



INDIAN INSTITUTE OF TECHNOLOGY INDORE

Discipline of Metallurgy Engineering And Materials Science

Organizes

3-Days Active Learning Course on

Advance Technology For Integrated Computational Materials Engineering Education

April 8-10th, 2020

Sponsored by Technical Education Quality Improvement Programme (TEQIP)-3, MHRD



ABOUT IIT INDORE

Indian Institute of Technology Indore, located in Madhya Pradesh, known as IIT Indore, is an institute of national importance established by the Government of India in 2009. The Discipline of Metallurgy Engineering and Materials Science (MEMS) at IIT Indore was initiated in 2016 with a vision of establishing a center of excellence that will focus on research in multidisciplinary areas of Metallurgy Engineering and Materials Science. The discipline offers the B.Tech, M.Tech and PhD degrees. Recently, IIT Indore debuted with a rank of 351-400 in the Times Higher Education World University Rankings, 2019, 2nd among Indian institutes.

DETAILS COURSE SYLLABUS

Introduction to Integrated Computational Materials Engineering (ICME); Overview of ICME and history; Computer Simulations at Different Time Scales, Multiscale Aspects of Materials, Creating New Materials, Thermodynamics of Materials Engineering, Principles of Engineering Practice, Fundamentals of Materials Science and Engineering, Electronic Structure Theory and Methods, Introduction of First-Principles Methods, Molecular Dynamics (MD), Material Structures using Finite Element Methods (FEM); Crystal Plasticity Theory: Crystal Plasticity, Introduction to Phase-Field Method and Its Formalisms, understanding of spinodal decomposition, Order-disorder transformation, some examples related to microstructure evolution

OBJECTIVES

- i) To provide the participants with a working knowledge of microstructure-property relations and atomistic modeling of nanostructures.
- ii) To provide the participants with the mathematical tools needed for quantitative characterization of microstructure and calculation of effective properties.
- iii) To provide the participants with a working knowledge of the various tools and techniques needed to characterize and design heterogeneous materials using both micromechanics and nano-mechanics techniques.
- iv) To introduce the participants into practical problems of micromechanics and nano-mechanics, and their solutions, through case studies and live projects.

COURSE FACULTY

- Dr. Srimanta Pakhira (Assistant Professor, IITI)
- Dr. Sumanta Samal (Assistant Professor, IITI)
- Dr. Shailesh I. Kundalwal (Associate Professor, IITI)
- Dr. Mrigendra Dubey (Assistant Professor, IITI)
- Dr. Abhijit Ghosh (Assistant Professor, IITI)
- Dr. Sudip Chakraborty (Assistant Professor, IITI)

COURSE MODULE

This is an active learning based course and comprised of lectures, tutorials, and hand-on training/demonstrations .

CERTIFICATE

Participants who successfully complete the course will be awarded with a certificate.

TARGET PARTICIPANTS

This course is tailor made for the students, researchers, and faculty members from any academic background.

REGISTRATION PROCESS

Interested participants need to submit the scan copy of as per format attached through E-mail to: spakhira@iiti.ac.in. Number of participants are limited to 35 on first come first basis.

ACCOMMODATION

Accommodation may be available at hostels/guest house of IIT Indore on chargeable basis: For hostel accommodation, kindly write to hostel@iiti.ac.in and for guest house accommodation, kindly write to guesthouse@iiti.ac.in

REGISTRATION FEE

- There is **no fee for participants (students/faculty) from TEQIP sponsored colleges**. The nominations along with the registration forms must be sent through their coordinator to the address below. Email confirmation in advance is suggested.
- Non-TEQIP Colleges: The fee is **₹ 3000 for students/research scholars** and **₹ 5000 for faculty**.
- For industry personnel, the fee is **₹ 8000**.

Registration fee includes course material, refreshment and working lunches. Early registration is recommended due to a limit on the number of seats, (maximum 35 seats, on first come first basis).

Participants are required to bring their own laptops.

REGISTRATION DEADLINE: 31st March, 2020.

COURSE COORDINATORS:

Dr. Srimanta Pakhira and Dr. Sumanta Samal

Email: spakhira@iiti.ac.in or sumanta@iiti.ac.in

MODE OF PAYMENT

Via NEFT:

The payment can be made By Demand Draft: Demand Draft should be drawn in favour of “**Registrar, IIT Indore**”, payable at Indore **OR** by NEFT Transfer: Registration fee can be paid through NEFT. Transfer of the amount can be done to the A/c number given below:

Name of the Beneficiary: Registrar, IIT Indore

Name of Bank: Canara Bank

Branch: IIT Indore, Simrol Campus Branch

Beneficiary Account No.: 1476101027440

Bank IFS Code: CNRB0006223

The signed registration form must be sent through their coordinator to the address below. Email confirmation in advance is suggested.

Evidence of payment should be emailed in advance to confirm the participation (**Participant from TEQIP sponsored colleges are exempted**)

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TEQIP-3
Technical Education Quality Improvement Programme



1.	Name of the Person:	
2.	Designation:	
3.	Academic Qualification:	
4.	Name of the Institution/Organization:	
5.	Address for Communication:	
6.	Phone:	
7.	Email:	
8.	Payment Details:	
9.	Amount:	
10.	Payment Ref. No:	
11.	Transaction Data:	
12.	Bank etc. Details:	
Place:		Date:
Signature of Participant:		
Approval /Permission from the Institution/Organization: We approve the above application as participant for the above short course, which is being organized by IIT Indore on 8 th to 10 th April, 2020.		
Authorized Signature		Institute/Organization seal