-DOT	-	-	-	1	1	-	-	-	2
77	RHI Magnesita	-	-	-	-	-	-	0	2	2
78	Ganit	2	0	1	0	0	0	0	0	3
79	HCL	-	-	-	2	1	1	0	-	4
80	Physics Wallah	0	0	0	1	0	0	0	0	1
81	Tata BlueScope	-	3	-	-	1	-	2	0	6
82	Sri Chaitanya	0	0	1	0	0	0	0	0	1
83	Sasken Technologies	-	-	-	1	0	-	-	-	1
84	A-1 Fence	-	-	-	-	-	0	0	-	0
85	KEC International	-	8	-	-	-	0	-	-	8
86	Verizon	-	-	-	5	0	-	-	-	5
87	BSES	-	0	-	-	-	1	-	-	1
88	JSPL	-	-	0	-	-	0	0	0	0
89	Mahindra & Mahindra	-	-	-	0	0	2	2	-	4
90	Berger Paints	-	-	0	-	0	0	0	-	0
91	Mphasis	-	-	-	0	0	0	-	-	0
92	Tega Industries	-	-	-	-	-	0	0	-	0
93	Hitachi Energy	-	-	-	-	-	0	0	-	0
94	Essar Oil & Gas	-	-	-	-	-	-	1	-	1
95	BEML	-	-	-	1	1	0	1	1	4
96	FIITJEE	0	0	0	0	0	0	0	0	0
97	Mu Sigma	1	0	0	0	0	0	0	0	1
98	AWIPL	-	-	0	-	-	0	0	-	0
99	Collegedunia	0	-	0	0	0	-	-	-	0
100	Aliens Group	-	0	-	-	-	0	0	-	0
101	Bosch Rexroth	-	-	-	-	1	0	0	-	1
102	Avaada Group	-	0	-	-	-	0	-	-	0
103	Adani Group	-	4	-	4	-	4	0	-	12
104	Bajaj Auto	-	-	-	-	1	1	2	-	4

Sl. No.	COMPANY	BT	CE	CHE	CSE	ECE	EE	ME	MME	TOTAL
105	BDG Metal	-	-	-	-	-	-	-	1	1
106	Capgemini	0	0	0	2	0	0	0	0	2
107	CESC	-	-	-	0	-	2	0	-	2
108	Chryso	-	1	-	-	-	-	-	-	1
109	Convai	-	-	-	0	1	0	-	-	1
110	Daimler Truck	-	-	-	2	1	0	-	-	3
111	Danieli India	-	1	-	0	3	0	-	-	4
112	Electrosteel	-	-	1	1	-	1	5	1	9
113	Haldia Petrochemicals	-	-	5	-	-	1	1	1	8
114	Hariom Polypacks	-	-	5	-	-	-	-	-	5
115	HDFC	-	-	-	0	0	1	-	-	1
116	Hexagon	-	-	-	5	0	0	-	-	5
117	Infosys	-	-	-	1	0	0	-	-	1
118	John Deere	-	-	-	2	1	0	3	-	6
119	J. P. Morgan	-	-	-	9	7	2	-	-	18
120	K12 Techno	1	1	0	0	0	2	0	0	4
121	Logic Fruit	-	-	-	0	1	0	-	-	1
122	Mathworks	-	-	-	2	0	1	-	-	3
123	Matix Group	-	-	2	-	-	-	-	-	2
124	mJunction	0	0	0	0	0	0	1	0	1
125	NPCI	-	-	-	1	0	0	-	-	1
126	NatWest	-	-	-	3	0	0	-	-	3
127	PepsiCo	-	-	-	3	0	0	-	-	3
128	Qualcomm	-	-	-	1	0	0	-	-	1
129	Rise & Shine	0	1	0	0	0	0	0	0	1
130	Swiss Re	-	-	-	0	1	0	1	-	2
131	Tata Metaliks	-	-	-	-	-	1	2	1	4
132	Tudip Technologies	-	-	-	4	0	0	-	-	4
133	TVS Motors	-	-	-	-	-	1	0	-	1
134	Uber	-	-	-	1	0	0	-	-	1
135	Vesuvius	-	-	-	-	-	-	1	0	1
136	ZS Associates	-	3	1	-	-	-	1	2	7
ELIGIBLE STUDENTS		56	68	69	184	97	99	169	56	798
PLACED		16	41	53	139	63	83	125	46	566
PERCENTAGE PLACED		28.57	60.29	76.81	75.54	64.94	83.83	73.96	82.14	70.92
TOTAL OFFERED		16	41	53	142	65	87	129	46	579
DOUBLE JOB		0	0	0	3	2	4	4	0	13

M.TECH: 2023-24

[0- Considered but not selected, (-) not considered]

M.Tech & MSW Specialization (Full Time)																								
Sl. No.	COMPANY																				TOTAL			
		BT	CE		CHE	CSE	ECE	EE			ME			HSS	PHY	MATH	EES	DUAL	DEGREE					
		BT	GE	SE	CHE	CSE	VLSI	NECN	PE	PS	IC	MD	FM	TE	MSW	AMST	OR	EST	BT	CHE				
1	Accenture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1			
2	Oracle	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	0			
3	Texas Instruments	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	0			
4	Media Dot Net	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
5	PwC India	-	-	-	-	3	0	0	0	2	0	-	-	-	-	-	-	-	-	-	5			
6	Larsen & Toubro	-	0	0	0	-	0	0	0	0	0	0	0	0	-	-	-	0	-	0	0			
7	Tata Elxsi	-	-	-	-	3	0	0	1	0	1	0	0	0	-	-	4	-	-	-	9			
8	Tejas Networks	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	0				
9		-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-	0				
10	BlackBuck	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0			
11	ZF Group	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-	-	-	0				
12	ABB	-	-	-	-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	0				
13	Saint Gobain	-	-	-	1	-	-	-	0	0	0	0	0	0	-	-	-	-	-	2	3			
14	C-DOT	-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-	0				
15	Physics Wallah	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
16	Sasken Technologies	-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-	0				
17	Aakash Institute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
18	Alstom Group	-	-	-	-	-	-	-	0	0	0	0	0	1	-	-	-	-	-	1				
19	Amdocs	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1				
20	Analog Devices	-	-	-	-	-	1	0	-	-	-	-	-	-	-	-	-	-	-	1				
21	ARM	-	-	-	-	-	0	1	-	-	-	-	-	-	-	-	-	-	-	1				
22	Aryaka Networks	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2				
23	Bosch Rexroth	-	-	-	-	-	0	0	0	0	0	0	0	0	-	-	-	-	-	0				
24	Bajaj Auto	-	-	-	-	-	-	-	-	-	-	1	1	0	-	-	-	-	-	2				
25	Cummins	-	-	-	-	-	-	-	0	0	1	0	0	0	-	-	-	-	-	1				
26	Daimler Truck	-	-	-	-	-	-	-	-	-	-	0	0	1	-	-	-	-	-	1				
27	Danieli India	-	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1				
28	Emertxe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1				
29	GreyB	0	0	0	0	0	0	0	0	0	1	0	0	1	-	0	0	0	0	2				
30	Hariom Polypacks	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2				
31	HCL	-	-	-	-	-	0	1	0	0	0	-	-	-	-	-	-	-	-	1				
32	HSBC	-	-	-	-	5	0	1	0	0	0	-	-	-	-	-	1	-	-	7				
33	Infosys	-	-	-	-	1	0	0	0	0	0	-	-	-	-	-	1	-	-	2				
34	Intel	-	-	-	-	1	1	0	0	0	0	-	-	-	-	-	-	-	-	2				
35	Jindal Stainless Limited	-	-	-	-	-	-	-	0	0	0	0	1	0	-	-	-	-	-	1				

M.Tech & MSW Specialization (Full Time)																					
Sl. No.	COMPANY																				TOTAL
		BT	CE	CHE		CSE	ECE	EE		ME			HSS	PHY	MATH	EES	DUAL				
		BT	GE	SE	CHE	CSE	VLSI	NECN	PE	PS	IC	MD	FM	TE	MSW	AMST	OR	EST	BT	CHE	
36	Larsen & Toubro	-	2	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	
37	LTTS	-	-	-	-	-	-	0	0	0	1	0	0	-	-	-	-	-	-	-	
38	Mahindra & Mahindra	-	-	-	-	0	0	1	1	0	0	0	0	-	-	-	-	-	-	-	
39	McDermott	-	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
40	Philips	-	-	-	-	2	0	0	0	0	0	-	-	-	-	-	-	-	-	-	
41	PSIT	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
42	PwC	-	-	-	-	3	0	0	0	2	0	0	0	-	-	-	-	-	-	-	
43	Reliance Retail	-	0	1	-	-	-	-	-	-	0	0	1	-	-	-	-	-	-	-	
44	Renault Nissan	-	-	-	-	-	-	1	0	0	0	0	0	-	-	-	-	-	-	-	
45	Rise & Shine	1	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	1	0	2	
46	Samsung E&A	-	-	-	-	-	-	0	0	0	0	0	1	-	-	-	-	-	-	-	
47	Samsung Semiconductor	-	-	-	-	5	3	1	0	0	0	-	-	-	-	-	-	-	-	-	
48	Schneider Electric	-	-	-	-	-	-	0	1	-	-	-	-	-	-	-	-	-	-	-	
49	Sri Chaitanya	1	0	0	0	0	0	0	0	0	0	0	1	-	0	0	0	1	0	3	
50	Tata Motors	-	-	-	-	1	0	2	2	1	1	1	0	0	-	-	-	-	-	-	
51	TCE	-	3	5	0	-	-	0	0	0	1	0	0	-	-	-	-	-	-	10	
52	TCS	-	-	-	-	1	0	0	0	0	0	-	-	-	-	-	-	-	-	1	
53	VE Commercial	-	-	-	-	-	-	0	0	0	0	0	1	-	-	-	-	-	-	1	
54	WSP	-	-	-	-	-	-	0	1	0	0	0	0	-	-	-	-	-	-	1	
ELIGIBLE STUDENTS		4	11	16	4	37	17	13	8	9	7	10	6	10	7	1	14	4	3	5	186
TOTAL PLACED		2	5	8	2	29	5	7	5	7	4	4	2	7	0	1	6	0	2	5	101
TOTAL OFFERED		2	5	8	2	29	5	7	5	7	4	4	2	7	0	1	6	0	2	5	101

PLACEMENT RECORDS

MBA and M.Sc: 2023-24

MBA		MSC	
COMPANY	PLACED	COMPANY	PLACED
Amul	1	Physics Wallah	3
Axis Bank	3	Aakash Institute	1
Bosch Rexroth	0	Rise & Shine	3
Shyam Metalics	7	Sri Chaitanya	16
		FIITJEE	0
Eligible Students	26	Eligible Students	95
Total Placed	11	Total Placed	23

6.5 Medical Unit

6.5.1 About Us

Institute's Medical Unit takes care of both physical and mental health of all bona fide persons of N.I.T Durgapur community.

Medical Unit runs 24x7, provides Emergency Medical services round the clock and Morning and Evening Outdoor services.

The prime beneficiaries are all the students (including UG, PG, and PHD), teaching and non-teaching employees with their dependent family members, Pensioners and their spouse and also those who work under service providers.

6.5.2 Facilities Available

- » Morning and evening outdoor patient consultation except Sundays and Holidays.
- » Round the clock medical emergency services
- » Pharmacy
- » Minor OT
- » Visiting Physicians of different fields on fixed days.
- » Male and female wards with observatory beds.
- » Isolation wards for the students.
- » Nebulization, ECG, Multipara meter monitor.
- » Autoclave facility for sterilization.
- » 24 hours two ambulance services with five drivers.
- » Sample collection center for outsourced pathological laboratory.
- » Tie up with various super-specialty hospitals in Durgapur and Kolkata where the patients get referred in case of necessity and treated on credit basis as per CGHS rates.
- » Students are covered under insurance and are treated in referral hospitals if necessary.

6.5.3 Manpower working in Medical Units

Ambulance No.	No. of Doctors.	No. of Clinical Psychologist	No. of Pharmacist	No. of Nurses	No. of Assistant
02(Two) round the clock with 05 (Five) Drivers.	Total 06 (Six) Medical Officers Permanent-03(Three). Under Service provider-03 (Three). Visiting Physicians of different field: 04(Four). Psychiatrist for Counselling Centre: 01(One).	Total-02 (Two) (Contractual).	Total-01 (One). (Permanent).	Total 06 (six). Permanent-01(One). Under Service provider-05(Five).	Total 10 (Ten). Senior attendant-01(One) (Permanent). Multi Task Assistants-09(Nine) (Under Service Provider).

6.5.4 Brief Statistics of activity of medical unit from 01.04.2023 to 31.03.2024

Counselling Centre	Isolation Unit	Specialist Clinic	No. of beds	Ramp for PWD	Total No. of patients attended in OPD and Emergency
Yes. 528 number of patients were served by the Counselling Centre. 338 number of patient were served in Counselling Centre. 188 number of students were attended in hostel visit.	Yes. For Chicken Pox & Measles. Total 12 number of patient were admitted in Isolation ward.	Yes. Total-795 Patient attended Specialist Clinic.	06(Six) observatory beds. Total 278 number of patients were treated in Observation ward.	Available. With wheelchair facility.	24,735 number of patients attended. 20,300 number of patients attended OPD. 4,435 number of patients attended Emergency.
		Medicine OPD 258 no of Patient attended.			
		Gynae. &Obs. OPD 236 no of Patient attended.			
		Ophthalmology OPD 260 no of Patient attended.			
		Psychiatric OPD 41 no of Patient attended.			
Total Number of Patients served by Medical Unit and Counselling Centre.				25,263 (Twenty Five Thousand Two Hundred Sixty-Three)	

6.5.5 Notable Activities

- » Partial digitalization of the Medical Unit.
- » Processing and Verification of the Medical Bills.
- » Weekly Hostel visit by Institute's Clinical Psychologist for mental wellbeing of the students.
- » Provide medical support in different events organized by the Institute.

6.6 Hostels

Hostels	Boys/ Girls	No. of Rooms	Actual student Capacity	Number of students accommodated	Facilities							
					Special Toilet for PwD Students	Ramp for PwD Students	Games	Water Purifier	Lift	Wi- Fi	Mess/ Canteen	Misc.
Hall-1	Boys	148	444	437	NIL	NIL	YES	YES	NIL	YES	Student run mess	
Hall-2	Boys	148	444	390	NIL	NIL	YES	YES	NIL	YES	Student run mess	

Hostels	Boys/ Girls	No. of Rooms	Actual student Capacity	Number of students accommodated	Facilities							
					Special Toilet for PwD Students	Ramp for PwD Students	Games	Water Purifier	Lift	Wi- Fi	Mess/ Canteen	Misc.
Hall-3	Boys	148	252	217	NIL	NIL	YES	YES	NIL	YES	Student run mess	
Hall-4	Boys	252	250	208	NIL	NIL	YES	YES	NIL	YES	Student run mess	
Hall-5	Boys	380	370	355	NIL	NIL	YES	YES	NIL	YES	Student run mess	
Hall-6	Girls	120	120	25	NIL	YES	NIL	YES	NIL	YES	Vendor run mess	
Hall-7	Girls	72	125	107	YES	NIL	YES	YES	NIL	YES	Vendor run mess	
Hall-8	Girls	125	120	74	NIL	YES	YES	YES	NIL	YES	Vendor run mess	
Hall-9	Boys	124	372	274	NIL	NIL	YES	YES	NIL	YES	Vendor run mess	
Hall-10	Girls	83	249	195	YES	YES	YES	YES	YES	YES	Vendor run mess	
Hall-11	Boys	240	720	692	YES	YES	YES	YES	YES	YES	Vendor run mess	
Hall-12	Boys	164	164	83	NIL	NIL	YES	YES	YES	YES	NIL	
Hall-13	Girls	250	750	696	NIL	YES	YES	YES	YES	YES	Vendor run mess	
Hall-14	Boys	466	1250	752	YES	YES	YES	YES	YES	YES	Vendor run mess	

6.7 Student Activity Centre (SAC):

The Student Activity Centre is one of the Central facilities of the Institute organized student's choice based Co-Curricular Activities in Yoga & Martial Art (Taekwondo) as compulsory subjects to all first year B-Tech, B-Tech/M-Tech (Dual Degree) and integrated MSc students with one credit point in a semester.

Beside academic activities the Centre lays emphasis on promotion of Games & Sports of the Institute.

The Centre has been sincerely guiding both UG/PG, PhD students and employees of the Institute in different areas of Games & Sports activities. The Centre organized various sporting events throughout the year, be Intra NIT or Inter NIT Tournaments. Regular practice in every major games is carried out under the guidance and supervision of the Centre. Institute teams are picked, trained and exposed to various level of tournaments throughout the country.

6.7.1 Games & Sports Facilities:

The Student Activity Centre has adequate infrastructure facilities for both outdoor and indoor games. The Centre has one central air condition Gymnasium equipped with sufficient number of equipment's. Different slots are provided to all the users as students (Male & Female), Employees and their spouses. The Institute play grounds (Oval & Lords) always bubble with outdoor activities like football, cricket, handball, athletics, hockey, cultural and technical activities. Turf and concrete courts with flood light facilities are also available in volleyball, basketball tennis, badminton etc.

Student Activity Centre has air condition indoor auditorium, which accommodated 500 seating capacity multi activity auditorium includes Badminton synthetic court, Table Tennis boards and Chess facilities.

Beside central sports facilities, most of the halls of residence equipped with Volleyball and concrete Badminton courts. Indoor games like Table Tennis, Carom boards & Chess are also available.

6.7.2 Games & Sports Participation:

In the year 2023-24 Institute participated in the following All India Inter NIT Tournaments:

1. All India Inter NIT Badminton & Basketball (Men & Women) tournaments organized by NIT Jaipur during October 14-16, 2023.
2. All India Inter NIT Handball & Kabaddi (Men) tournaments organized by NIT Surathkal during October 27-29, 2023.
3. All India Inter NIT Football & Power sports (Men) tournaments organized by NIT Durgapur during November 03-05, 2023.
4. All India Inter NIT Badminton & Chess (Faculty & Staff) tournament organized by NIT Bhopal during December 21-23, 2023.
5. All India Inter NIT Cricket & Hockey (Men) tournaments organized by NIT Trichi during January 05-08, 2024.
6. All India Inter NIT 5-a-side football (Women) Swimming and Lawn Tennis (Men & Women) tournaments organized by NIT Rourkela during January 26-28, 2024.
7. All India Inter NIT Yoga & Table Tennis (Men & Women) tournaments organized by NIT Jamshedpur during February 02-04, 2024.
8. All India Inter NIT Athletics & Kho-Kho (Men & Women) tournaments organized by NIT Warangal during February 09-11, 2024.
9. All India Inter NIT Volleyball (Men & Women) tournaments organized by NIT Kurukshetra during March 01-03, 2024.

6.7.3 Achievement in 2023-2024:

1. Secured Champion position in All India Inter NIT Football (Men) Tournament organized by NIT Durgapur
2. Secured one bronze medal in Body-Building at the All India Inter NIT Power Sports Tournaments Organized by NIT Durgapur
3. Secured Runners -Up position in 5-a-side Football (Women) Tournament organized by NIT Rourkela.

6.8 Workshop

The Department of Workshop of the institute consists of seven different shops, namely (1) Machine shop, (2) Fitting Shop, (3) Electrical Shop, (4) Carpentry shop & Pattern shop, (5) Black smithy shop, (6) Welding shop and (7) Foundry shop. In this Department, there are several equipment such as Conventional Lathe, Conventional Milling, Shaper Machine, Cylindrical Surface Grinding

Machine, Radial Drilling Machine, Electro Chemical Machine (Non-conventional machining done), CNC Milling Machine (Capable of cutting any profile with high accuracy), Sheet Shearing Machine, Electric Resistance Furnace for melting non-ferrous metals & alloys, Sand Mixing Muller, Sand Testing Equipment, Manual Metal Arc Welding Machine, Power Saw, Spring loaded Power Hammer, Roller Bender,

Band Saw, Wood Working Lathe etc. Workshop is befitting place for teaching and training UG students for sessional classes. Apart from teaching to UG students in sessional class as per UG curriculum, the trained Workshop staff helps the students of all the departments to complete their Project works in Under Graduate and Post Graduate level using the above-mentioned Workshop facilities. They also help to manufacture the Experimental Set Ups of Research Scholars of various Departments. Some experimental set ups for UG Laboratory such as 'Viscometer to determine

absolute Viscosity of any fluid' in Hydraulics and Fluid Mechanics Laboratory and a Set up for 'Determination of Young modulus and poisson ratio of a given metal by using strain gauge' in Metrology Laboratory in Mechanical Engineering Department are manufactured and assembled in Workshop. At present the Workshop is capable of doing any kind of Engineering work starting from pattern making, moulding, casting, forging, machining (both conventional and non-conventional), high surface finishing, welding and finally to fitting and assembling to produce the final product.

6.9 Estate

6.9.1 About Us

Estate Office plays an instrumental role in the management of assets of the Institute. The Estate Office is entrusted with the work of Estate Management and Civic amenities. The Estate Section of the Institute mainly looks after all the

infrastructure related works, security services, cleaning services, water & electricity supply, garden maintenance, horticulture and landscaping, allotment of quarters, transport services, service on lease and others allied works.

6.9.2 Notable activities with Photographs

Construction of Vertical Extension of Thermal Engineering Lab:

To facilitate adequate space to the students "construction of vertical extension of Thermal Engineering Lab" is in progress (completed 45%). Estimated cost of the project is Rs. 0.46 crore.



Construction of vertical extension of the IT building (previous Administrative Building):

Construction of vertical extension of the IT building" is in progress (completed 58%). Estimated cost of the project is Rs. 1.53 crore.

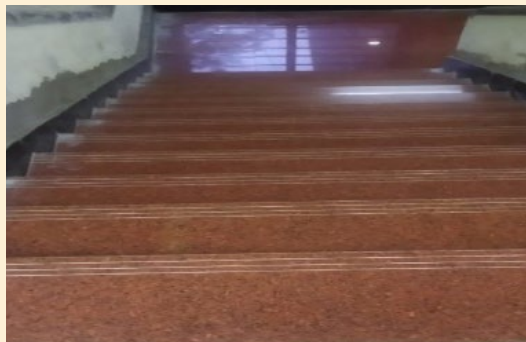


Mechanization of Kitchen & Modernization of Dining Halls with Furniture:

The work for mechanization of Kitchen & modernization of dining halls with furniture in all the hostels are in progress and likely to be completed very soon.

Expansion & refurbishing of laboratories, academic departments & classrooms:

Expansion & refurbishing work of laboratories, academic departments & classrooms are in progress (completed 40%).



6.9.3 In charge

Ajit Kumar Bhagat, Asst. Registrar (Estate & Security)

6.10 Scholarship/Assistance

The UG and PG students of the Institute are eligible to apply to various scholarship schemes being administered by the various Central Government Ministries/Departments/PSUs and State Governments. The students can also apply for various scholarship/reward schemes being offered by several private companies/organizations/trusts. The MTech students who have qualified GATE are eligible for monthly fellowships which at present is Rs. 12,400/= per month. The Dual Degree students of the Department of Chemical Engineering and Department of Biotechnology, who have either scored a minimum of 8.0 CGPA or have qualified

GATE are eligible to receive monthly fellowships which at present is Rs. 12,400/= per month for the duration of their 9th and 10th semesters. The Institute Research Scholars are eligible to receive monthly fellowships which at present is Rs. 37,000/= per month for JRF and Rs. 42,000/= per month for SRF. The CSIR and UGC PhD scholars who have registered with the Institute are eligible to receive monthly fellowships which at present is Rs. 37,000/= per month for JRF and Rs. 42,000/= per month for SRF, from their respective funding agencies i.e. CSIR and UGC.

7. Student Activities

7.1 NSS

NSS NITD is the National Institute of Technology Durgapur chapter of the National Service Scheme, institutionalized under the Ministry of Youth Affairs & Sports Govt. of India. The Motto of NSS, "Not Me But You", reflects the essence of democratic living and upholds the need for self-less service. NSS helps the students develop appreciation to other person's point of view and also show consideration to other living beings.

In the academic year 2023-24, the NSS team participated in awareness events like World Blood Donor Day, International Day against Drug abuse and Illicit Trafficking and Swachhta Hi Sewa. Alongside they also participated in Har Ghar Tiranga campaign, Partition Horrors Remembrance Day, Hindi Pakhwada and Meri Maati Mera Desh Amrit Kalah Yatra.

World Blood Donor Day:

National Institute of Technology Durgapur celebrated World Blood Donor Day on 14th June

2023. A pledge taking ceremony was being organized at Senate Hall where NS volunteers along with faculties, staffs and officers participated in pledge taking event.



Designed Banner of World Blood Donor Day 2023



NITD Faculties, Staffs and Students gathered at Senate Hall for Pledge Taking ceremony

National Service Scheme volunteers of NIT Durgapur hosted a webinar for observing International Day against Drug Abuse and Illicit Trafficking on 26th June attended by Director (Officiating) Prof Indrajit Basak and NSS Coordinator Dr Shri Krishan Rai. Brief discussions on ill effects of consuming drugs and penal actions that may be against the accused were discussed and all the volunteers pledged together.



Designed Banner of the event



Prof Indrajit Basak, Director(Officiating) NITD attended the webinar and gave his valuable advice

Har Ghar Tiranga- 2023:

National Institute of Technology Durgapur celebrated Har Ghar Tiranga during 13th – 15th August 2023. NSS volunteers participated in Prabhat Pheri, Paanch Pran Pledge and a series of events like parade, art and craft works were organized at the institute.



NSS volunteers participated in Mera Maati Mera Desh campaign on 14th August 2023 after Har Ghar Tiranga event in presence of Director, faculties and students. All members collected mitti in their hands and took the Paanch Pran Pledge.



Partition Horrors Remembrance Day- 2023:

NSS volunteers arranged an exhibition on the occasion of Partition Horrors Remembrance Day with all the images and descriptions in context to partition of India. Prof Arvind Choubey, Director of institute visited the exhibition along with NITD faculties and staffs and thereafter addressed the students and staffs at Institute Senate Hall. An essay competition was also organized on partition horrors.



Director, NITD addressing the gathering at Senate Hall



Director, NITD sharing his viewpoints on Partition Horrors Remembrance Day



Director and NITD staffs visiting the exhibition site



Director inspecting the sketches and art form designed by NSS volunteers of NITD

Swachhata Hi Seva:

NSS volunteers observed Swachhata Hi Seva at NIT Durgapur during 15th – 2nd October 2023 along with Ek Tareek Ek Ghanta cleanliness drive on 1st October 2023 in nearby slum. NSS volunteers and faculties also took part in the event and immersed themselves in Swachhta Abhiyan campaign. NSS Volunteers organized an awareness rally from the Main Gate of the institute and culminates after Shramdaan in the nearby slum i.e. Ranchi Colony. Around 50 NSS volunteers along with faculties, Dean and staffs participated in the Swachhta Event. The main message of the event was to motivate rural people to keep their surrounding clean, stop littering of plastic and use dustbin. Around two hours was spent by the NITD members in the slum and local school members and slum people provided necessary support and cooperation in making the event successful.

**Amrit Kalash Yatra under Meri Maati Mera Desh:**

The Amrit Kalash Yatra started from Administrative Block of NIT Durgapur across the campus and ended at the Main Gate. NSS volunteers marched with National Flags and Dr Shri Krishan Rai, NSS Coordinator coordinated the event. Thereafter, all the members collected "Mitti" in their hand and took the Paanch Pran Pledge and then poured the Mitti in

Amrit Kalash. The Amrit Kalash was then handed over to the NSS volunteers who marched all over the institute campus with National Flag and collected Mitti from every household of institute campus and encouraging local people to participate in the campaign.



Hindi Pakhwada- 2023:

On the occasion of Hindi Pakhwada 2023, NSS volunteers participated in large number and organized recitation and essay competition and promoting Hindi language amongst students.

**7.2 Games & Sports Facilities:**

The Student Activity Centre has adequate infrastructure facilities for both outdoor and indoor games. The Centre has one central air condition Gymnasium equipped with sufficient number of equipment's. Different slots are provided to all the users as students (Male & Female), Employees and their spouses. The Institute play grounds (Oval & Lords) always bubble with outdoor activities like football, cricket, handball, athletics, hockey etc. Turf and concrete courts with flood light facilities are also available in volleyball, basketball tennis, badminton etc. Student Activity Centre has air condition indoor auditorium, which accommodated 500 seating capacity multi activity auditorium includes Badminton synthetic court, Table Tennis boards and Chess facilities.

Beside central sports facilities, most of the halls of residence equipped with Volleyball and concrete Badminton courts. Indoor games like Table Tennis, Carom boards & Chess are also available.





7.2.1 Games & Sports Participation

In the year 2023–24 Institute participated in the following All India Inter NIT Tournaments:

- » All India Inter NIT Badminton & Basketball (Men & Women) tournaments organized by NIT Jaipur during October 14–16, 2023.
- » All India Inter NIT Handball & Kabaddi (Men) tournaments organized by NIT Surathkal during October 27–29, 2023.
- » All India Inter NIT Football & Power sports (Men) tournaments organized by NIT Durgapur during November 03–05, 2023.
- » All India Inter NIT Badminton & Chess (Faculty & Staff) tournament organized by NIT Bhopal during December 21–23, 2023.
- » All India Inter NIT Cricket & Hockey (Men) tournaments organized by NIT Trichi during January 05–08, 2024.
- » All India Inter NIT 5-a-side football (Women)Swimming and Lawn Tennis (Men & Women) tournaments organized by NIT Rourkela during January 26–28, 2024.
- » All India Inter NIT Yoga & Table Tennis (Men & Women) tournaments organized by NIT Jamshedpur during February 02–04, 2024.
- » All India Inter NIT Athletics & Kho-Kho (Men & Women) tournaments organized by NIT Warangal during February 09–11, 2024.
- » All India Inter NIT Volleyball (Men & Women) tournaments organized by NIT Kurukshetra during March 01–03, 2024.

7.3 Clubs/Body/Centres

Name of the Club/Body/Centre: Centre for Cognitive Activities

About us: Centre for Cognitive Activities (CCA), is the focal point where the convergence of all technical and scientific endeavours of the students materialize. Being the technical gymkhana of the institute, CCA organizes the bulk of the extracurricular activities held in the college all year round, which includes techno-managerial domains like:

1. Management
2. Robotics
3. Entrepreneurship
4. Research (Projects and Research papers)
5. Web design, etc.

Besides this, CCA also works for social causes by organizing various CSR events throughout the year and collaborating with multiple NGOs and companies. Altogether, CCA strives to contribute to the advancement of technology and society, driving progress and positive change both within and beyond our campus.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
1. Dr Joydeep Banerjee	Rohan Agarwal	Kanishka Chauhan	Link: Website
2. Dr Oindrilla Mukherjee	(21CS8135)	(21CH8012)	ccanitd.in
3. Dr Aniruddha Bhattacharya			

Three Notable Activities

Name: Parichay

Date: 27th January, 2024

Details: Parichay, the annual orientation of the Centre for Cognitive Activities, welcomed freshers of NIT Durgapur to its year-long activities. It was one of the most pivotal and prestigious events, with over 500 students in attendance. The hosts provided a concise introduction to the club and its various cells. The Convener and Head addressed the audience, followed by the Treasurer introducing Core Cell and explaining its work and functioning. Following this, the cell heads of each cell introduced their respective cells, and members presented their remarkable projects. The event concluded within 2 hours, and the enthusiasm among students was contagious, making the event a resounding success.



Name: Mleficent

Date: 10th–11th February, 2024

Details: Organized by CCA, a two day workshop aimed to build one's solid foundational knowledge of machine learning and artificial intelligence. Day 1 initiated with the basics of machine learning and artificial intelligence, along with the discussion of the breakthroughs in deep learning algorithms, emphasizing their applications in computer vision and natural language processing. The participants were addressed with the role of AI in cybersecurity, addressing concerns about AI-driven cyber threats and defenses. On day 2, the participants were exhibited with hands-on projects and demonstrations showcasing practical applications of ML and AI. The dedication and involvement of the participants and the mentors made this event successful.



Name: Blood Donation Drive

Date: 3rd March, 2024

Details: Centre for Cognitive Activities, in collaboration with the Blood Connect Foundation and the Civil Engineering Society, National Institute of Technology, Durgapur, successfully organized a blood donation drive. The event sought to raise awareness about the significance of blood donation and motivate students, faculty, and staff to get involved. Team CCA collaborated with three hospitals— The Vivekananda Hospital, The Health World Hospital and the Ashok Blood Bank for the drive. More than 100 people donated blood through the event. Donors were given certificates and donor cards by the hospitals, and Team CCA offered refreshments. These altruistic efforts will greatly benefit the community by addressing blood shortages and potentially saving numerous lives.



Name of the Club/Body/Centre: Dance Club

About us: DANCE CLUB, NIT Durgapur is the official dance club of NIT Durgapur which actively takes part in all the activities including festivals, Independence Day, Republic Day, Global Alumni Meet, fests and also, conduct our own events which are totally executed by us. We also

go to different colleges like IIT Kharagpur, IIM Calcutta, ISM Dhanbad, etc. to participate in different competitions organized by them for dance during their fests and bring laurels to our college by winning.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
1. MOUSUMI SAHA	SANJAY R M	MADHULINA GUHA	https://www.instagram.com/danceclubnitdgp?igsh=dmlwM3AldjVieGxx
2. PARAG KUMAR GUHATHAKURTA			

Three Notable Activities

SPRING FEST

DATE: 26/1/24 – 28/1/ 24

Participated in “Centrifuge” dance competition conducted by IIT Kharagpur’s Cultural fest “Spring fest”



STEP IT UP**Date:** 8/2/24 – 9/2/24

Organized an event for first and second-year students to showcase their dance skills.

**FLASHMOB****DATE:** 22/3/24

A performance was held at Junction Mall to showcase various dance styles.



For Other Activities: <https://www.instagram.com/danceclubnitdgp?igsh=dmlwM3AldjVieGxx>

Name of the Club/Body/Centre: Darpan

About us: Our mission is to promote the appreciation and love for the Hindi language and its rich cultural heritage within our college community. By organizing events that celebrate shayari, poems, and other forms of Hindi literature, we aim to foster creative expression, cultural enrichment,

and community building. We strive to create an inclusive environment where students can explore, appreciate, and preserve the beauty of Hindi literature, while developing their literary and public speaking skills.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
1. Dr. Manoj Ozha 2. Dr. Ratnesh Kumar	Shashank Sekhar Tiwari	Divyanshu Chaturvedi	1. https://darpannitd.vercel.app/ 2. https://www.instagram.com/darpan_nitdgp/

Three Notable Activities

Event Name: Goonj

Date: Recstacy Time (20-23 February 2025)

Description: "Goonj," organized by Darpan, the official Hindi club, is a celebration of Hindi literature and poetry. The event aims to promote Hindi poetry culture in society by providing a platform for established poets, young emerging talents, and budding artists in the field. Attendees will have the unique opportunity to witness the performances of renowned maestros in Hindi poetry alongside promising newcomers. "Goonj" seeks to nurture a love for Hindi literature, highlight artistic talent, and inspire creativity within the community.



Event Name: Chai Pe Charcha

Date: 20-22 January 2025

Description: On chilly winter evenings, there's nothing quite like the joy of sipping tea, especially in the company of friends. The lively discussions, debates, and those little moments of joy create an unforgettable atmosphere.

To bring that experience to life, Darpan invites all students to a unique event, "Chai Pe Charcha" (Tea Talks). Relive the charm of a tea stall atmosphere. With steaming cups of tea, participants will engage in vibrant discussions on a variety of topics ranging from burning issues to everyday challenges.



Event Name: Prahelika

Date: 1-2 February 2025

Description: It is often said that one should always stay connected to their roots, as no great tree can stand without its roots. If we truly wish to honor the Hindi language, we must take pride in it and strive to maintain its pure knowledge. Unfortunately, we are gradually forgetting our proficiency in our language.

To address this, the Darpan Family offers students a golden opportunity to strengthen our connection with the Hindi language. It brings us all pay homage to our national language, Hindi, by participating in this competition and expressing respect and dedication towards it.



Name of the Club/Body/Centre: Debating Society

About us: The Debating Society, NIT Durgapur is committed to providing a platform for riveting discourse and dynamic debates. We have stood out in global contests, elevating public speaking, and nurturing constructive dialogues.

Our passion for improving the quality of discussion motivates us to continue organizing and taking part actively in such events.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post(General Secretary)	Further Information
Shri Krishan Rai	Umang Jhawar	R. Kritikaa	Link: https://www.debsocnitdgp.in/

Three Notable Activities

Event Name: VISTAAR

Date: 28th Feb – 3rd Mar

Details: The annual debating festival, a vibrant celebration of ideas and skills, featuring events like NITD-PD, a national parliamentary debate, Killcode's mystery challenges, Swipe It Up for enhancing social and speaking skills, and Insight, a platform for sharing unique perspectives and sparking meaningful conversations.



Event Name: REVERBERATE

Date: 21st Jan

Details: A public speaking workshop, focuses on transforming nervous silences into confident speeches. Designed to help participants master the art of expression, it fosters the development of compelling communication skills, turning introverts into confident speakers. The workshop serves as a platform to polish public speaking abilities and build stage presence, leaving a lasting impact on attendees.



Event Name: WHAT IF

Date: 21st Jan

Details: What If is a unique public speaking event that bridges the gap between reality and imagination. Inspired by the transformative progress of AI and space exploration, it invites participants to explore uncharted ideas and dream boldly, showcasing creativity and innovation in a realm where possibilities are limitless.



For Other Activities: <https://www.debsocnitdgp.in/>

Name of the Club/Body/Centre: ENTERACT

About us: ENTERACT produces a wide variety of performances ranging from street plays and stage plays to Monoacts and mimes, arguably with professional competency. Moreover, the club participates in various cultural fests across the country creating awareness about

various social issues and organizing events and workshops around the year, thus assisting the students to leave behind their stage fear, develop confidence, and channel their energy to do something creative.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
1. Dr. Subhabrata Choudhury	Satyaki Chaudhuri	1. Rohan Singh Yadav	
2. Dr. Arjyayjoti Goswami		2. Rajanish Gupta	

Three Notable Activities

Spring Fest 2024 - (IIT Kharagpur) Date - 26th January to 28th January, 2024.



Nukkad Natak on Independence Day Date - 15th August 2023.



Stage Play on Ambedkar Jayanti Date - 14th April 2024.



Name of the Club/Body/Centre: GNU LINUX USERS' GROUP

About us: The GNU/Linux User's Group, NIT Durgapur is a community of GNU/Linux Users that promote the use of Free and Open Source Software. The Group was established in 2003 by a bunch of FOSS enthusiasts with the idea of

popularising and contributing to Open Source. We are a plethora of designers, contributors and developers that believe in learning and sharing through opening up your mind to Open Source.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post (General Secretary)	Further Information
1. Dr. Suvrojit Das	Suman Karmakar	Ayush Bhartia	Link: nitdgplug.org
2. Dr. Ankush Acharyya			

Three Notable Activities

Event Name: OPEN SOURCE STARTER PACK

Date: 19th Jan – 21st Jan

Details: To provide the freshers a more resourceful experience of the open-source and kickstart their journey into this realm, we conducted the linux bootcamp to spread knowledge and even helped with installation of Linux on their systems.



Event Name: FOSSEE

Date: 1st Mar – 3rd Mar

Details: NIT Durgapur's official FOSS conference, was a grand celebration of Free and Open Source Software. The event featured expert talks, hands-on workshops and panel discussions, highlighting real-world applications of open-source technology. It attracted a vibrant community of students, professionals, and innovators, fostering networking and collaboration.



Event Name: FOOBAR CTF

Date: 10th April

Details: FOOBAR CTF is our flagship international capture-the-flag (CTF) competition, designed to challenge and engage participants in the thrilling domains of cybersecurity and network security. Open to teams worldwide, this event promises intense problem-solving, collaborative learning, and an opportunity to showcase skills on a global stage.



For Other Activities: <http://nitdgplug.org>

Name of the Club/Body/Centre: IEEE SB NIT DURGAPUR

About us: The IEEE Student Branch at NIT Durgapur is dedicated to promoting technical skills and fostering innovations through multiple workshops and exciting events. We empower students to excel in engineering. We emphasize collaboration, knowledge sharing, and

hands-on learning. Join us as we collectively shape the future through education, creativity, and unwavering dedication to the technical domain. Let's learn, create, and innovate together for a brighter tomorrow!.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
1. Prof. Nirmal Kumar Roy	Naveen S G	Manjari jha	https://ieee-sb-nitdgp.vercel.app/
2. Dr. Aniruddha Chandra			
3. Dr. Chiranjib Koley			

Three Notable Activities

Event: PCB EN-CODED

Date: 9 & 11 February

Details: In a world of computer technologies, it's important to have a component like PCB which can keep up with the demand. PCBs (Printed Circuit Boards) are an integral part of the electronics we use in our everyday lives across a wide range of industries. Learning to design a circuit board will lead you to understand the logic behind it and you will be able to explore the numerous functions of this complex piece of technology.



Event: HACKERVERSE

Date: 8-10th March

Details: crafting a smart device to enhance miner safety. Collaborate with peers, brainstorm ideas, and prototype innovative solutions aimed at safeguarding miners in hazardous conditions. Present your groundbreaking device to a panel of esteemed judges for evaluation and the opportunity to earn a prestigious certificate of achievement. This isn't just a hackathon; it's a chance to make a tangible impact, saving lives and shaping the future of industrial safety.



For Other Activities:

Name of the Club/Body/Centre: INDIAN SOCIETY FOR TECHNICAL EDUCATION STUDENTS' CHAPTER, NIT DURGAPUR

About us: The Indian Society for Technical Education (ISTE) is the leading National Professional non-profit making Society for the Technical Education System in our country with the

motto of Career Development of Teachers and Personality Development of Students and overall development of our Technical Education System.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
1. Dr. Aniruddha Bhattacharya	Priyanshu Kumar	Ayush Anand	Link: www.istenitdgp.com
2. Dr. Sabyasachi Biswas			
3. Dr. Nilanjan Biswas			

Three Notable Activities

COGNITIVE INTELLIGENCE TEST (CIT 7.0)

Date: 18th January, 2024 to 21st January, 2024

Mode: Online

Details: This online event simulated the screening process of top companies, allowing participants to showcase their skills in basic math aptitude, verbal and logical reasoning, and data interpretation. It provided an opportunity to test their abilities and gain insights into competitive exams like the CAT.

Participation: 700+



NIT DGP HACKS 1.0 (HACKATHON)

Date: 9th March, 2024

Mode: Offline

Details: Designed as an ideation challenge, it introduced college students, especially freshmen, to hackathons. Tracks included AI for Social Good, Web3, HealthTech Solutions, and an Open Innovation Challenge. The hackathon was highly successful, bringing in participation from prominent universities like IIST Shibpur and Thapar Institute, promoting collaborative learning and skill development, and providing a platform to brainstorm, code, and build innovative solutions.

Participation: 70



ARTIFICIAL INTELLIGENCE WORKSHOP (TECHNICAL)

Date: 10th March, 2024

Mode: Offline

Details: It was a day-long workshop held in association with ThinkAgainLab, conducted by industry experts. The session had two parts: the first half covered training and an overview of tools and domains, while the second half featured a hands-on project, allowing students to apply their knowledge and add value to their CVs.

Participation: 135



For Other Activities: Panorama, Webinars (in collaboration with IMS and Top One Percent)

Name of the Club/Body/Centre: Literary Circle

About us: The Literary Circle is one of the active student bodies of NIT Durgapur, dedicated towards encouraging creativity and free thought. Through events like NITMUN, or Verve, which is East India's largest youth cum literary festival, and Literati (Annual creative writing competition), it helps students to engage in healthy debate and bring out

their creative side. It also co-organizes TEDxNITDurgapur, which resonates with TED's mission of discovering "ideas worth spreading". It publishes The Yearbook, presented to the batch passing out, which is a condensation of their time spent in the college. During Recstacy, it also hosts StarTalks.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
1. Dr. Joydeep Banerjee	Poorab Kumar	Zeba Haq	Link: https://icnird.co.in/
2. Dr. Sanghita Bhattacharjee			
3. Dr. Debayan Das			

Three Notable Activities

VERVE-XIX

The 19th edition of Verve, the annual youth-cum-literary fest, was held from 13-17th March 2024. We saw participation from 280 individuals across events that aimed to promote self-expression and tested their critical thinking acumen.



NITMUN-XII

The 12th edition of NITMUN was held from the 3rd to the 4th of February 2024. We saw participation of 150+ from the campus and beyond who turned into delegates navigating complex global issues. NITMUN has been instrumental in fostering global awareness, cooperation, problem-solving, and leadership abilities.



TEDxNITDurgapur

This year, TEDxNITDurgapur was held on 25th February 2024 at the New Auditorium. The event has been crucial for the dissemination of ideas and fostering innovative thinking among students. By curating diverse perspectives, TEDx challenges the status quo, stimulates curiosity, and cultivates a culture of knowledge sharing.



Name of the Club/Body/Centre: Maths N Tech Club

About us: We, Maths N Tech Club are the official knowledge club of National Institute of Technology, Durgapur. Back in 2004, when the Regional Engineering College Durgapur got the status of an Institute of National Importance and was renamed as the National Institute of Technology Durgapur, Maths N Tech Club was formed. Our club was set up with the aim of creating a platform that helps in stimulating

passion for mathematics and interest in the technology of today's world. At Maths N Tech Club, we understand the importance of analytical reasoning and rational thinking. Hence, we organise a plethora of events throughout the year that aims at reinvigorating the seemingly dormant passion for mathematics and the thirst for knowledge about today's technology.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
1. Dr. Anita Pal	Tathagata Das	Mayank Pratap Singh	Link: Website https://mntcnitdgp.co.in
2. Dr. Seema Sarkar (Mandal)			
3. Dr. Lakshmi Kanta Dey			

Three Notable Activities

Mergers Alliance 2.0

20.12.2024 – 23.12.2024

It was the second edition of an online case study event where participants were a part of an alliance which aimed to work on a company's loopholes. This event was hosted on unstop and saw participation from IIM's all across India.



Ideathon 2.0

14.03.2024 – 17.03.2024

An innovative one of a kind two-day hackathon that invited developers to showcase their creativity and excellence in tackling challenges, by coming up with a practical solution of the problem statements, showcasing it in front of a panel of distinguished judges and compete for exciting prizes.



Graphic Design Workshop

20.01.2024

It was an offline two-day event workshop where participants are well acquainted with the basics and practical implementation of the ideas of graphic design. Participants were given deep insights in various designing tools like Adobe Illustrator and Photoshop.



Name of the Club/Body/Centre: Music Club NIT Durgapur

About us: We are The Official Music Club of NIT Durgapur. We bring the love we have for music to everyone in this college through live performances and the people outside the college through our page and YouTube channel. We perform both Eastern and Western genres of music. We also perform in our college programs like Republic

Day, Independence Day, G20 summit, Recstacy, Aarohan, E-Summit, TedX and several inaugural programs organised by the departments of the institute. Recently, Director sir extended his appreciation and felicitated the performers for performing the National song and the National anthem during convocation 2024.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
1. Dr. Debayan Das	Rohit Verma	Deep Laha	Link: https://youtube.com/@mucnيتد?si=nwbMO3Vxar5UqMZQ
2. Dr. T.K. Bera			

Three Notable Activities

LiveWired

Date: 13th February 2024

An yearly jamming session conducted by Music Club besides the library. "Livewired" is our annual flagship jamming event where students perform songs and collaborate in live jam sessions, creating an engaging and vibrant experience. This event provides a platform for showcasing musical talent, fostering collaboration, and celebrating creativity, while encouraging the active participation and enjoyment of everyone involved.



Cover-Up

Date: 15th September 2023 – 15th October 2023

This is an online music competition for the students of NIT Durgapur to showcase their musical talent and knowledge. Participants are judged based on their performances, and winners are announced at the end.



Auditions

Date: 4th February 2024 – 11th February 2024

Auditions will consist of three rounds: the first round involves entry submission where participants submit their initial entries for evaluation; those selected move on to the music round to showcase their music skills of any kind; and the finalists proceed to the final PI round, where their knowledge about the club and suitability for induction are assessed.



For Other Activities:

Name of the Club/Body/Centre: Quizinc

About us: QuizInc is the official quizzing club of NIT Durgapur. It was started by two students, Harsh Mohan and Anup Nair, in 2003 with the objective of promoting the culture of quizzing in our campus. It hosts a variety of

quizzes every month. From collaborating with other NITs to witnessing participants from the entire nation, QuizInc does it all.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
1. Dr. Joydeep Banerjee	Aniket Das	Tamoghna Dutta	Link: Website
2. Dr. Parag Kumar Guhathakurta			

Three Notable Activities

Eastern India's 2nd Largest Quiz Festival "Quizzitch Cup" was organized in offline mode from 1st-3rd March, 2024 covering 9 different events – Sports Quiz, Business Quiz, Fandom Quiz, NSFW Quiz, OTT Sitcom Quiz, Geopolitics Quiz, The Bidbash League, Qmanji – our treasure hunt event and BMEP Quiz. Quizzers from SAIL Durgapur made this event a great success along with participants from all the years participating in it.



"Qriosity" was an engaging quiz held on 8th February 2024 designed to introduce first-year students to the world of quizzing. The event encompassed a diverse range of topics, from history to pop culture, encouraging participants to explore their curiosity. It fostered a sense of camaraderie and ignited a passion for knowledge, making it a memorable start to their academic journey.



The Howzzat quiz, a quiz based on cricketing topics and various insights on the world of cricket. It was a two day quiz held from 8th July 2023 to 9th July 2023 consisting of prelims and finals. The quiz had entertained individuals, especially cricket enthusiasts to engage and participate in this nerve wracking event. It attracted a wide range of audience with the aim of winning the award based on their knowledge of cricket.



For Other Activities:

Name of the Club/Body/Centre: Radio NITroz

About us: We, the People of Radio NITroz of NIT Durgapur, strive to make a difference in the hectic life of college by bringing fun events and help people learn better with a calm mind because "Life is to live". Radio NITroz was formed in the year 2006 by our brilliant seniors and it is the 3rd successful LAN/Internet based Radio among all IITs and NITs. It is a matter of proud for us. We work on the motto

to make life a bit easy and fun. We have been very popular for our Podcasts and the Live Dedication. There was a time when everyone used to tune into Radio NITroz using VLC and tell us whom they want to dedicate songs and messages if any. It was amazing to be loved by everyone. For this, we carry out different events throughout the year, enthraling people with Joie de vivre.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
1. Dr.Tushar Kanti Bera	Shubham Ghosh	Debashis Panigrahi	https://radionitroz.in/

Three Notable Activities

Event Name: Wave Craze

Date: 11/02/2024 – 12/02/24

Get Ready for WAVECRAZE!

The ultimate fest is here! Join us for Electrifying Performances, Creative Competitions, Delicious Food, and Cool Merch. Buckle up as Radio NITroz brings you memories, vibes, and fun like never before!

Venue: Lord's Ground & New Auditorium



Event Name: Talent X

Date: 12/02/2024 – 12/02/2024

Talent X: Unleash Your Inner Star!

Calling all performers and dreamers! Talent X is your chance to shine and leave the audience in awe. Whether showcasing your skills or cheering for friends, this show is packed with unforgettable talent.

Don't miss out—unleash your energy and be part of the magic!

Venue: Lords



Event Name: Comedy Night

Date: 11/02/2024 – 11/02/2024

Get Ready to Laugh Out Loud!

Gear up for an evening of nonstop laughter and fun at

Comedy Nights during WAVECRAZE Fest!

We, Radio NITroz, bring you the hilarious PIYUSH SHARMA one of the best in stand-up comedy. Get ready for a night of unforgettable moments and side-splitting laughter!

Venue: New Auditorium



For Other Activities:

Name of the Club/Body/Centre: STROKES

About us: STROKES, official art & photography club of NIT Durgapur a place for practicing artists to hone their skills, develop their techniques and portfolios, collaborate with other artists, create bonds with others through arts, and learn how to work together through group projects that will

beautify the community. We at Strokes organize various art exhibitions and photo walks attracting a multitude each and every year to spread the culture of art and photography in the college.

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
1. Dr. Suvamoy Changder (CSE)	Annu Saha (21ME8007)	Joychir Hansda (21MM8030)	https://strokes-steel.vercel.app/
2. Dr. Durbadal Mandal (ECE)			
3. Dr. Manoj Ozha (ES)			
4. Dr. Debayan Das (CH)			

Three Notable Activities

Dots N' Dashes

Date: 2nd-4th February, 2024

Details: An online art competition that lets students unleash their creativity, exploring categories like doodles, digital art, crafts, and sketching.

Participation: 300+



Ritratto

Date: 24th-27th January, 2024

Details: An online art competition that lets students unleash their creativity, exploring categories like doodles, digital art, crafts, and sketching.

Participation: 300+



Independence Day Art Exhibition & Full day Coverage

Date: 15th August, 2023

Details: Art and Photography Exhibition featuring a diverse collection of artworks by the members of the club, featuring Indian history and achievements.



For Other Activities:

Name of the Club/Body/Centre: IEEE SB NIT DURGAPUR

About us: The IEEE Student Branch at NIT Durgapur is dedicated to promoting technical skills and fostering innovations through multiple workshops and exciting events. We empower students to excel in engineering. We emphasize collaboration, knowledge sharing, and

hands-on learning. Join us as we collectively shape the future through education, creativity, and unwavering dedication to the technical domain. Let's learn, create, and innovate together for a brighter tomorrow!

Name of the Faculty Advisor(s) or equivalent post	Name of the President or equivalent post	Name of Vice President or equivalent post	Further Information
1. Prof. Nirmal Kumar Roy	Naveen S G	Manjari jha	https://ieee-sb-nitdgp.vercel.app/
2. Dr. Aniruddha Chandra			
3. Dr. Chiranjib Koley			

Three Notable Activities

Event: PCB EN-CODED

Date: 9 & 11 February

Details: In a world of computer technologies, it's important to have a component like PCB which can keep up with the demand. PCBs (Printed Circuit Boards) are an integral part of the electronics we use in our everyday lives across a wide range of industries. Learning to design a circuit board will lead you to understand the logic behind it and you will be able to explore the numerous functions of this complex piece of technology.



Event: HACKERVERSE

Date: 8-10th March

Details: crafting a smart device to enhance miners safety. Collaborate with peers, brainstorm ideas, and prototype innovative solutions aimed at safeguarding miners in hazardous conditions. Present your groundbreaking device to a panel of esteemed judges for evaluation and the opportunity to earn a prestigious certificate of achievement. This isn't just a hackathon; it's a chance to make a tangible impact, saving lives and shaping the future of industrial safety.



7.4 Gymkhana

The Students' Gymkhana at NIT Durgapur plays a vital role in addressing the everyday challenges faced by students. As a non-political and inclusive body, it is dedicated to understanding and resolving issues within the student community. Operated by an executive council, the Gymkhana maintains year-round engagement in areas that significantly impact students' lives. Serving as an essential link between the administration and the students, it ensures that student concerns are effectively voiced and addressed, advocating for their rights, well-being, and academic interests.

Although widely recognized for hosting Recstacy, the grand annual cultural festival, the Gymkhana's primary focus remains on improving the student experience. It takes proactive measures to foster a supportive learning environment, enhance campus facilities, and implement

policies that benefit students. From academics to extracurricular activities and amenities, the Gymkhana works tirelessly to enrich every aspect of student life.

A notable initiative from the previous year was the introduction of Recrave, a food festival designed to promote community engagement and address student preferences. However, the Gymkhana's true strength lies in its steadfast commitment to addressing student concerns, making it an indispensable part of NIT Durgapur.

As the sole representative body elected by undergraduate and postgraduate students of the institute, the Gymkhana embodies the principles of equality, liberty of thought, and freedom of expression. It is committed to fostering co-curricular activities, nurturing a positive student-administration relationship, and creating a peaceful ecosystem that promotes individual and collective growth.

8. Annual Accounts

8.1 Information Related to Annual Accounts:

8.1.1 Analysis of Plan and Non-Plan Grants (2023-24)

Plan (General Component) Grants	1844.00 [Rs. In Lakh]
Non-Plan Grants	15667.15 [Rs. In Lakh]

8.1.2 Sources of Grants

Till Financial Year 2002-03	From Financial Year 2003-04 Onward
Govt. of India & Govt. of WB	MoE, GoI

8.1.3 Expenditure Position for Last 5 Years

Plan head Expenditure		Non-Plan head Expenditure	
2018-19	Rs. 1403.84	2018-19	Rs. 14814.37
2019-20	Rs. 3286.51	2019-20	Rs. 15130.18
2020-21	Rs. 1801.55	2020-21	Rs. 13417.44
2021-22	Rs. 2317.63	2021-22	Rs. 15323.96
2022-23	Rs. 3272.44	2022-23	Rs. 14982.31
2023-24	Rs. 1836.01	2023-24	Rs. 16545.63

8.1.4 Details of Annual Accounts and Separate Audit Report (SAR)

Detail Annual Accounts and SAR are provided as an addendum for the ready reference. Detail Annual Accounts consists of 88 pages.