



INDIAN INSTITUTE OF TECHNOLOGY INDORE

Center for Advanced Electronics

Organizes

5-Days Active Learning Course on

Advanced Technology for Materials Physics and Engineering

November 16-20th, 2020

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

TEQIP-3
Technical Education Quality Improvement Programme

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 Centre for Advanced Electronics at IIT Indore has been initiated in 2020 with a vision of establishing a center of excellence that will focus on research in multidisciplinary areas of Advanced Electronics, Engineering, Physics, Chemistry and Materials Science. The discipline offers the 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 Semiconductors, Physics of Semiconductors, Electronics; Materials Physics and Materials Science, Soft materials, Energy Materials, Li-ion Battery Technology, H₂-storage Technology, Corrosion Engineering, Computer Simulations at Different Time Scales, Multiscale Aspects of Materials, Creating New Materials, Thermodynamics of Materials Engineering, Principles of Engineering Practice, Introduction to Porous Semiconductor materials, Fundamentals of Materials Science and Engineering, Solar Cell, Transistors, Introduction to Phase-Field Method and Its Formalisms, some examples related to microstructure evolution.

OBJECTIVES

- i) To provide the participants with a working knowledge of semiconductors, electronics, materials science, Li-ion battery, energy storage technology, 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. Mrigendra Dubey (Assistant Professor, IITI)
- Dr. Sumanta Samal (Assistant Professor, IITI)
- Dr. Sudeshna Chattopadhyay (Associate Professor, IITI)
- Dr. Shailesh I. Kundalwal (Associate Professor, IITI)
- Dr. Dharendra K. Rai (Assistant Professor, IITI)
- Dr. Shaibal Mukherjee (Associate Professor, IITI)
- Dr. Jayaprakash Murugesan (Assistant Professor, IITI)
- Dr. Ajay Kushwaha (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 **online** form or the scan copy of as per format attached through E-mail to: spakhira@iiti.ac.in. Number of participants are limited to 50 on first come first basis.

REGISTRATION FEE

- There is **no fee for participants (students/researcher/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 **₹ 2000 for students/research scholars** and **₹ 4000 for faculty**.
- For industry personnel, the fee is **₹ 6000**.

Online Registration Link:

https://docs.google.com/forms/d/e/1FAIpQLSftzYT7Tj7i3i0bABGY6bui1Z2tF5gc_zXuN1Vgw8VoqzJcyA/viewform?vc=0&c=0&w=1&flr=0&gxids=7757

REGISTRATION DEADLINE: 12th November, 2020.

COURSE COORDINATOR:

Dr. Srimanta Pakhira

Email: spakhira@iiti.ac.in

Web site: <https://spakhirafsu.wixsite.com/acmslab>

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 digital 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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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:		
<p>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 16th to 20th November, 2020.</p>		
Authorized Signature		Institute/Organization seal