Online Workshop on

Advances in Micro-/Nanomechanical Testing and Imaging of Materials

13th - 17th July 2026

Organized by

Department of Metallurgical and Materials Engineering, National Institute of Technology Rourkela

Distinguished Speakers

Prof. Vikram Jayaram
IISc Bangalore

Prof. Prita Pant
IIT Bombay

Prof. Noa Lachman-Senesh
Tel Aviv University, Israel

Prof. Indrani Sen
IIT Kharagpur

Dr. Marie-Stéphane Colla
UCLouvain, Belgium

Prof. R. L. Narayan
IIT Delhi

Prof. Satoshi Hata
Kyushu University, Japan

Prof. Nilesh P. Gurao
IIT Kanpur

Prof. Ankur Chauhan
IISc Bangalore

Prof. Niraj M. Chawake
IIT Kanpur

Prof. K. Eswar Prasad
IIT Indore

Prof. Kiran Mangalampalli
SRM University

Dr. Abhinav Sharma
Queen's University, Canada

Industry Experts

Industron Technical Services Pvt. Ltd.

Mr. Pratyank Rastogi
Business Development Manager
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Mr. Kiran Raphel
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Industron Technical Services Pvt. Ltd.

Ms. Arshiya Shafee
Application Engineer
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Anton Paar India

Mr. Ganesan Solaiyappan
Senior Area Sales Manager
Anton Paar India

About the Workshop

The workshop focuses on advanced experimental and analytical techniques for understanding the mechanical behaviour of wide range of materials at the micro- and nanoscale. It introduces the fundamentals of nanoindentation, a widely used technique for measuring local mechanical properties via load–displacement response. The program further explores advanced aspects of nanoindentation, including statistical modelling, nanotribology, nanoscratch, surface characterization, in-situ SEM/TEM techniques, and testing in high-temperature environments. The course aims to provide participants with an overview of the micro- and nanomechanical response of engineering materials. The program will benefit students, researchers, and industry professionals working in materials science and related fields.

Course Content

The workshop will cover, but is not limited to, the following topics:

- Fundamentals of micro-/nanomechanics of materials
- Local deformation and fracture mechanisms at micro-/nanoscales
- Ex-situ and in-situ SEM/TEM and on-chip nanomechanical testing and imaging
- Nanotribology, nanoscratch testing and surface characterization
- High-temperature micro-/nanomechanical testing
- AI-based analysis in micro-/nanomechanical testing
- Mathematical and statistical models for data interpretation

Who can Participate

Students (UG/PG), research scholars, faculty members, aspiring entrepreneurs, startup founders, MSME owners, and industry professionals interested in small-scale mechanical testing and imaging of materials are eligible to participate.

Registration Details

Click this link for registration:
Registration form for Workshop 2026

Registration fee (including 18% GST) for all participants:

- For students/research scholars: Rs. 590/-
- For faculty/industry professionals: Rs. 1180/-
- Last date of registration: 12/07/2026
- E-certificate will be issued to registered participants with more than 90% attendance

Scan for registration

Payment Details

NEFT/RTGS/IMPS using the following information:

- Account Name: Continuing Education NIT RKL
- Account No: 10138951784
- Bank: State Bank of India
- Branch: NIT Rourkela Campus
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Organizing Committee

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Prof. Priyanka Saini
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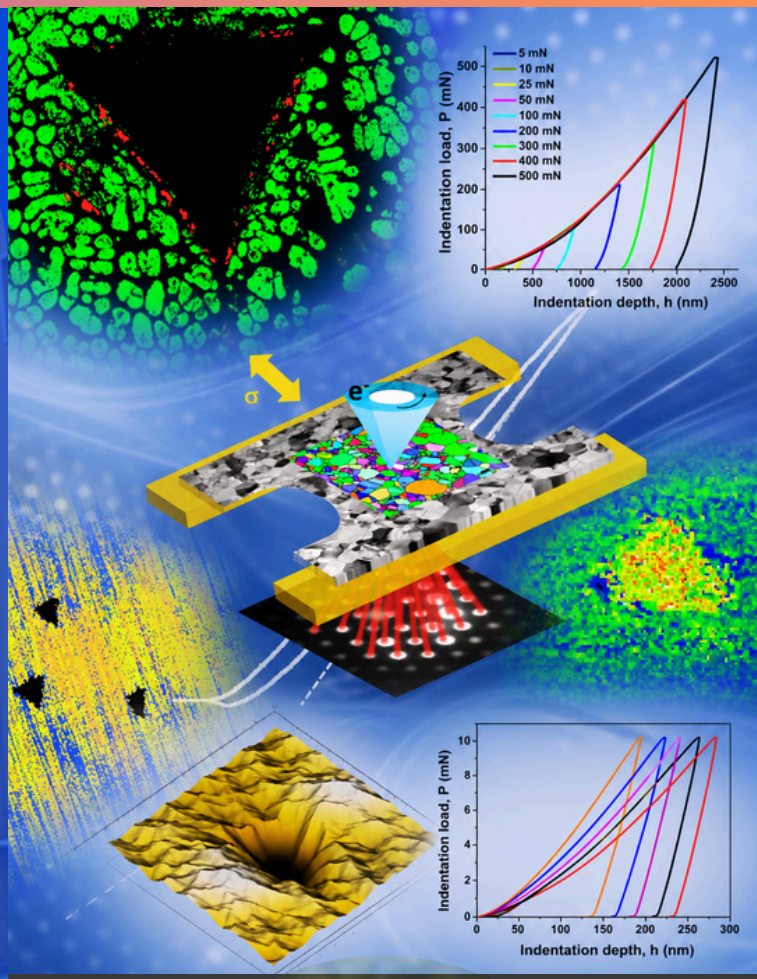
About the Institute

The National Institute of Technology Rourkela (NIT Rourkela), is a premier institution of dedicated to excellence in Engineering, Science, and Technology. Located in the steel city of Rourkela, Odisha, India, it has been recognized as an Institute of National Importance under the National Institutes of Technology Act, 2007. NIT Rourkela holds prestigious rankings, including 13th in the NIRF Rankings 2025 for Indian Engineering Universities, 396th in the QS Asia University Rankings 2026, 180th in the QS World University Sustainable Rankings 2025 (Asia region), and within the 601-800 band in the Times Higher Education World University Rankings (Engineering) for 2026. The institute's mission is to become an internationally acclaimed center of learning, serving as a beacon of knowledge and expertise for society while establishing itself as a preferred destination for undergraduate and postgraduate studies.

About the Department

The Department of Metallurgical and Materials Engineering was established in 1963. The Department has emerged as an excellence for academics, scientific research, and cutting-edge technologies. The department is actively involved in fundamental research across diverse fields such as steel technology, advanced manufacturing processes, alloy design, nanotechnology, composites, computational materials, and machine learning. The department attracts highly qualified faculty and bright students from the entire nation. At present, various research projects are being run in the department by external sponsoring agencies like the Department of Science and Technology (DST), Council of Scientific and Industrial Research (CSIR), TATA Steel, Steel Authority of India Ltd. (SAIL), and Defence Research and Development Organization (DRDO).



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