INDIAN INSTITUTE OF TECHNOLOGY INDORE DEPARTMENT OF METALLURGY ENGINEERING AND MATERIALS SCIENCE

Organizes

Short-Term Course under AICTE-QIP scheme on

Materials Engineering from Synthesis to Applications

February 21-26, 2022



ABOUT IIT INDORE

Indian Institute of Technology Indore, known as IIT Indore, is an institute of national importance established by the Government of India in 2009. Recently, IIT Indore debuted with a rank of 201-250 in the Times Higher Education World University Rankings 2022. The department of Metallurgy Engineering and Materials Science at IIT Indore had started in July 2016. The emphasis of the department is to promote multidisciplinary research to find amicable solutions for the real-world problems and work on the cutting-edge research problems that benefits society. The department is actively engaged in organizing various research activities. For more details, please visit http://mems.iiti.ac.in/

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COURSE OVERVIEW

Materials engineering is underpinning the development of various technologies of the 21st century, used in energy, defense, automotive, and aerospace industries, artificial intelligent systems, and healthcare. Therefore, addressing the valued synthesis protocols for the development of provocative materials is imperative. Moreover, through characterization of the materials is imperative to understand and engineer their properties to gain excellent performance. With this aim, the current STC is focused on the synthesis, characterization, and applications of various emerging materials.

TARGET PARTICIPANTS

This course is tailor-made for the faculty members and researchers (PG/PhD level) from the various field. The lectures of various experts arranged in this program are an excellent platform to learn materials engineering for applications in emerging technologies. Participants will be introduced to the future challenges in materials development and technologies so that their research can be focused on real-time applications on energy storage, energy conversion, recycling, biomaterials, surface engineering, nanomaterials, electroceramics, glasses, etc.

REGISTRATION FEE:

- ★ AICTE Colleges: There is no fee for faculty/scientist participants from AICTE sponsored colleges/institutes. A certificate of AICTE recognition of the Institute from the Head of the Department (the format is provided in Page-3) must be uploaded at the time to online application through the below link on or before February 14, 2022.
- ♦ Non-AICTE Organizations: ₹ 2000 for faculty members/scientists/PhD/ Post-Doc and ₹4000 for participants from industries.
- For Online Payment: <u>http://www.iiti.ac.in/page/e-payments</u>
- Bank Transfer: Beneficiary Name: Registrar IIT Indore; Bank Name: Canara bank; A/C: 1476101027440; IFSC: CNRB0006223; Branch: IIT Indore, Khandwa Road, Simrol, Indore.
- Transfer details need to be uploaded at the time to online application through the below link on or before **February 14, 2022**.
- For any queries, please contact <u>rupesh@iiti.ac.in</u>, sshosmani@iiti.ac.in
 & sunil@iiti.ac.in

ONLINE REGISTRATION LINK: https://forms.gle/LwjA7WqciPB8PvWK8 REGISTRATION DEADLINE: February 14, 2022 MODE OF THE PROGRAM: Completely Online Mode

COURSE COORDINATOR(s)

- Dr. Rupesh S. Devan (IIT Indore)
 Dr. Santosh S. Hosmani (IIT Indore)
- Dr. Sunil Kumar (IIT Indore)

COURSE LECTURES DETAILS:

This is an active learning-based course that comprises of lectures.

- Dr. Abhik Banerjee, TCG-CREST, "Li-Ion battery and sustainability"
- Dr. Atul Deshpande, IIT Hyderabad, "Synthesis of 0D, 1D, and 3D Nanomaterials"
- Dr. Lakshman Neelakantan, IIT Madras, "Corrosion principles and corrosion prevention"
- Dr. Mahesh, IIT Jodhpur, "2D materials based IoT enabled smart gas sensors"
- Dr. Mukesh, IIT Ropar, "Thin film solar cells: a case study for CZRS solar cell"
- Dr. Niraj Mohan Chawake, IIT Kanpur, "Designing microstructure to develop advanced alloys for structural applications"
- Dr. Nishad Deshpande, IIIT Surat, "Biomimetic structures of iron oxide for sustainable wastewater treatment"
- Dr. Nitin P. Wasekar, ARCI Hyderabad, "Pulsed Electrodeposition of nanostructured coatings: from synthesis to application in automotive industry"
- Dr. Nitin Sharma, IIT Jodhpur, "Electron Backscatter Diffraction (EBSD) Technique: Fundamentals to Applications"
- Dr. Parasharam M. Shirage, IIT Indore, "Nanostructure materials for multifunctional applications"
- Dr. Pradeep Kumar, IIT Mandi, "Raman and his effect"
- Dr. Pramoda Nayak, IIT Madras, "Synthesis of vad-der-Waals materials by chemical vapor deposition"
- Dr. Prashant Kodgire, IIT Indore, "Silent features of National Education Policy 2022"
- Dr. Preeti Bhobe, IIT Indore, ""XAFS: Application to Magnetic Heusler Alloys"
- Dr. R. Dhayal, CUPB, "Synthesis of clusters and nanoclusters"
- Dr. R. K. Goyal, MNIT Jaipur, "Synthesis, properties and applications of polymeric nanocomposites/hybrids and their challenges"
- Dr. Rahul Mulik, IIT Roorkee, "TIG-based Additive Manufacturing of Components"
- Dr. Ram Choudhary, CSR Indore, "Probing electronic structure of materials using photo-electron spectroscopy and absorption spectroscopy"
- Dr. Ravindra Jangid, RRCAT Indore, "Indian Synchrotron facility: a versatile tool for materials characterization"
- Dr. S. Devaraj, SASTRA University, "Materials for high energy density batteries and high-power supercapacitors"
- Dr. Sai Ramudu Meka, IIT Roorkee, "Application of thermodynamics to minimize experiments - case of gas/solid interaction (surface alloying of metals)"
- Dr. Shantanu Madge, IIT Jammu, "Metallic Galsses Science and Technology"

CERTIFICATE

Participants completing the course successfully will be awarded e-Certificate.

ADDRESS FOR CORRESPONDENCE

Dr. Rupesh/ Dr. Santosh /Dr. Sunil Department of Metallurgy Engineering and Materials Science, IIT Indore Indore 453552, India E-mail: <u>rupesh@iiti.ac.in</u>



* This from is also available online: https://forms.gle/LwjA7WqciPB8PvWK8

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9.	Organization/Institutes Identity card No. (Please attached the copy)		
10.	Certificate of AICTE Recognition of the Institute (see the format at Page-3)		
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Note: (1) If you submit the application through the online link then no need to send this form. (2) If you are applying by email then please scan the filled application with certificate of AICTE recognition (page-3) and send to <u>rupesh@iiti.ac.in</u>			



Certificate of AICTE Recognition

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Signatures Head of the Department

OFFICE SEAL