5 Days Workshop on

"Materials Testing & Characterization for Academia and Industries"

22-26 July, 2022

Organized by

Department of Metallurgical and Materials Engineering
Malaviya National Institute of Technology Jaipur

Organizing Committee

❑ Chief Patron

→ Dr. R. K. Tyagi,
Chairman, BoG, MNIT Jaipur

❑ Patron

→ Prof. Narayana Prasad Padhy
Director, MNIT Jaipur

❑ Chairman

→ Prof. Upender Pandel,
Head of the Department

❑ Conveners

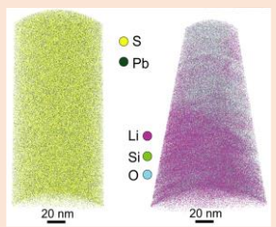
→ Dr. Sreekumar V. M.
→ Dr. Jyotirmaya Kar
→ Dr. Swati Sharma

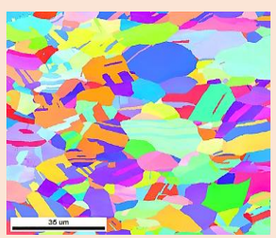
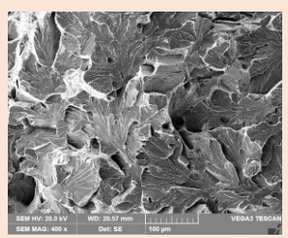
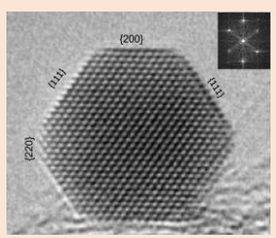
❑ Coordinators

→ Dr. Randhir K. Singh
→ Dr. Rajesh K. Rai
→ Dr. Abhishek Tripathi
→ Dr. Brij M. Mundotiya







About MNIT Jaipur

Malaviya National Institute of Technology Jaipur (Deemed University) is one of the premier NITs, designated with the status of "Institute of National Importance" by MHRD. The institute was established in 1963, and its campus spreads over 325 acres of lush green area in the central location of Jaipur city. The institute offers undergraduate (UG) and postgraduate (PG) courses (B.Tech. / M.Tech. / MBA / M.Sc. & Ph.D.) to about 4500 students, in leading fields of engineering, technology, architecture, management & sciences. Through the internationally renowned faculty, laboratories with state of art equipment and excellent infrastructure, the institute is actively engaged in research, consultancy and developmental activities, besides imparting regular teaching. MNIT Jaipur is ranked at 37th position in NIRF 2021 Ranking.

About the Department

Department of Metallurgical and Materials Engineering is one of the oldest department established in 1965. The department offers B. Tech., M. Tech. (Metallurgical and Materials Engineering), M. Tech. (Steel Technology) and Ph.D. Programmes. The UG and PG programmes of the department are NBA accredited. The department has highly qualified faculty with 100 % PhDs from the IITs/NITs or equivalents Institutes. The department is fully equipped with high-tech research facility.

About the Workshop

Testing and characterization are both essential tools in assessing and ensuring the quality, properties, and behavior of materials. While many characterization techniques have been practiced for centuries, new techniques and methodologies are constantly emerging. In particular the advent of the electron microscopy, spectroscopy and new destructive & non-destructive testing techniques has revolutionized this field allowing more precise structure-property co-relationship. Availability of wide range of testing & characterization methods means that expertise and experience are required to ensure that usable, actionable results are generated from the analysis.

The main motive of this workshop is to provide a working knowledge on various techniques and how these methods are used to characterize materials properties. Participants will gain practical knowledge of various characterization techniques and tools to get the most out of their instrumentation. By discussing common applications, the attendees will also learn how each testing technique can be used to differentiate materials and ultimately predict & optimize product performance. For the same, eminent experts form academia and industries are invited to share their expertise and experience to maximize the understanding.

Last Date of Registration: 20th July 2022

Target audience & Programme requirements

✓ This workshop is for faculty members, research scholars, UG & PG students and participants from Research Institutions & Industries.

✓ The workshop will be conducted in online mode. Participants should have the provision of laptop/ desktop/smart-phone with internet connections.

For Registration:

- **Registration Form:**
https://docs.google.com/forms/d/e/1FAIpQLSdCvZx1w_4TwV1jn6XSbwq9JjkCnSVRGwYcPQf38x5VrwoAiA/viewform

- **Registration fee:** (Including 18% GST)

For Students: Rs. 500/- For Faculty: Rs. 1000/-
For Research & Industry Personnel: Rs. 2000/-

- **Mode of Payment:** (Online Transaction)

Registrar MNIT Jaipur, Acc. No: 676805000011
ICICI Bank (MNIT Jaipur) (IFSC: ICIC0006768)

- E-certificate will be given only if the participants attend all the sessions actively.
- Detailed schedule and session links will be shared later through e-mail and WhatsApp.

Address for Correspondence

⌘ **Dr. Abhishek Tripathi** (Assistant Professor)
Mob: 9699475755 Email: abhishek.meta@mnit.ac.in

⌘ **Dr. Randhir K. Singh** (Assistant Professor)
Mob: 9549651559 Email: randhir.meta@mnit.ac.in

Topics to be covered:

→ Basic Materials Characterization Techniques
→ Crystallography and XRD Techniques
→ Elemental Analysis
→ Scanning Electron Microscopy & EBSD Analysis
→ Transmission Electron Microscopy
→ Atom Probe Microscopy
→ Mechanical Testing Techniques
→ Surface Engineering and Tribology
→ Non-Destructive Techniques
→ Case Studies

Key Resource Persons:

- **Dr. Indradev Samajdar** (Professor, IIT Bombay)
- **Dr. Gouthama** (Professor, IIT Kanpur)
- **Dr. Sandeep Sangal** (Professor, IIT Kanpur)
- **Dr. Rajendra K. Goyal** (Professor, MNIT Jaipur)
- **Dr. Soumitra Tarafder** (Ch. Scientist (Retd.), NML Jamshedpur)
- **Dr. Sarmishtha Palit Sagar** (Ch. Scientist, NML Jamshedpur)
- **Dr. Anup K. Keshri** (Assoc. Prof. IIT Patna)
- **Dr. Surendra K. Makineni** (Asst. Prof., IISc Bangalore)
- **Dr. Avijit K. Metya** (Pr. Scientist, NML Jamshedpur)
- **Mr. Pratyank Rastogi** (Industron Nanotechnology Pvt. Ltd. Trivandrum)