

DEPARTMENT OF ME and EE

NIT Rourkela has taken several initiative to promote Interdisciplinary research. This encourages us to organize a STC in ME department along with the EE department. The ME of NIT Rourkela comprises three divisions namely design, manufacturing and thermal engineering. The department is known for research in variety of fields that include mechanical vibration, robotics, heat transfer, CAD/CAM, precision engineering, metal forming, manufacturing, CFD, industrial refrigeration and cryogenics. Similarly, The major research areas of the EE department include Power Electronics and Drives, Control and Automation, Power System Engineering and Electronic Systems and Communication. Both departments (ME and EE) is handling several research projects sponsored by SERB, BRNS, DST, ARDB, BRFST and HBL Power Systems.

ABOUT THE COURSE

An electric vehicle (EV) technology is a new trend that uses one or more electric motors for propulsion. It can be powered by a battery or collector system. It involves 4 parts, namely Battery, motor, power electronics, and complete assembly. The basics of EV and its complete modelling will be demonstrated during the course. The work is completely inter-disciplinary in nature, involves at least thermal, electrical, and chemical engineers.

Coordinators:

Dr. Jnana R. Senapati, ME
Dr. Manoj K. Moharana, ME
Dr. Arijit Guha, EE
Dr. Arnab Ghosh, EE

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ABOUT NIT ROURKELA

National Institute of Technology Rourkela is an institute of national importance created under the act of parliament. NIT Rourkela provides quality education in a diverse and multi-cultural environment. 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 the society and be a preferred destination for both UG and PG studies. The vision of the institute is to advance and spread knowledge in the area of science and technology leading to creation of wealth and welfare of humanity.

The institute provides quality education in a diverse and multicultural environment. 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 the society and be a preferred destination for undergraduate and post graduate studies. The institute is offering undergraduate, post graduate and PhD programme in 21 branches of Engineering. The institute research centres are engaged in consultancy and research activities of several government bodies such as DST, DAE, CSIR, DRDO, BARC, ISRO and private industries.

NIT ROURKELA RANKINGS

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

2023	Ranked 59 in QS Southern Asia University Rankings
2024	Times Higher Education World University Ranking 2024 has placed NIT Rourkela at 601-800
2023	Ranked 16 in NIRF Engineering
2023	Ranked 37 in NIRF Overall
2023	Ranked 29 in NIRF Research
2024	Ranked between 291-300 in QS World University-ASIA Rankings
2024	Ranked between 601-800 in THE World University

A FIVE DAYS SHORT TERM COURSE ON

FUNDAMENTALS OF ELECTRIC VEHICLES (EV) AND ITS MODELING WITH HANDS-ON PRACTICE

**December 09 - 13, 2023
(Hybrid Mode)**

Patron

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

Chairman

Prof. S. K. Patel, HOD-ME

Coordinators

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**Department of Mechanical Engineering
and Electrical Engineering
National Institute of Technology
Rourkela-769008**



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COURSE CONTENT

The course will cover the following major topics:

- Introduction to basics of Electric Vehicle (EV) Technology
- Basics of computational simulation
- Battery Management system
- CFD simulation of Battery Thermal Management
- Motor modelling
- Power electronics
- Complete assembly of EV

TRAINING SESSION

The training session will cover the following topics;

- Basics of Electric Vehicle (EV).
- Thermal Module: CFD simulations using commercial software. (Geometry, meshing, boundary conditions, solution).
- Electrical Module: Motor modelling, Power electronics Complete assembly of EV

EXPERT SESSION

Special Hands-on-training session will going to be delivered by experts of ARK Infosolutions Pvt. Ltd.

- Battery Modelling
- Motor
- Power electronics
- Drive and complete assembly

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

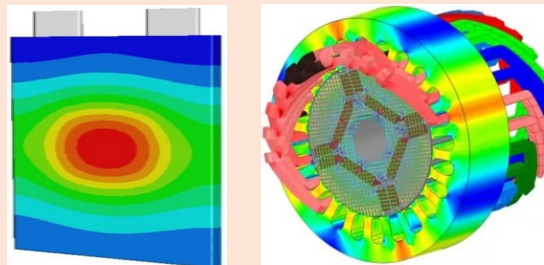
The last date for the registration is 08/12/23.

TARGET AUDIENCE

Maximum number of applicants is limited to 100. The selected applicants will be provided a secured meeting code of the web platform one day before the commencement of course.

ADDRESS FOR CORRESPONDENCE:

Dr. Jnana Ranjan Senapati
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COURSE FEE*

For Online

- Student: 1000/-
- Academic faculties: 2000/-
- Industry professionals: 3000/-

For Offline (Physical)

- Student: 3000/-
- Academic faculties: 5000/-
- Industry professionals: 6000/-

* INCLUSIVE OF GST

- ⇒ No TA/DA will be Provided to the participants.
- ⇒ Accommodation charges will be paid by the participants only (for Offline participants).

REGISTRATION FORM

For registration use the following link:

<https://forms.gle/BAfUy82vxVnvZe1U9>

MODE OF PAYMENT: (ONLINE ONLY)

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).

**Name: CONTINUING EDUCATION N IT
ROURKELA**

Acct. No.: 10138951784

Bank: State Bank of India

Branch: NIT Campus Rourkela

IFS Code: SBIN002109

Online certificates will be given to the participants who attend all sessions of the course.

FOR FURTHER ASSISTANCE

Kindly contact us through the email:-
senapatijr@nitrkl.ac.in

**For program related queries,
Student coordinators**

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