

DEPARTMENTS OF MECHANICAL ENGINEERING

The Department of Mechanical Engineering at NIT Rourkela is a premier center for education and research. Comprising divisions in Design, Manufacturing, and Thermal Engineering, the department excels in areas such as vibrations, robotics, heat transfer, computational fluid dynamics (CFD), cryogenics, renewable energy, and advanced thermal systems. The department undertakes major R&D projects funded by agencies including BRNS, DST, ARDB, BRFST, ISRO, and industry partners, fostering innovation and interdisciplinary research in energy, sustainability, advanced manufacturing, and emerging engineering technologies.

ABOUT THE COURSE

The program offers hands-on training in CFD and multiphysics modeling using ANSYS Fluent and for energy, thermal, and sustainable engineering applications. Participants will learn geometry creation, meshing, grid independence analysis, and simulation techniques for BTMS, solar energy systems, HVAC, FSI, bio-heat transfer and hydrogen energy applications. The course is designed for faculty, researchers, students, and industry professionals seeking practical expertise in advanced numerical simulation and engineering analysis.

Coordinators

Dr. Sushil Kumar Rathore, ME
Dr. Jnana Ranjan Senapati ME
Dr. Suman Ghosh, ME
Department of Mechanical Engineering
National Institute of Technology, Rourkela
Rourkela -769008, Odisha

Contact Nos.: +91 9474828662 (Prof. Rathore)
+919547147576 (Prof. Senapati)
+91 7008326548 (Prof. Ghosh)

Emails: rathoresk@nitrrkl.ac.in
senapatijr@nitrrkl.ac.in
ghoshs@nitrrkl.ac.in

ABOUT NIT ROURKELA

The National Institute of Technology Rourkela (NIT Rourkela) is an Institute of National Importance, established under an Act of Parliament. It is committed to providing quality education in a diverse and multicultural environment. The institute's mission is to become an internationally recognized center of higher learning that serves as a source of knowledge and expertise for society, and a preferred destination for undergraduate and postgraduate studies. Its vision is to advance and disseminate knowledge in science and technology for the creation of wealth and the welfare of humanity.

NIT Rourkela offers undergraduate, postgraduate, and doctoral programs in 21 branches of engineering, along with active research centers engaged in consultancy and sponsored projects. The institute collaborates extensively with national agencies such as DST, DAE, CSIR, DRDO, BARC, and ISRO, as well as with leading private industries, to promote innovation and technological advancement.

NIT ROURKELA RANKINGS

Source: <https://nitrrkl.ac.in/About/Rankings>

2025	Ranked 13 in NIRF Engineering
2025	Ranked 34 in NIRF Overall
2025	Times Higher Education World University Ranking has placed NIT Rourkela at 601-800
2025	Times Higher Education Asia University Ranking has placed NIT Rourkela at 191
2025	Times Higher Education Impact Ranking has placed NIT Rourkela at 401-600

A FIVE DAYS SKILL / FACULTY DEVELOPMENT WORKSHOP on

**Applied CFD for Energy, Thermal,
and Sustainable Systems Using
ANSYS Fluent**

**3-7 August 2026
(Online Mode)**

Patron

**Prof. K. Umamaheshwar Rao,
Director, NIT Rourkela**

Chairman

Prof. S. C. Mohanty, HOD-ME

Coordinators

Dr. Sushil K. Rathore, ME
Dr. Jnana R. Senapati, ME
Dr. Suman Ghosh, ME



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Rourkela - 769008**



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COURSE CONTENT & TRAINING SESSION

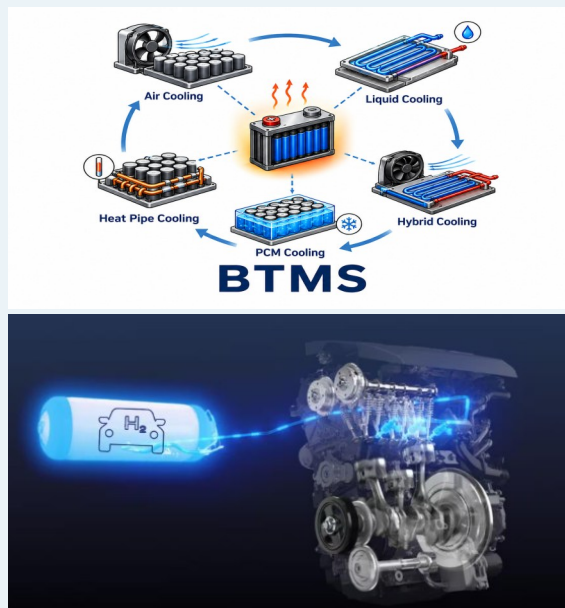
The course will cover the following major topics;

- ⇒ **CFD Fundamentals** – geometry creation, mesh generation, mesh quality assessment, grid independence analysis, solver setup, and post-processing.
- ⇒ **Battery Thermal Management Systems (BTMS)** – thermal modeling and cooling strategies for lithium-ion batteries.
- ⇒ **Energy and Thermal Systems** – CFD analysis of solar thermal systems, HVAC applications, and energy-efficient buildings.
- ⇒ **Multiphysics Applications** – fluid–structure interaction (FSI), conjugate heat transfer, and bio-heat transfer modeling.
- ⇒ **Hydrogen Energy Systems** – hydrogen combustion, and emission characteristics.

HANDS-ON SESSION BY EXPERT

FROM INDUSTRY

Special training session will be delivered by expert from ARK Infosolutions Pvt. Ltd.



ELIGIBILITY

Participation in this workshop is open to Post Doctoral Fellows, Research Scholars/ PG/ UG students and Faculty of recognized technical institutes, Researchers from the research laboratory, Industrial Person/Engineers and any other interested personnel. The successful participants will be given a participation certificate.

IMPORTANT DATES:

The last date for the registration is 02/08/2026

FOR FURTHER ASSISTANCE:

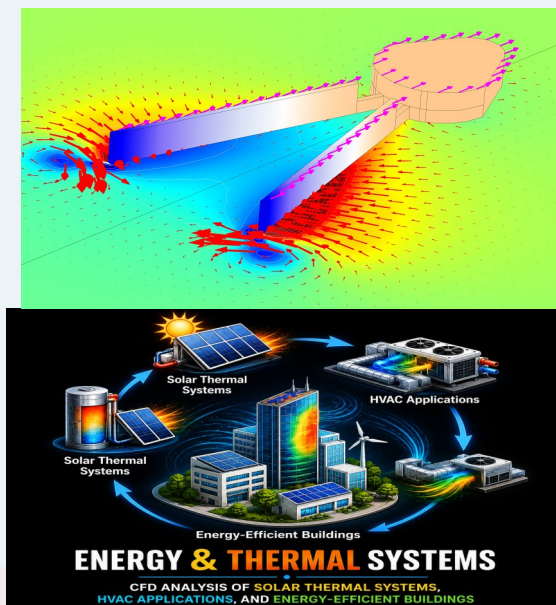
Student coordinators:

Vishwakarma (+91-8517015088)

Prateek (+91-9337839747)

ADDRESS FOR CORRESPONDENCE:

Dr. Sushil Kumar Rathore
Department of Mechanical Engineering
National Institute of Technology, Rourkela
Rourkela-769008, Odisha, India
Contact No. +91-9474828662
Email-id: rathoresk@nitrkl.ac.in



COURSE FEE (in INR)

- **Faculties/Research Scholars/ Students/ Technical staff** **1000/-**
- **Personnel from industry and R&D Units :** **1500/-**

* **INCLUSIVE OF GST**

REGISTRATION FORM

For registration use the following link:

<https://forms.gle/JujjRKcdYJLPX8Ko7>

Please transfer the Fee amount to the following bank account (details given below). Attach the payment receipt along with the google form for registration (link mentioned above).

Account Name: CONTINUING EDUCATION NIT ROURKELA

Acct. No.: 10138951784

Bank: State Bank of India

Branch: NIT Campus Rourkela

IFS Code: SBIN0002109

UPI ID: 01389517841@sbi

Merchant Name:

CONTINUING EDUCATION NIT RKL



PLEASE NOTE

- **Registration is mandatory. Only registered members will be allowed to attend the Workshop.**
- **An incomplete registration form (without proof/ online transaction details) will not be considered.**
- **The registration fee is non-refundable.**
- **There is no registration fee for the participants from the host institute (NIT Rourkela).**