## **Registration form**

Name:	
<b>Designation</b> :	

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

Address for correspondence: \_\_\_\_\_

E-mail: \_\_\_\_\_

Phone: \_\_\_\_\_

### Particulars of Registration Fee:

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

Accommodation Required: Yes/No

Date:

Signature:

### Place:

The complete registration form accompanied by DD of requisite amount may be mailed well in advance to the coordinator. Payment in form of DD should be made in favour of "Conference, NIT Rourkela", payable at Rourkela. Or electronic transaction to a/c no: 36734418111 (submit the transaction slip during registation)



## **Course venue**

The "High Temperature Materials" course will be handled in Department of Metallurgical and Materials Engineering, NIT Rourkela, Established in 1964. The department has been emanate the advanced technology and cutting edge technology for academics and for public. The department undergo natural development in fundamental and practical knowledge aspect directly related to our society development.

# **Course objectives and deliverables**

This program promote the leadership instinct and capabilities to develop materials among industrious managers. The prime objectives of the programme will be:

- To guide managers for successful careers in the esteemed organization by understanding the underlying theory and rationality behind process run in developing the materials that can sustain in hostile environment.
- To equip managers with a wider understanding of the quality issues associated with material development more integrated view of the process with respect to identifying the origin of those issues.
- To understand the cross-discipline/ department knowledge and information transfer for combating industry materials developing oriented problems, introducing technological innovation and making strategic vision to drive change, innovation, and future growth.

# **Panel discussion:**

Theme – I: Superalloys and Ultralight Materials Panellists: Er. P. Mallick, Prof. Ajit Behera, Sct. K. guguloth Theme – II: Ceramic Materials and their processing Panellists: Prof. Ajit Behera, Dr. S. Mohanty, Dr. S. Rout, Prof. P. Mallick, Er. S. Mishra



Workshop On High Temperature Materials 18<sup>th</sup> - 22<sup>nd</sup> April, 2019



## Organized by

Metallurgical & Materials Engineering

National Institute of Technology Rourkela Rourkela-769008 Odisha, India





# Significance of the course

High temperature materials provides academics with the fundamentals of the manufacturing of metallic materials, from raw materials into finished parts or products. The aim of this course is to develop an understanding of principles of metallurgical processes, reactor design, metallurgical reactions, and development of metallurgical processes. Many of the unique features of metallurgical systems have been described in sufficient detail and numerous illustrative examples have been included so that it should also be useful for future metallurgical engineers working in the development period of new processes and/or in the continuation of the current processes. This five days short term course is intended to serve as a comprehensive course in process engineering metallurgy for the metallurgical engineering & materials science sectors. Engineering aspects of mineral processing, including unit operations and flow sheets. Science and technology of metal extraction with applications to specific ferrous and non-ferrous metals. The course includes methods for reactors used in iron and steelmaking, non-ferrous metallurgy, handling and use of metallurgical by-products, project task, and scaling-up of some metallurgical reactors and processes. The program structure aims to strengthen the understanding of the students in the core areas of metallurgical and materials engineering in order to meet the needs of the Indian industry as well as R&D organizations.

### **Resource Persons**

Dr. Saralasrita Mohanty (NISER) Er. P. Mallick (Manager, HAL) Sct. K. guguloth (Scientist, NML) Prof. Ajit Behera (NIT Rourkela) Dr. S. K. Rout (NISER) Er. S. Mishra (RSP)

Course outline		
Days	Focused Area	
Day -I (18/04//2019)	Class: Ni-based, Co-based and Fe-based Superalloys	
	Laboratory:MicrostrucralanalysisofNi-basedsuperalloys by SEM	
Day -II (19/04/2019)	Class: Nanostructures at high temperature	
	Laboratory:Thermalanalysis of high temperatureprocessed nanomaterial.	
Day -III (20/04/2019)	Class: Functional and Engineering Ceramics	
	Laboratory: Microstructural observation for different bonding in high temperature processed ceramics and powder metallurgy based ceramics.	
Module IV (21/04/2019)	Class: Requirement of Bulk metallic glasses at high temperature	
	Laboratory: SEM study and thermal analysis of gas turbine blade	
Module V 22/04/2019	Class: High Temperature Furnace lining	
	Valedictory session	

# **Important Dates**

Last date for receipt of application is 10<sup>th</sup> of April 2019 and the notification of acceptance will be by 12<sup>th</sup> of April 2019.

## Who should attend?

Majorly for faculties, Industry persons and professionals (Engineers, Technical Managers, quality manager etc.) from all institute and industries.

The Successful participants who will attend the whole courses will be given Course certificate.

### **Registration Fees**

Faculties from institutes	: INR 3000
Industry delegates	: INR 5000
External Student	:INR 1000

The course fee includes course material, breakfast, lunch, and refreshment during the program days. Faculty members and Ph.D. students from NITRKL are exempted from paying registration fees.

### Accommodation

Accommodation will be provided in institute guest house on first come first serve basis. Double occupancy rooms for scholars and young faculties.

South block guest house Room : INR 1200 per day North block guest house Room : INR 600 per day

Hostel Room : INR 50 per day

### Convener

## Dr. Ajit Behera (Coordinator)

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