CEP Short term course on

'Failure Analysis of Engineering Products'

May 10-11, 2019

Course Coordinators:
Dr. Anirban Chowdhury, IIT Patna
Mr. Sabyasachi Roy, Director, ANTS Ceramics Pvt. Ltd.

Office of Continuing Education & Quality Improvement Programmes
Indian Institute of Technology
Patna, Bihta - 801106

About the Course

All the engineering products and processes for both large and small scale applications need a rigorous scrutiny via quality control and other necessary characterization tools in hand at the production sites. However, the success or failure of products may not be linked to any singular cause. At times, slight alterations (inadvertent) in the process parameters may lead to abnormal changes; the same may also be initiated due to changes in the raw material batches, compositional fluctuations etc. However, the effect of all such changes gets reflected as "failure in the final shaped product". Hence, failure of engineering products remains to be a burning issue for all such reasons. Only via a thorough and meticulous analysis of the failure of engineering products can lead us for the meaningful solutions to rectify them. In a lot of cases, this in-depth analysis is not possible to perform at the operation/manufacturing site. The prime objective of this summer course is to introduce various analytical tools for characterizing such failures in engineering products. The analysis would primarily involve structural, micro-structural and thermal techniques to reach a meaningful solution. While the case studies (based on actual/real industrial problems) will explain the pathways to execute such analysis based on failed engineering products; in-hand direct exercises along with hands-on experience on sophisticated analytical instruments will also be provided to the young UG students, industry personnel, researchers of various academic, corporate/industrial and research organizations. This course will include both expert lectures and practical sessions.

Topics

- Fundamentals of structural, micro-structural and thermal characterization
- Case studies for failure analysis involving industrial (e.g., metallurgical, ceramic etc) products
- Introduction to research problems involving structural and thermal characterization of engineering products.
- Lab visits and hands-on training session for structural characterization tools

Who Can Apply?

Faculties, graduate students, researchers from industries and academic institutes, public/private industry, research labs, graduate and post graduate students working in failure analysis of engineering products, manufacturing, metallurgical, materials engineering etc may register for the course. The target industries will include, involving other industrial sample e.g., mechanical, metallurgical, manufacturing, chemical, metallurgy, ceramics, refractories, tiles, cements, abrasives, pharmaceuticals etc.

Learning outcomes

To appreciate the important roles (along with strength and limitations) played by structural characterization tools for the analysis of engineering products. The diversity of any particular structural characterization tool is expected to enable the attendee to take an appropriate decision involving such failure analysis. While hands-on-training is expected to boost their confidence to approach any new challenge in their daily industrial and/or research life.

How to Apply?

Interested participants may send their application in prescribed format along with the registration fees through online bank transfer or demand draft in favor of **Indian Institute of Technology Patna,** payable at Bihta on or before **1st May, 2019** addressed to Dr. Anirban Chowdhury, Department of Metallurgical and Materials Engineering, IIT Patna, Kanpa Road, Bihta, Bihar, 801106. **All the interested applicants are requested to fill the online Google form at:**

https://goo.gl/forms/V1V1IyeEhOiscJAB2

Registration Fee

Research scholars & students:	**Rs. 2500/-**
Faculty, R&D lab (Govt.) etc:	**Rs. 4000/-**
Employees from Industry:	**Rs. 6000/-**

Registration & Fee Payment

The Participation fees for the CEP programmes will be accepted only through Demand Draft drawn in favour of "Indian Institute of Technology Patna" or e-transfer /RTGS/ NEFT. **Personal cheque will not be accepted in any case.** Details for Online Payments through RTGS/NEFT or e-transfer:

Bank: State Bank of India, Branch: IIT Patna, Bihta
Bank Account No.: 30957551934,
MICR Code: 801002005,
IFSC: SBIN0017164,
Bank Telephone: 0612-3028062,
Beneficiary: Indian Institute of Technology Patna,
Account Type: Savings A/c

Early registrants will be given a preference considering the limited availability of accommodation inside IIT Patna and will be offered on a first-come-first-served basis. Besides, there are several hotels and guest-houses around IIT Patna where the participants may stay during the course. Food charges are included in the registration fees and will be provided to the participants.

Important Dates

Receiving filled up application: 1st May, 2019 (latest)
Intimation by e-mail: 15th April, 2019 onward
Interested candidate should submit their choice by filling this form online:
https://goo.gl/forms/V1V1IyeEhOiscJAB2

Contact Details

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Summer Course On

'Failure Analysis of Engineering Products'

Dates: May 10-11, 2019,
Venue: IIT Patna, Bihta campus

REGISTRATION FORM

Name: ……..

Date of Birth: (DD/MM/YYYY):……..

Sex (M/F):……..

Designation:……..

Affiliated to:……

Address for communication:

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……..

E-mail:……..

Phone/Mobile: ……..

Details of fee payments (Reference No. of DD/ Bank transfer, Date of payments, Amount, etc.):

……..
……..
Accommodation if required: YES /NO

Date and time of arrival: ……..
Signature of candidate: ……..

About IIT Patna

Indian Institute of Technology Patna is an autonomous institute of education and research in engineering, technology and science, located in Bihta, 35 km from Patna. As of today, IIT Patna has 10 academic departments that offer B.Tech., M.Tech., M.Sc. and PhD programs. The faculty members of this institute come with academic and research training from various institutes of excellence within the country and abroad. The recent publication records (in various reputed national and international journals) of the faculty testify their credentials. Recently, IIT Patna has been ranked as the 24th best engineering college in the recently released NIRF (National Institutional Ranking Framework 2017) ranking by the Human Resource Ministry, Govt. of India.

HOW TO REACH

IIT Patna's campus is located at Bihta, 35 km from Patna and, at a 501 acres site. The nearest railway station is Bihta, 2 km from the campus. It is located 28 km west of Patna Junction railway station. IIT Patna has well road connectivity to and from Patna. Regular bus services have been provided by the Govt. of Bihar from Gandhi Maidan, Patna to IIT Patna campus. The nearest airport to reach IIT Patna campus is Jai Prakash Narayan Domestic Airport, Patna, which is located 5 kilometres southwest of Patna.