

TEQIP-II Sponsored
SHORT TERM COURSE

On
**Nanostructured Materials: Theory, Processing and
Characterization – (SNTPC-2014)**

07-11 April, 2014



Course Coordinators:

Prof. A K Meikap

Dr. S Basu

Dr. S Sahoo

Department of Physics

National Institute of Technology Durgapur

Mahatma Gandhi Avenue

Durgapur 713 209

Mobile: 9434788060, 9434788061 & 9434788198

DEADLINES:

Submitting Registration form for Participation in the course: March 15, 2014

Submission of Abstract (optional) for Poster Presentation: March 15, 2014

THE INSTITUTE

National Institute of Technology Durgapur (NITD) is a leading technical institute offering undergraduate, postgraduate and doctoral programmes in various disciplines of engineering, technology, science, social science and management. The education system is holistic with equal importance being attached to all-round development of the students. NITD was established as a Regional Engineering College (REC) in 1960 as a joint venture of the Government of India and Government of West Bengal. REC Durgapur was converted to NIT Durgapur under the full administrative and financial control of the Ministry of Human Resource Development of Government of India with a Deemed University status on 3rd July, 2003. Subsequently NITD has been given the status of a University by the UGC Act. The Institute was declared an **Institute of National Importance** by the Government of India on August 15, 2007.

The city of Durgapur is recognized as one of the fastest developing Tier-II cities in the national scenarios. Durgapur is situated at a distance of about 180 KMs from Kolkata. It is located right on the major railway and expressway (NH-2) connecting Kolkata to Delhi and Durgapur can be reached from Kolkata (and vice versa) in ~ 2 hrs. 30 mins.

THE DEPARTMENT

Department of Physics of NIT Durgapur is one of the oldest and leading Departments in terms of research activities and sponsored projects. The Department, over the years, has successfully completed a number of MHRD, AICTE, DAE and DST Research and Development projects as well as a number of sponsored projects. Recently the department has received a number of sponsored projects from DST, DAE, CSIR etc. A good number of Ph.D. degrees have been awarded under the supervision of the faculty members of the Department and a number of students are working at present for their Ph.D. degrees. Theoretical and experimental investigations are being carried out in the frontier areas like Nanoscience, Carbon Nanotubes and Graphene, CNT Hybrids and Composites, MD Simulation of Nanomaterials, Nanophotonics, Nonlinear Optics, Conducting Polymers, Nanocomposites and Thin Films, Magnetic Ferrite Materials, Nonlinear Dynamics, Liquid Crystals, High Energy Physics etc. The Department of Physics offers basic courses in Engineering Physics, Engineering Thermodynamics, Materials Science, Semiconductor Physics, Nuclear Reactor Physics etc. The Department also offers M.Sc. (Physics) and M. Tech. (Advanced Materials Science and Technology) courses. Many students who have received their M. Tech. degrees from this Department are serving now in different Institutes of higher learning in India.

ABOUT THE SHORT TERM COURSE NTPC-2014

Nanostructured materials may be defined as those materials whose structural elements- clusters, crystallites or molecules—have dimensions in the 1 to 100 nm range. The explosion in both academic and industrial interest in these materials over the past decade arises from the remarkable variations in fundamental electrical, optical and magnetic properties that occur as one progresses from an ‘infinitely extended’ solid to a particle of material consisting of a countable number of atoms. This short term course will give a forum to discuss in details, recent advances in the synthesis and investigation

of functional nanostructured materials, focusing on the novel size-dependent physics and chemistry that results when electrons are confined within nanoscale semiconductor and metal clusters and colloids. Carbon-based nanomaterials and nanostructures including fullerenes and nanotubes play an increasingly pervasive role in nanoscale science and technology and are thus described in some depth. Current nanodevice fabrication methods and the future prospects for nanostructured materials and nanodevices will also be discussed.

The Objectives of the short term course is to bring researchers and technocrats from different parts of our country to a common gathering and share the recent developments of nanostructured materials

Besides the invited talks by the resource persons, there will be poster presentations covering the theme of the course.

TOPICS TO BE COVERED

- **Nanocomposites**
- **Nanomaterials for Biomedical applications**
- **Conducting polymer Nanocomposites**
- **Multiferroics**
- **State of the art characterization techniques**
- **Photonics nanomaterials**
- **Disordered materials**
- **Carbon base nanomaterials**
- **Spintronics**

RESOURCE PERSONS

The resource persons constitutes experts/senior faculty members from NIT Durgapur and various guest speakers from other reputed institutions and industries including IIT, CSIR Laboratories, Research Institutes, Universities, BARC Mumbai etc.

WHO CAN ATTEND SNTPC-2014

SNTPC-2014 is aimed to attract and bring together Faculty Members, Scientists, Engineers, Technologists, Research Scholars and Final Year PG students from Academic and Research Institutions and Industries recognized by AICTE, UGC, equivalent. The participants will benefit immensely and will get new insights and knowledge about the topic through close interactions/discussions with the Senior Faculty Members/Scientists and Experts of the respective field during the lecture sessions as well as in some laboratory sessions.

BOARDING & LODGING

Boarding, lodging and travel expenses shall be borne by the participants. Limited shared accommodations are available in the Institute Guest House on first come first served basis. Several good hotels are available in and around Durgapur. Participants may contact directly or through the coordinator(s) for accommodation in Hotels. No TA/DA will be paid to the participants by NIT Durgapur.

REGISTRATION FEES

Category	Early Bird registration (Before 1 st March,2014) INR	Late Registration (After 1 st March,2014) INR
Faculty Member of Academic Institutes	4000	5000
Research Scholars/ Students	2500	3000
Scientist from Industries	8000	10000

Registration fee includes study/lecture materials, refreshment and lunch for 5 days during the course.

Organizing Committee

Patron: Prof. T. Kumar, Director, NIT Durgapur

Advisory Committee:

Prof. P. P. Gupta, Dean (R&C)

Prof. K. C. Ghanta, Coordinator TEQIP-II

Prof. B. Halder, Nodal Officer (Academic) TEQIP-II

Course Coordinators:

Prof. A K Meikap

Dr. S Basu

Dr S Sahoo

Members:

Prof. P Kumbhakar

Dr. A. K. Chakraborty

Dr. M. K. Mandal

Important Dates:

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Those who are not willing to present their paper they are also invited to attend the short term course.

Guidelines for preparing the Extended Abstract & Display of Poster

A word file of the Title (font size 14, bold, centered, Times New Roman), author's name(s), affiliation, email id, followed by and an extended abstract text (font size 12, single space, Times New Roman) **NOT exceeding one page** (including graphics/figures/tables/references etc) on A4 size paper with one inch margin on each side may be sent by e-mail. **Participants are requested to prepare the abstract by using the TEMPLATE. The template format is given below.** 1m×1m space will be provided for display of each poster in poster session.

REGISTRATION FORM
TEQIP-II Sponsored Short Term Course on
Nanostructured Materials: Theory, Processing and Characterization – (SNTPC-2014)

07-11 April, 2014

Dept. of Physics, National Institute of Technology, Durgapur
M.G. Avenue, Durgapur – 723109,
West Bengal, India

1. Name: -----
2. Designation & Affiliation: -----
3. Male/Female:-----
4. Mailing Address:-----
5. Telephone No. : _____ (R)_____ (O),
_____ (M)
6. E-mail ID : -----
7. Highest Academic Qualification:-----
8. Working Experience (In nos. of Years): -----
9. Accommodation required* (Y/N):-----
10. Registration fees: DD/Cheque No. _____ Date _____ Amount _____
(DD/Cheque should be drawn in favor of “NITD-PHYSICS-SAFM-2013”, payable at Durgapur or transfer the registration fees to the account (A/C No. 33195988025, IFS Code: SBIN0002108, A/C Name: NITD-PHYSICS-SAFM-2013).
11. Vegetarian / Non-Vegetarian: -----

N.B.: Please ensure that all the fields (1 to 11) are properly filled-in and then duly signed. Photocopy of this form may also be used for registration.

Place: _____
Date: _____

Signature of the Applicant

Signature and Seal of the Head of the Department/Institute

Please send the completed application form together with the scanned copy of the demand draft to the Course Coordinator on or before 15th March, 2014 by E-mail.

CORRESPONDING ADDRESS

Department of Physics
National Institute of Technology,

M. G. Avenue, Durgapur – 713209, West Bengal, India.

Phone : +91 343 2546808 (O), +91 9434788060 (M), +91 9434788061 (M), +91 9434788198
Fax : +91 343 2547375,
E-mail : sou_menbasu@yahoo.com, ak_meikap@yahoo.com

INSTRUCTIONS FOR AUTHORS FORMAT FOR PREPARING ONE PAGE EXTENDED ABSTRACT

H.C.Yang^a and N. P. Khare^{b*}

^aDepartment of Physics, National Institute of Technology, Durgapur-713209, India

^bDepartment of Physics, National Institute of Technology, Durbaspur-713209, India

*Email of corresponding author: npkhare@physics.nitdgp.ac.in

ABSTRACT

The maximum page limit of extended abstract is one A-4 size page, including figures/ tables/ equations/ references typed in a double column preferably in MS Word. The title of the paper should be bold and in all capital, 12 point font size and in NEW TIMES ROMAN font.

I. INTRODUCTION

Authors should submit the Extended Abstract as mentioned on the rules document prior to the deadline. Names of the authors to be in 12 point font size, their addresses and text have to be in 10 point font size and in NEW TIMES ROMAN font. Presenting author is underlined. Single inter-line spacing should be used for the text portion. The short abstract is limited to 50 words only. The name of the corresponding author should be marked with superscript (*). Please send the Extended ABSTRACT (doc files only, docx file is not acceptable) by e-mail attachment to. The Extended Abstract must be written in English. Text should be left and right justified in the page with 1 inch margin to each edge of the paper. Neither text, nor figures or tables should be printed outside these margins. Extended Abstracts are necessary for competition since they may be used for screening purposes, depending on the number of papers received. Please see judging criteria section on Competition Rules. Extended Abstract should be written following the format of MSWord. The student is required to write an extended abstract summarizing the results of his/her research.

All texts should be single spaced, in Times New Roman, 11pt font size consistently. The Extended Abstract begins with a short introduction and ends with a conclusion section. Do not use foot notes. References should be cited uniformly.¹

II. RESULTS

All figures should be numbered consecutively and captioned. The caption title should be written centered, with upper and lower case letters. A space should separate the figure from the caption,

and a space should separate the upper part of the figure and the bottom of the caption from the surrounding text. Figures may be included in the text or added at the bottom of the Extended Abstract.

III. CONCLUSIONS

Acknowledgement

References

1. Elgha, F., and Mohraz, B., 1987. "Inelastic earthquake spectra," *Earthquake Engineering and Structural Dynamics*, Vol. 15, pp. 91-10

