

About NIT Jalandhar

Dr B R Ambedkar National Institute of Technology Jalandhar is amongst the 20 NITs established by Ministry of HRD, Government of India. The institute came into existence in the year 1988 (earlier Regional Engineering College Jalandhar) and obtained the status "Institute of National Importance" by Act of Parliament 2007. The institute is offering B.Tech program in various disciplines like Computer Science and Engineering, Electronics and Communication Engineering, Instrumentation and Control Engineering, Mechanical Engineering, Civil Engineering, Textile Technology, Biotechnology, Chemical Engineering, and Industrial & Production Engineering. In addition to B.Tech programs, the institute offers M.Sc. programs in Physics, Chemistry and Mathematics, M.Tech programs in all Engineering departments, and PhD programs.



Vision

To build a rich intellectual potential embedded with interdisciplinary knowledge, human values and professional ethics among the youth, aspirant of becoming scientists, engineers and technologists so that they contribute to society and create a niche for a successful career.

Mission

To become a leading and a unique institution of higher learning, offering state-of-the art education, research and training in science, engineering and technology to students who are able and eager to become change agents for the industrial and economic progress of the nation. To nurture and sustain an academic ambience conducive to the development and growth of committed professionals for sustainable development of the nation and to accomplish its integration into the global economy.

Organizing Committee

Chief Patron

Sh. Subhash Chandra Ralhan,
Chairperson, BOG, Dr B R Ambedkar National Institute of Technology Jalandhar

Patron

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3-Days Hands on Workshop on Field Emission-Scanning Electron Microscopy with EDS and EBSD Analysis (Hybrid mode)

25-27th May 2022

Convenor
Dr. Raman Bedi

Coordinators
Dr. Vickram Jeet Singh
Dr. Anjireddy Bhavanam
Dr. Sathiya S



Organized by
Institute Instrumentation Center (IIC)
Dr B R Ambedkar National Institute of Technology
Jalandhar-144011 Punjab

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Objectives of the Workshop

This hybrid (online/offline) event entitled, “3-Days Hands on Workshop on Field Emission-Scanning Electron Microscopy with EDS and EBSD Analysis” is organized to provide participants with basic knowledge of FE-SEM and its application in material imaging and chemical characterization. The course is designed to highlight the importance of FE-SEM analysis in research and material development. The FE-SEM can record high resolution images down to nanometre resolution and have additional qualitative and quantitative chemical analysis. The workshop will not only cultivate the brain storming for the insightful research in material science and engineering but can also be beneficial for technological applications of advanced materials. The course is designed for students, researchers, faculty, and scientists so as to focus on fundamentals and applications of FE-SEM imaging and Energy-Dispersive X-Ray Spectroscopy (EDS), Electron Backscatter Diffraction (EBSD) characterization techniques. Following topics will be covered: Introduction regarding FE-SEM, EDS and EBSD, Basics of FE-SEM and its application in material analysis, Basics of EDS (Energy Dispersive Spectrometer) analysis, Basics of Electron Backscatter Diffraction (EBSD) characterization techniques, Hands on training on FE-SEM., Hands-on: Investigations of non-conductive specimens under low-vacuum conditions, Hands on: Investigations of powdered samples and other samples, Software usage, image analysis and data interpretation

The main objectives of the course are:

1. To highlight the importance of material fabrication and its characterization.
2. To provide knowledge regarding various microscopic analysis and imaging for material characterization.
3. To provide insight knowledge on fundamentals and applications of FE-SEM.
4. Hands on training sample preparation.
5. Hands on training on FE-SEM operation, software interface use and image analysis.
6. To develop analytical and creative thinking needed for research.

Who can attend the Workshop?

Industry professionals/ Faculty members/ research scholars/ students can attend the workshop.

Registration details

The registration fee for participants is Rs 1000/- per participant (Students/Faculty of NITJ). Rs 5000/- (Students/Faculty from outside NITJ, including 18 % GST). Interested participants may kindly register and pay fee from the Registration link provided on or before **23th May 2022**.

Confirmation of Participation

After the last date of registration, participants will be sent confirmation of their participation in workshop through email. Single registration to attend all sessions. Prior registration is mandatory to attend workshop. Certificate will be issued to the participants on successful participation of the course. Workshop link for attending lectures and other instructions will be shared via e-mail to all registered participants. As this workshop is hybrid mode the lectures will be delivered online mode followed by offline hands-on training. Accommodation for the external participants will be provided in the campus on payment basis as per the availability of rooms.

About the Institute Instrumentation Centre (IIC)

Institute Instrumentation Center has been established with an aim to provide high end research facilities to faculty/students/research scholars of the institute. The analytical facilities of IIC are also extended to the students, researchers and faculty members of other Institutes and Organizations of the country as well. Collaboration with Industries on R & D and Consultancy Projects are also welcome by the Institute.

Institute Instrumentation Centre aims to -

- Provide facilities for characterization, high- resolution imaging and precision chemical analysis of different kinds of materials.
- Dissipate knowledge and experience in the above through short-term courses/seminar/workshops etc.

Workshop Collaborators



For Registration and Payment



**Scan QR code for registration
Or
Click the below link**

https://www.nitj.ac.in/events_registration/field_emission/login

For any queries, please contact

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