Five Days

Workshop On

Advanced Analytical Techniques for Materials Characterization and Skill Development

(Hybrid Mode)

06-10 March 2026

Organized by

Department of Chemistry
in Association with IIC 8.0

National Institute of Technology
Silchar
Assam – 788010

Chief Patron

Prof. Dilip Kumar Baidya
Director
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Topics to be covered:

- UV–Vis, IR, Raman Spectroscopy,
- NMR, Mass Spectrometry
- Electron Microscopy (SEM, TEM, EDS)
- Electron Paramagnetic Resonance (EPR)
- X-ray Crystallography
- X-ray Photoelectron Spectroscopy (XPS)
- ICP-OES & other atomic absorption and emission-related techniques
- Electrochemical methods
- Surface Characterization

Targeted Participants:

- Undergraduate, Postgraduate and PhD students, young faculty members/researchers from academia and industry.

Registration Fee Details (in INR):

Seats are limited, and selection will be done on a first-come, first-served basis. Participants must complete the registration form and include payment details. Fee is non-refundable. Selected participants will be notified through email as per the schedule.

Registration Fees (INR)

NITS students:	500/- (590 Incl. GST)
External students/NITS Staff:	750/- (885 Incl.GST)
Faculty/Industry:	1500/- (1770 Incl. GST)

Registration Link:
Click here to register

Instruction for Payment Using SBI Collect

Important Dates

Last Date of Registration: 06-03-2026

Note: ***No accommodation and food charges are included in the registration fee for offline participants***

About the Institute:

National Institute of Technology (NIT) Silchar, formerly known as Regional Engineering College (REC) Silchar, was established in 1967. The institute has carved out a distinct identity in the North Eastern Region for nurturing high-quality human resources and advancing research and innovation in science and technology. It was accorded the status of National Institute of Technology by the Government of India in 2002 and was subsequently declared an Institute of National Importance under the National Institutes of Technology Act, 2007. With more than five decades of academic excellence, NIT Silchar presently offers a wide range of undergraduate and postgraduate programmes across engineering, science, and management disciplines, along with Ph.D. programmes in multiple areas of science and technology, contributing significantly to technical education and research in the country.

About the Department:

The Department of Chemistry started functioning in the 1977-1978 session as one of the departments in the Institute. Since its inception, the Department of Chemistry has provided both basic and engineering-oriented theoretical and practical courses for B. Tech students at the institute. The department formally started the PhD program in chemistry in the 2005-2006 session. Furthermore, to meet the needs of the region's students and to establish itself as one of the best departments of the institute, the department began the M.Sc. program in 2009-2010.

Venue:

Bhupen Hazarika Auditorium,
Central Library,
NIT Silchar, Assam – 788010,
INDIA

Objectives:

The Workshop entitled "Advanced Analytical Techniques for Materials Characterization and Skill Development" aims to provide participants with a comprehensive understanding of state-of-the-art analytical tools used in materials research. The programme focuses on the fundamental principles, instrumentation, data interpretation, and practical relevance of spectroscopic techniques such as UV–Vis, IR, NMR, Mass Spectrometry, EPR, and Mössbauer spectroscopy; microscopic and structural tools including SEM, TEM, EDS, and X-ray crystallography; surface and elemental analysis techniques such as XPS, ICP-OES, and other atomic absorption and emission methods; as well as electrochemical techniques. The Workshop is designed to enhance analytical skills, promote effective utilization of advanced instrumentation, and strengthen research capabilities of students, researchers, and faculty working in materials science and allied disciplines.

Targeted at professionals, researchers, and students in chemistry, environmental engineering, and related disciplines, the program prepares participants to apply advanced separation and purification techniques effectively in real-world settings.

Theme/Scope of workshop:

The workshop focuses on advancing knowledge and hands-on understanding of modern analytical techniques essential for comprehensive materials characterization. It covers spectroscopic, microscopic, structural, surface, elemental, and electrochemical methods used to elucidate composition, structure–property relationships, and performance of materials. The workshop covers fundamentals, instrumentation, data analysis, and practical applications of these techniques across materials science, chemistry, physics, nanotechnology, energy, and environmental research, with an emphasis on skill development and the effective use of advanced analytical facilities.

Advisory Committee:

1. Prof. Siddhartha S. Dhar
2. Prof. Pranjit Barman
3. Prof. Md. Ahmaruzzaman
4. Prof. Rahul Dev Misra
5. Prof. Saurabh Chaudhury
6. Prof. Aminul I. Laskar
7. Dr. Ashish B. Deoghare
8. Dr. Ranjith G. Nair
9. Dr. Sukumar Pati
10. Dr. Subrata Bera
11. Dr. Samuel L. Rokhum
12. Dr. Biswa Nath Ghosh
13. Dr. N. S. Moyon

Resource Persons:

1. Prof. Chira Ranjan Bhattacharjee (AUS)
2. Prof. N. Mohondas Singh (MU)
3. Prof. Siddhartha S. Dhar (NITS)
4. Prof. Pranjit Barman (NITS)
5. Prof. Ghanashyam Bez (NEHU)
6. Prof. Partha Pratim Jana (IIT KGP)
7. Prof. Prakash Kanoo (JNU)
8. Prof. Basudev Sahoo (IISER TVM)
9. Prof. Biswarup Chakraborty (IITD)
10. Prof. Sagarika Bhattacharya (NITR)
11. Dr. Ramprasad Misra (HU Berlin)
12. Prof. Anuj Bisht (IITR)
13. Prof. Manas Seal (IIT KGP)
14. Dr. Jadupati Nag (USF, Tampa, US)

Programme Schedule							
06/03/2026	9.30 AM – 10.30 AM Inauguration	10.30 AM – 11 AM Tea Break	11 AM – 12.00 PM Offline Lecture 1 Prof. Chira Ranjan Bhattacharjee (AUS)	Lunch Break	2 PM – 3 PM Online Lecture 1 Prof. Manas Seal (IIT KGP)	3 PM – 3.30 PM Tea Break	3.30 PM – 4.30 PM Online Lecture 2 Prof. Sagarika Bhattacharya (NITR)
07/03/2026	10 AM – 11 AM Offline Lecture 2 Prof. Siddhartha S. Dhar (NITS)	11 AM – 11.30 AM Tea Break	11.30 AM – 12.30 PM Online Lecture 3 Prof. Biswarup Chakraborty (IITD)	Lunch Break	2 PM – 3 PM Online Lecture 4 Dr. Ramprasad Misra (HU Berlin)	3 PM – 3.30 PM Tea Break	3.30 PM – 4.30 PM PXRD visit to Physics
08/03/2026	10 AM – 11 AM Offline Lecture 3 Prof. P. Barman (NITS)	11 AM – 11.30 AM Tea Break	11.30 AM – 12.30 PM Online Lecture 5 Prof. Partha Pratim Jana (IIT KGP)	Lunch Break	2 PM – 3.30 PM Poster season and Tea break	3.30 PM – 4.30 PM Online Lecture 6 Prof. Ghanashyam Bez (NEHU)	
09/03/2026	10 AM – 11 AM Offline Lecture 4 Prof. N. Mohondas Singh (MU)	11 AM – 11.30 AM Tea Break	11.30 AM – 12.30 PM Departmental Instrument Lab Visit	Lunch Break	2 PM – 3 PM Online Lecture 7 Prof. Prakash Kanoo (JNU)	3 PM – 3.30 PM Tea Break	3.30 PM – 4.30 PM Online Lecture 8 Prof. Basudev Sahoo (IISER TVM)
10/03/2026	9.30 AM – 10.30 AM Online Lecture 9 Dr. Jadupati Nag (USF, USA)	10.30 AM – 11 AM Tea Break	12.30 AM – 1 PM Online Lecture 10 Prof. Anuj Bisht (IITR)	Lunch Break	2.30 PM- 3.30 PM Conclusion, valedictory, and vote of thanks		