



INDIAN INSTITUTE OF TECHNOLOGY INDORE

3-Day Short Course on

Advanced Surface Science and Engineering

March 26th to 28th, 2018

SPONSORED BY: TEQIP

Course Objectives

Surface Science and Engineering is an interdisciplinary topic of Materials Science and Engineering. It has applications in mechanical, production, chemical, electrical engineering, space science, physics, chemistry and so on. Surface engineering involves altering the properties of the surface to meet the requirements of the engineering components. Surface engineering techniques are used to develop a wide range of functional properties including physical, chemical, electrical, electronic, magnetic, mechanical, wear resistance and corrosion resistance of the component surfaces. Surfaces of the almost all types of materials including, metals, ceramics, polymers, and composites can be engineered. Scientific aspects of the surface engineering are crucial in the further development of this field.

At the end of the course, the participants are expected to:

- Have an overall understanding of the scientific and engineering aspects of the material surfaces.
- Get familiarized with the research scope in the field of Surface Engineering.

Participants

The course is designed for

- Faculties, Scientists and Engineers in Mechanical / Production / Metallurgy / Materials / Physics / Chemistry.
- Professionals involved in Materials / Metals industries.
- Research scholars and students in the relevant fields.

Course Contents

- Surface modifications of metals and alloys for automotive applications.
- Advanced surface characterization techniques, like XPS, XRD, SEM, EBSD.
- Introduction to surface processing methods, like surface-alloying, severe deformation of surfaces, coatings.
- Effect of the surface on optical and electrical properties of nanostructured materials.
- Applications of thin films in sensors, energy storage, magnetism etc.
- Tribological behavior of materials.
- Fatigue testing.

Course Faculty

The course will be conducted by

- Dr. P. M. Shirage (Associate Professor, IIT Indore)
- Dr. S. S. Hosmani (Assistant Professor, IIT Indore)
- Dr. R. S. Devan (Assistant Professor, IIT Indore)
- Dr. H. Borkar (Assistant Professor, IIT Indore)
- Dr. J. Murugesan (Assistant Professor, IIT Indore)

Certificate

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

Venue

The course will be conducted at IIT Indore premises.

Registration

There is **no fee for participants 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.

For Other participants, the fee is Rs. 2,500/- (Two Thousand Five Hundred Only) per participant for professionals and Rs. 1,500 (One Thousand Five Hundred Only) for students. Registration fee includes course material, tea & working lunches.

MODE OF PAYMENT: Through DD drawn in favor of “**Registrar, IIT Indore**” payable at Indore, or through online payment/bank transfer (Bank: State Bank of India; Branch: Khandwa Road, Indore; Account number: 31702151577; IFS Code: SBIN0011779). **Evidence of payment should be emailed in advance to confirm the participation.**

Accommodation

Accommodation may be arranged in the IIT campus based on first come first serve if available (on payment basis).

Contact Person

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INDIAN INSTITUTE OF TECHNOLOGY INDORE

Registration form for the Short Course on

Advanced Surface Science and Engineering

March 26th to 28th, 2018

1.	Name of the Person:	
2.	Designation:	
3.	Academic Qualification:	
4.	Name of Institution / Organization:	
5.	Address for Communication:	
6.	Phone:	
7.	Email:	
8.	Demand Draft / Online Payment Details: To be paid in favor of "Registrar, IIT Indore"	
	• Amount:	
	• DD No. / Online-Payment Ref. No.:	
	• Transaction Date:	
	• Bank Name:	
	<u>(D.D. must be submitted (if applicable) at the time of registration on March 26th, 2018)</u>	
Place:		Date:
Signature of Participant:		
Approval / Permission from Institution / Organization:		
We approve the above application as a participant for the above short course, which is being organized by IIT Indore on 26 th to 28 th March 2018.		
Authorized Signatory		Institute/Organization Seal

Note: To confirm the participation in advance, scan copy of the filled form can be emailed to h.borkar@iiti.ac.in