

Registration form

Interested participants are required to send the scan copy of the Registration Form, and Payment details to masantamanoj.ce@gmail.com

Name: _____

Gender: ☐ Male ☐ Female

E-mail ID: _____

Contact No.: _____

Category: ☐ Industry and R&D Personnel
☐ Faculty
☐ Research Scholar/Student
☐ Technical staff

Organization: _____

Payment Details:

Rs. _____ Date of Transaction: ____/____/____

Transaction ID: _____

Signature of the Applicant: _____

OR

Use the following **link/QR** code for registration.

<https://forms.gle/ctEaeE3xtXn9WxRh8>



Address for Communications

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ABOUT US

National Institute of Technology (NIT), Rourkela, was founded as Regional Engineering College, Rourkela, in 1961, and declared as an institution of national importance by the act of parliament in 2007. The mission of the institute is to become an internationally acclaimed institution of higher learning that will serve as a source of knowledge and expertise for society and be a preferred destination for undergraduate and postgraduate studies. It is a prestigious Institute with a reputation for excellence at both undergraduate and postgraduate levels, fostering the spirit of national integration among the students, close interaction with industry and a strong emphasis on basic and applied research. NIT Rourkela has ranked 19th, 34th, and 30th in NIRF Engineering, Overall, and Research for the year 2024, respectively.



The **Mechanical Engineering Department** is one of the oldest departments being set up from the date of inception of the institute in the year 1961. The department offers five specializations under M. Tech degree and has more than hundred Ph.D. research scholars enrolled. The department is well equipped with infrastructure to meet the requirements of UG, PG courses and to carry out advanced level research work. The major area of research in the department are mechanical vibration, robotics, Additive Manufacturing, Composite materials, Tribology, nonconventional manufacturing, Surface Engineering, CFD, Industrial refrigeration and Cryogenics. The department at present has over one hundred research scholars in working on different areas. Numerous R&D projects sponsored by Government agencies and private industries like BRNS, DST, ARDB, BRFST, ISRO, DRDO are being pursued by various faculties of the department.



Workshop on Metal Additive Manufacturing: Recent Progress and Future Opportunities

During
7th - 11th July 2025
(Online Mode)

Coordinator
Dr. Manoj Masanta
Associate Professor, Dept. of Mechanical Engg.

Co-coordinators
Dr. Rudranarayan Kandi
Assistant Professor, Dept. of Mechanical Engg.
Dr. Anshuman Patra
Assistant Professor, Dept. of Metallurgical & Materials Engg.

Organized by



Department of Mechanical Engineering
National Institute of Technology Rourkela,
Odisha-769008
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Objective

Metal Additive Manufacturing (MAM), also known as metal 3D printing, is a cutting-edge manufacturing technology that builds functional metal parts with complex geometries, directly from CAD models through layer by layer deposition technique, which is difficult to achieve by conventional manufacturing methods. As the technology continues to evolve, it is poised to play a transformative role in the future of manufacturing, enabling more sustainable, customized, and efficient production strategies.

The **objective** of this workshop is to provide participants with a comprehensive understanding of metal additive manufacturing (AM) technologies, including their principles, processes, materials, and applications, and to equip them with the knowledge necessary to evaluate, and implement metal AM techniques in research settings and industrial application. The course aims to bridge between the theoretical knowledge and practical experience, enabling learners to make informed decisions about design, production, and analysis of metal AM parts. This course will be useful to the undergraduate and post graduate students, practicing engineers, researchers, and faculties associated with in the field of manufacturing and metallurgical engineering.

Resource Persons

Academicians from IITs, NITs, and R&D Organizations having expertise in the relevant field will be invited as Resource Person for the workshop.

Course content

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

- ❖ Introduction to Additive manufacturing (AM)
- ❖ Significance of metal AM
- ❖ Laser based metal AM methods
 - Selective Laser Melting (SLM)
 - Selective Laser sintering (SLS)
 - Direct Energy Deposition (DED)
- ❖ Weld based metal AM process
 - WAAM
 - PBF-AAM
- ❖ Electron Beam Melting (EBM)
- ❖ Hybrid AM techniques for metals
- ❖ Materials for metal AM
 - Metals and alloys
 - Refractory metals and HEA
 - Ceramic reinforced MMCs
- ❖ Post processing and Characterization of AM parts

Patron

Prof. K Umamaheshwar Rao
Director (NIT Rourkela)

Chairman

Prof. Saroj Kumar Patel,
Head, Department of Mechanical Engineering

Coordinator

Dr. Manoj Masanta,
(Dept. of Mechanical Engineering)

Co-coordinator

Dr. Rudranarayan Kandi
(Dept. of Mechanical Engineering)

&

Dr. Anshuman Patra
(Dept. of Metallurgical & Materials Engg.)

Student Members

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Mr. Dikshyanta Sahoo (+91-9861758234)
Mr. Debasis Patel (+91-63708 34258)
Mr. Sambit Swain (+917873748094)

Important Guidelines

- ❖ Faculty members, Research scholars, PG students, Industry personnel, Technical Staff- members of different academic institutes are eligible to apply for the workshop.

❖ Registration Fee (Including GST):

Research Scholars/Students: **Rs. 600/-**

Faculties/Technical Staff : **Rs. 1000/-**

Industry and R&D Personnel: **Rs.1500/-**

❖ Mode of Payment:

Online payment should be made in favor of:

Account Name: **CONTINUING EDUCATION NIT
ROURKELA**

Payable Bank: **State Bank of India**

Branch: **NIT Campus, Rourkela-769008**

Account No.: **10138951784**

IFSC Code: **SBIN0002109**

MCIR No.: **769002007**

SWIFT Code: **SBININBB137**

❖ NB:

- There is no registration fee for the participants from the **host institute**.
- Incomplete registration-form (without details of online transaction) will not be considered.
- Registration fee is non-refundable.
- **E-Certificate** will be provided for the candidates attending all the sessions.
- Online joining link(s) through Google-meet/MS-Team will be shared in due course.
- **Last date of registration: 30th June 2025**