

December 6-7, 2013

NIT Rourkela



# NCPCM 2013

3<sup>rd</sup> National Conference on

## Processing & Characterization of Materials

### PLENARY SESSION THEMES

- Materials Processing
- Characterization
- Deformation
- Modeling and Simulation

### CONFERENCE CHAIRS

- Convener: Prof. K. DUTTA
- Co-convener: Prof. N. YEDLA  
Prof. A. K. MONDAL
- Treasurer: Prof. N. YEDLA

*Organized by*

**Department of Metallurgical and Materials Engineering  
and  
Indian Institute of Metals, Rourkela Chapter**

## Aim of the conference

Department of Metallurgical and Materials Engineering, NIT Rourkela is going to organize National Conference on Processing and Characterization of Materials (NCPCM – 2013) during 6-7 December, 2013 after successful completion of earlier two conferences in this series (NCPCM – 2011 and NCPCM – 2012). “Processing and Characterization of Materials” is a foremost topic of interest for most of the researchers in the scientific community. In last few decades or so, it has been observed that researchers even from computer science, electrical engineering have started working in this domain for suitable applications. Advanced processing and characterization techniques make it possible to develop many new materials for different applications. CVD technique made it possible to produce thin films and from characterization view point, HRTEM made it easy to find critical details of a material in nano-metric scale etc. The objective of the conference is to *highlight all the advances developed in the area of processing and characterization of materials*. The conference is expected to attract the researchers, scientists, practicing engineers from various R & D organizations, academic institutions and industries at a single forum. The interdisciplinary approach of the conference may allow the participants to look beyond their areas of activities. The organizers of the conference are already in touch with eminent researchers to deliver key note lectures on processing and characterization of materials. This is expected to be a platform for young researchers of the nation to discuss their work with eminent fellows of the fields. Senior practicing engineers, established researchers and faculty members will also get an opportunity to share their knowledge and information.

## NIT Rourkela

The city of Rourkela came into prominence in the year 1955, with the decision of the Government of India to set up the first Public Sector Steel Plant. It is one of the most beautiful cities of the state of Odisha. National Institute of Technology, Rourkela, is one of the premier institutions of government of India for imparting quality technical education in the country. The institute is surrounded by hills and spread over an area of 262 hectares of land. The well maintained green campus of the Institute provides 100 percent accommodation to students, faculties and staff. The campus has all the amenities for developing personal, social and academic skills of the young people. The institute has 10 engineering, 5 basic science and one each of social science and management departments. The city is a huge metropolis connected with all parts of the country by railway and road. Domestic air services are available from Ranchi, Bhubaneswar and Raipur. Kolkata is about 400 kilometers from Rourkela. The population of the city is about 6 lakhs. The city experiences beautiful winter. The minimum temperature during December is about 12° Celsius accompanied with bright sunshine. The greeneries and flowers in the campus further make the stay very pleasant.

## The Department

Established in 1964, the department has been emerged as powerhouse for academics, scientific research and cutting edge technologies. With time, the department grew noticeably and established new areas of research and teaching in materials engineering, while retaining its strength in traditional areas in metallurgical engineering. Along with all ongoing academic programs, the department has introduced

M. Tech. in Steel Technology from last year. The department attracts highly qualified faculties and bright students from the entire nation. The well-developed infrastructure and diversified expertise of the faculties has provided the department a global acceptance. The graduates from the department are well-absorbed in esteemed industries or institutions. The department is actively involved in research activities in the front line areas of metallurgical and materials engineering in collaboration with reputed R&D organizations and industries throughout the country.

## List of areas

- **Advanced Materials Processing:** Metal working, Joining of materials, Solidification and casting, Mechanical alloying, PVD, CVD, Laser processing, Powder processing, Diffusion surface hardening, Coating, Thin films, Laser surface treatment.
- **Mechanical Characterization and Failure Analysis.**
- **Advanced Material Characterization Techniques:** XRD, Electron Microscopy (SEM, TEM, AFM, STM), FTIR, RF spectroscopy, Raman spectroscopy, DSC, DTA, TG.
- **Materials for Nuclear Industries.**
- **Materials modeling and simulation**

## Guidelines for abstract

The extended graphical abstract (350-500 words) can be uploaded to the conference website or can be submitted by email (ncpcm2013@gmail.com) ONLY in MS word format. It must carry sufficient information for fair assessment and should contain the following: Full title of the paper (Title case, Font size 14, Bold, Name(s) of author(s) Font size 12, Bold, affiliation, and e-mail id of the corresponding author, (Font size 11, Bold), brief introduction, results, experimentation and findings of the work (Font size 12). All fonts should be Arial (except symbols). The name(s) of corresponding author and presenting author should be mentioned. A conference volume of abstracts will be published and distributed to the registered participants during the conference.

## Metallography contest

This contest includes two categories of metallographs viz. (I) Optical and (II) Electron microscopy. The participants should present the metallographs originated from their own research work at the time of conference along with some descriptions about the microstructure. History of the sample and associated sample preparation should also be mentioned therein. It is highly essential that the images brought by the participants have scientific aspects. Hardcopy of the micrographs should be in 8" x 12" photographic paper.

### Important Dates:

Abstract submission deadline:	31-10-2013
Abstract acceptance deadline:	15-11-2013
Early registration payment:	25-11-2013
The Conference:	6-12-2013 and 7-12-2013

### Conference Fees:

<u>Category</u>	<u>Fees (Rs)</u>
Delegates from Industry	5,000/-
Delegates from academics and Govt. R&D	3,000/-
Research scholars/Graduate Students	1,500/-
Accompanying person	1,500/-

Each registration fee entitles the participant to present up to a maximum of TWO accepted papers. However multiple metallographs can be presented by single registration in the metallography contest.

# Conference organization

**Patron:** Prof. S. K. Sarangi, Director, NIT Rourkela  
**Chairman:** Prof. B. C. Ray, HOD, Department of Metallurgical and Materials Engineering, NIT Rourkela  
**Convener:** Prof. K. Dutta  
**Co-convener:** Prof. N. Yedla and Prof. A. K. Mondal  
**Treasurer:** Prof. N. Yedla

## Technical committee

Prof. S. N. Alam  
Prof. A. Basu

## Local organizing committee

Prof. S. K. Karak  
Prof. S. K. Sahoo  
Mr. R. Pattnaik  
Mr. S. Hembram

## Accommodation

Limited accommodation will be provided by the institute guest house on payment basis. Prior information for requirement of institute accommodation is to be intimated. However, accommodation will be available in many hotels of Rourkela city at reasonable tariff on payment. The Institute is situated only at 15 minutes driving distance from the city.

For Institute accommodation, please contact

Prof. S. K. Karak (Email id: karaksk@nitrkl.ac.in),

Mobile: +91 9437745296

Prof. S. K. Sahoo (Email id: santoshsahoo@nitrkl.ac.in),

Mobile: +91 9040289501

## Reach the convener

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## Registration Form

Name: \_\_\_\_\_ Designation: \_\_\_\_\_

Organization: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

\_\_\_\_\_ PIN \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

Details of Registration Fee:

DD No.: \_\_\_\_\_ Date: \_\_\_\_\_ Amount: \_\_\_\_\_ Bank: \_\_\_\_\_

Expected date and time of Arrival: \_\_\_\_\_ Departure: \_\_\_\_\_

Place: \_\_\_\_\_

Date : \_\_\_\_\_ Signature

➤ All payments are to be made by a/c payee demand draft drawn in favor of "NCPCM 2013" payable at SBI, NIT Rourkela Branch (Code-2109).