

PROFORMA FOR BIO-DATA (to be uploaded)

1. Name and full correspondence address: **Dr. Soumen Basu**,
Department of Physics, NIT Durgapur, MG Avenue, Durgapur- 713209, West Bengal, India
2. Email(s) and contact number(s): **soumen.basu@phy.nitdgp.ac.in**, sou_menbasu@yahoo.com, 9434788198
3. Institution: **National Institute of Technology Durgapur**
4. Date of Birth: 03/03/1979
5. Gender (M/F/T): Male
6. Category Gen/SC/ST/OBC: General
7. Whether differently abled (Yes/No): No

8. Academic Qualification (Undergraduate Onwards)

	Degree	Year	Subject	University/Institution	% of marks
1.	B.Sc.	1999	Physics (Hons.), Math, Chem.	Ramakrishna Mission Residential college Narendrapur (University of Calcutta), India	61.00
2.	M. Sc.	2001	Physics	University of Calcutta India.	72.90
3.	Ph.D.	2006	Materials Science/Nanostr uctures materials	Indian Association for the Cultivation of Science/ Jadavpur University	

9. Ph.D thesis title, Guide's Name, Institute/Organization/University, Year of Award.

Ph.D thesis title: Investigation on Interfacial Properties of Core-Shell Structured Nanocomposites

Guide's Name, Institute : *Prof. D. Chakravorty and Dr. A Bhaumik*, Indian Association for the Cultivation of Science, Jadavpur University, 2006

10. Work experience (in chronological order).

Sl.No.	Name and address of employer	Positions held	Pay-scale	From	To
01	Indian Association for the Cultivation of Science	Research Associate	----	August 2006	October 2007
02	National Institute of Technology Durgapur	Assistant Professor	AGP 6000	Nov. 2007	Oct 2010

03	National Institute of Technology Durgapur	Assistant Professor	AGP7000	Nov 2010	June 2014
04	National Institute of Technology Durgapur	Assistant Professor	AGP 8000 Basic pay Rs.30000	June 2014	October 2018
05	National Institute of Technology Durgapur	Associate Professor	AGP 9500	October 16 2018	To till date

11. Professional Recognition/ Award/ Prize/ Certificate, Fellowship received by the applicant.

S.No	Name of Award	Awarding Agency	Year
1.	Exchange Visitor Pennsylvania State University & Lehigh University	International Materials Institute -new functionality in glass	2006

12. Publications (*List of papers published in SCI Journals, in year wise descending order*).

S.No.	Author(s)	Title	Name of Journal	Volume	Page	Year
70.	S Dey, MK Mandal, S Pramanik, S Atta, S Basu	Bi ₂ O ₃ -incorporated carbon-supported bismuth-silver (Bi@Ag/C) nanoparticle as an efficient and stable electrocatalyst for glucose electro-oxidation	Ionics		1-13	2022
69.	Chandan Kumar Raul, Santanu Dey, Monalisa Halder, Riju Karmakar, Soumen Basu , Ajit Kumar Meikap	Synthesis of AuxCo _{100-x} /MWCNT nanoparticles as an efficient anode electrocatalyst for borohydride oxidation in alkaline medium	Journal of Applied Electrochemistry		1-14	2022
68.	Santanu Dey, Subhamay Pramanik, Pradipta Chakraborty, Dhiraj Kumar Rana & Soumen Basu	An easy synthesis of carbon-supported silver-cobalt bimetallic nanoparticles to study the electrocatalytic performance in alkaline borohydride fuel cell	Journal of Applied Electrochemistry	52	247-258	2022
67.	R Sinha, M Halder, S Basu , AK Meikap	Dielectric relaxation and electrical conduction mechanism of Neodymium doped Yttrium Chromite	Physica B: Condensed Matter	615	413035	2021

66.	K Seal, H Chaudhuri, S Basu , MK Mandal, S Pal	Study on Effect of the Solvothermal Temperature on Synthesis of 3D Hierarchical TiO ₂ Nanoflower and Its Application as Photocatalyst in Degradation of Organic ...	Arabian Journal for Science and Engineering	46	6315-6331	2021
65.	S Dey, P Chakraborty, DK Rana, S Pramanik, S Basu	Surfactant-free synthesis of carbon-supported silver (Ag/C) nanobars as an efficient electrocatalyst for alcohol tolerance and oxidation of sodium borohydride in alkaline medium	SN Applied Sciences	3	1-12	2021
64.	P Chakraborty, DK Rana, S Basu	Enhanced electrical and magnetic properties of Sm-doped YCrO ₃ nanoparticles	Bulletin of Materials Science	44 (2)	133	2021
63.	P Chakraborty, S Basu	Structural, electrical and magnetic properties of Er doped YCrO ₃ nanoparticles	Materials Chemistry and Physics	259	124053	2021
62.	P Chakraborty, S Dey, S Basu	Structural, electrical and magnetic properties of Eu doped YCrO ₃ nanoparticles	Physica B: Condensed Matter	601	412677	2021
60	J Maji, S Pandey, S Basu	Synthesis and evaluation of antibacterial properties of magnesium oxide nanoparticles	Bulletin of Materials Science	43	1-10	2020
59.	DK Rana, V Mehta, SK Kundu, S Basu	Development of organic-inorganic flexible PVDF-LaFeO ₃ nanocomposites for the enhancement of electrical, ferroelectric and magnetic properties	Materials Chemistry and Physics	242	122491	2020
58.	M Banerjee, A Mukherjee, S Chakrabarty, S Basu , M Pal	Bismuth-doped nickel ferrite nanoparticles for room temperature memory devices	ACS Applied Nano Materials	2 (12)	7795-7802	2019
57.	R Sinha, S Basu , AK Meikap	Effect of neodymium doping on electrical properties and relaxor ferroelectric behavior of YCrO ₃ nanoparticles	Physica E: Low-dimensional Systems and Nanostructures	113,	194-201	2019

56.	SK Kundu, DK Rana, S Basu	Observation of room temperature multiferroic and electrical properties in gadolinium ferrite nanoparticles	Modern Physics Letters B	33 (21)	1950243	2019
55.	SK Kundu, DK Rana, L Karmakar, D Das, S Basu	Enhanced multiferroic, magnetodielectric and electrical properties of Sm doped Lanthanum ferrite nanoparticles.	Journal of Materials Science: Materials in Electronics	30	10694-10710	2019
54.	DK Rana, SK Kundu, RJ Choudhary, S Basu	Enhancement of electrical and magnetodielectric properties of BiFeO ₃ incorporated PVDF flexible nanocomposite films	Materials Research Express	6 (8)	0850d9	2019
53.	SK Kundu, DK Rana, A Banerjee, D Das, S Basu	Influence of manganese on multiferroic and electrical properties of lanthanum ferrite nanoparticles	Materials Research Express	6 (8)	085032	2019
52.	DK Rana, SK Singh, SK Kundu, S Roy, S Angappane, S Basu	Electrical and room temperature multiferroic properties of polyvinylidene fluoride nanocomposites doped with nickel ferrite nanoparticles	New Journal of Chemistry	43 (7)	3128-3138	2019
51.	DK Rana, SK Singh, SK Kundu, RJ Choudhary, S Basu	Electrical and magnetic properties of polyvinyl alcohol-cobalt ferrite nanocomposite films	Bulletin of Materials Science	41 (4)	92	2018
50.	R Sinha, S Basu , AK Meikap	The investigation of the electrical transport properties of Gd doped YCrO ₃ nanoparticles	Materials Research Bulletin	97	578-587	2018
49.	S Sinha, AK Das, S Basu , AK Meikap	Dielectric response of poly (vinyl alcohol)-zinc selenide nanocomposite film	Japanese Journal of Applied Physics	56 (10)	101502	2017
48.	M Banerjee, A Mukherjee, A Banerjee, D Das, S Basu	Enhancement of multiferroic properties and unusual magnetic phase transition in Eu doped bismuth ferrite nanoparticles	New Journal of Chemistry	41 (19)	10985-10991	2017
47.	R Sinha, S Kundu, S Basu , AK Meikap	Effect of La doping on optical and electrical transport properties of nanocrystalline YCrO ₃	Solid State Sciences	60	75-84	2016

46.	M Goswami, A Mukherjee, R Ghosh, S Basu , AK Meikap	Enhanced magnetoconductivity and electrical property of MWCNT-CdS nanocomposite embedded in polyaniline	Solid State Sciences	60	37-44	2016
45.	R Sinha, AK Meikap, S Basu	The Electrical Transport Properties of Mn Doped Nanocrystalline YCrO ₃	Advanced Science Letters	22	40-45	2016
44.	A Mukherjee, M Banerjee, S Basu , MD Mukadam, SM Yusuf, M Pal	Enhanced magnetodielectric and multiferroic properties of Er-doped bismuth ferrite nanoparticles	Materials Chemistry and Physics	162	140-148	2015
43.	R Sinha, S Basu , AK Meikap	Investigation of dielectric and electrical behavior of Mn-doped YCrO ₃ nanoparticles synthesized by the sol gel method	Physica E: Low-dimensional Systems and Nanostructures	69	47-55	2015
42.	A Mukherjee, S Basu , LAW Green, NTK Thanh, M Pal	Enhanced multiferroic properties of Y and Mn codoped multiferroic BiFeO ₃ nanoparticles	Journal of Materials Science	50	1891-1900	2015
41.	A Mukherjee, M Banerjee, S Basu , NTK Thanh, LAW Green, M Pal	Enhanced magnetic and electrical properties of Y and Mn co-doped BiFeO ₃ nanoparticles	Physica B: Condensed Matter	448	199-203	2014
40.	U Chowdhury, S Goswami, D Bhattacharya, J Ghosh, S Basu , S Neogi	Room temperature multiferroicity in orthorhombic LuFeO ₃	Applied Physics Letters	105	052911	2014
39.	A Mukherjee, S Basu , PK Manna, SM Yusuf, M Pal	Enhancement of multiferroic properties of nanocrystalline BiFeO ₃ powder by Gd-doping	Journal of Alloys and Compounds	598	142-150	2014
38.	A Mukherjee, M Banerjee, S Basu , M Pal	Electrical and optical properties of gadolinium doped bismuth ferrite nanoparticles	AIP Conf Proc	1591	1339-1341	2014

37.	Pritam Ghosh, Additi Roychowdhury, Montserrat Corbella, Asim Bhaumik, Partha Mitra, Shaikh M Mobin, Ayan Mukherjee, Soumen Basu , Priyabrata Banerjee	Designed synthesis of CO ₂ -promoted copper (ii) coordination polymers: synthesis, structural and spectroscopic characterization, and studies of versatile functional properties	Dalton Transactions	43	13500-13508	2014
36.	A Mukherjee, S Basu , PK Manna, SM Yusuf, M Pal	Giant magnetodielectric and enhanced multiferroic properties of Sm doped bismuth ferrite nanoparticles	Journal of Materials Chemistry	2	5885-5891	2014
35.	A Mukherjee, M Banerjee, S Basu , PMG Nambissan, M Pal	Gadolinium substitution induced defect restructuring in multiferroic BiFeO ₃ : case study by positron annihilation spectroscopy	Journal of Physics D: Applied Physics	46	495309	2013
34.	SM Hossain, A Mukherjee, S Basu , M Pal	Effect of N-Co codoping on structure and electrical properties of multiferroic BiFeO ₃ nanoparticles	IET Micro & Nano Letters	8	374-377	2013
33.	SK Hossain, A Mukherjee, S Chakraborty, SM Yusuf, S Basu , M Pal	Enhanced multiferroic properties of nanocrystalline La-doped BiFeO ₃	Materials Focus	2	92-98	2013
32.	S Sinha, A Mukherjee, SK Chatterjee, AK Meikap, S Basu	Introduction of BiFeO ₃ Nanoparticles in 5CB Nematic Liquid Crystal Host: Effect on Texture and the Non Responsive Behaviour of the Sample in a Twisted Nematic Configuration	Advanced Nanomaterials and Nanotechnology		111-116	2013
31.	A Mukherjee, SM Hossain, M Pal, S Basu	Effect of Y-doping on optical properties of multiferroics BiFeO ₃ nanoparticles	Applied Nanoscience	2	305-310	2012
30.	A Mukherjee, S Basu , G Chakraborty, M Pal	Effect of Y-doping on the electrical transport properties of nanocrystalline BiFeO ₃	Journal of Applied Physics	112	014321	2012

29.	A Mukherjee, SKM Houssain, S Basu, M Pal, R Mittal, AK Chauhan, R Mukhopadhyay	Optical and electrical properties of codoped nanocrystalline multiferroic BiFeO ₃	AIP Conference Proceedings- American Institute of Physics	1447	315	2012
28.	S Mukherjee, S Kumar, S Saha, S Basu, S Chatterjee, AK Ghosh	Tailoring of Optical and Electrical Properties of Transition Metal Ions-Doped ZnO-Based Diluted Magnetic Semiconductor Nanoparticles	Asian Journal of Chemistry	23	5553	2011
27.	S Sinha, A Mukherjee, SK Chatterjee, AK Meikap, S Basu	Synthesis and characterization of TbMnO ₃ nanorods	Nanoscience, Engineering and Technology (ICONSET), IEEE		129-132	2011
26.	S Basu, SKM Hossain, D Chakravorty, M Pal	Enhanced magnetic properties in hydrothermally synthesized Mn-doped BiFeO ₃ nanoparticles	Current Applied Physics	11	976-980	2011
25.	RP Maiti, S Dutta, S Basu, MK Mitra, D Chakravorty	Multiferroic behavior in glass-crystal nanocomposites containing Te ₂ NiMnO ₆	Journal of Alloys and Compounds	509	6056-6060	2011
24.	S Das, S Basu, S Mitra, D Chakravorty, BN Mondal	Wet chemical route to transparent BiFeO ₃ films on SiO ₂ substrates	Thin Solid Films	518	4071-4075	2010
23.	D Majumdar, RP Maiti, S Basu, SK Saha	Mechanism of Ultrasonic Energy-Assisted Formation of V-, Y-Shaped Nano-Structures in Conjugated Polymers	Journal of nanoscience and nanotechnology	9	6896-6901	2009
22.	RP Maiti, S Basu, S Bhattacharya, D Chakravorty	Multiferroic behavior in silicate glass nanocomposite having a core-shell microstructure	Journal of Non-Crystalline Solids	355	2254-2259	2009
21.	R Maiti, S Basu, D Chakravorty	Synthesis of nanocrystalline YFeO ₃ and its magnetic properties	Journal of Magnetism and Magnetic Materials	321	3274-3277	2009
20.	S Mitra, S Das, S Basu, P Sahu, K Mandal	Shape-and field-dependent Morin transitions in structured α -Fe ₂ O ₃	Journal of Magnetism and Magnetic Materials	321	2925-2931	2009

19.	S Das, S Basu	Solvothermal synthesis of nano-to-submicrometer sized BiFeO ₃ and Bi-Fe-oxides with various morphologies	Journal of nanoscience and nanotechnology	9	5622-5626	2009
18.	P Hajra, S Basu, S Dutta, P Brahma, D Chakravorty	Exchange bias in ferrimagnetic–antiferromagnetic nanocomposite produced by mechanical attrition	Journal of Magnetism and Magnetic Materials	321	2269-2275	2009
17.	S Basu, M Pal, D Chakravorty	Magnetic properties of hydrothermally synthesized BiFeO ₃ nanoparticles	Journal of Magnetism and Magnetic Materials	320	3361-3365	2008
16.	R Sarkar, CS Tiwary, P Kumbhakar, S Basu, AK Mitra	Yellow-orange light emission from Mn ²⁺ -doped ZnS nanoparticles	Physica E: Low-dimensional Systems and Nanostructures	40	3115-3120	2008
15.	S Basu, V Gopalan, H Jain, D Chakravorty	Development of optical nonlinearity, high dielectric constant and ferromagnetic behavior in a silicate glass nanocomposite by suitable heat treatment	Journal of Non-Crystalline Solids	354	3278-3283	2008
14.	D Chakravorty, S Basu, BN Pal, PK Mukherjee, B Ghosh, K Chatterjee, A Bose, S Bhattacharya, A Banerjee	Synthesis of nanocomposites using glasses and mica as templates	Bulletin of Materials Science	31	263-276	2008
13.	S Das, S Basu, G Majumdar, D Chakravorty, S Chaudhuri	Sol–Gel Synthesized SnO ₂ Nanoparticles and Their Properties	Journal of nanoscience and nanotechnology	7	4402-4411	2007
12.	M Mukherjee, S Basu, B Ghosh, D Chakravorty	X-ray photoelectron spectroscopy studies on core-shell structured nanocomposites	Applied surface science	253	8463-8469	2007

11.	A Nag, S Sapra, S Chakraborty, S Basu , DD Sarma	Synthesis of CdSe nanocrystals in a noncoordinating solvent: Effect of reaction temperature on size and optical properties	Journal of nanoscience and nanotechnology	7	1965-1968	2007
10.	R Viswanatha, S Chakraborty, S Basu , DD Sarma	Blue-emitting copper-doped zinc oxide nanocrystals	The Journal of Physical Chemistry B	110	22310-22312	2006
09.	S Basu , JR Macdonald, D Chakravorty	Conductivity relaxation in the interfacial phase of iron core-iron oxide shell nanocomposites	Journal of materials research	21	1704-1711	2006
08.	D Chakravorty, S Basu , PK Mukherjee, SK Saha, BN Pal, A Dan, S Bhattacharya	Novel properties of glass-metal nanocomposites	Journal of non-crystalline solids	352	601-609	2006
07.	S Basu , D Chakravorty	Optical properties of nanocomposites with iron core-iron oxide shell structure	Journal of non-crystalline solids	352	380-385	2006
06.	K Chatterjee, S Basu , D Chakravorty	Plasmon resonance absorption in sulfide-coated gold nanorods	Journal of materials research	21	34-40	2006
05.	BN Pal, S Basu , D Chakravorty	Electrically aligned binary system of nanoparticles	Journal of applied physics	98	084306	2005
04.	A Bose, S Basu , S Banerjee, D Chakravorty	Electrical properties of compacted assembly of copper oxide nanoparticles	Journal of applied physics	98	074307-074307	2005
03.	JR Macdonald, S Basu , D Chakravorty	Analysis of conducting-system frequency response data for an interfacial amorphous phase of copper-core oxide-shell nanocomposites	The Journal of chemical physics	122	214703	2005
02.	BN Pal, S Basu , D Chakravorty	Humidity sensing by fractally grown nanocomposites	Journal of applied physics	97	034311-034311	2005

01.	S Basu, D Das, D Chakravorty	Dielectric relaxation in interfacial amorphous phase of copper core–copper oxide shell nanocomposites in gel-derived silica glasses	Journal of applied physics	95	5741-5745	2004
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13. Detail of patents.

S.No	Patent Title	Name of Applicant(s)	Patent No.	Award Date	Agency/Country	Status

14. Books/Reports/Chapters/Generalarticles etc.

S.No	Title	Author's Name	Publisher	Year of Publication
01	Resistive memory device with piezoelectric and ferroelectric thin films by solution synthesis	Dhiraj Kumar Rana, Soumen Basu	Elsevier Book name: Chemical Solution Synthesis for Materials Design and Thin Film Device Applications	2021

15. Any other Information (maximum 500 words)

Research Guidance:

- (i) Ph. D. – 08 (Awarded) & 06 (Ongoing)
- (ii) M. Tech. – 17 (Completed) & 01 (Ongoing)
- (iii) M. Sc. – 14 (Completed) & 02 (Ongoing)

Five major sponsored R & D projects completed/handled.

Grant agency	Title of the project and Reference number	Duration, (from mm/yy to mm/yy)	Amount in Rs.
DST, GOI	<i>Development and Characterizations of Multiferroics nanomaterials (P.I.)</i>	11.11.2010 To 10.11.2013	21.24 lakhs
BRNS, GOI	<i>Design and exploration of nanocrystalline multiferroic materials (C.I.)</i>	09.05.2011 To 08.05.2014	34.88 lakhs
DST,GOI	<i>A Study on Electron Dephasing Scattering Rate in Disordered Alloys and A15 Compounds at Low Temperature (C.I.)</i>	13.02.2013 To 12.02.2016	36.076 lakhs
DST,GOI	<i>DST FIST project of Department of Physics (C.I.)</i>	04.05.2012 To 03.05.2017	82.00 lakhs
MHRD, New Delhi	<i>TEQIP II centre of Excellence on Advanced Materials (C.I.)</i>	28.03.2013 To 27.03.2018	500.00 lakhs