Five Days Online STC & FDP

on

TRENDS AND CHALLENGES IN CYBER-PHYSICAL ENERGY SYSTEMS (TCCPES-2026)

Technically Co-Sponsored by ANRF PAIR & IEEE Rourkela Subsection

20th – 24th March 2026

National Institute of Technology Rourkela

Odisha, India

www.nitrkl.ac.in

Anusandhan National Research Foundation

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Course Overview

The rapid evolution of modern power systems into intelligent, interconnected, and data-driven networks has led to the emergence of Cyber-Physical Energy Systems (CPES). These systems integrate power infrastructure with communication, control, computation, and cybersecurity to enable reliable, resilient, and sustainable energy management. This Faculty Development Program (FDP) aims to provide participants with a comprehensive understanding of the latest trends, emerging technologies, research challenges, and practical applications in CPES. The program is designed to bridge the gap between power engineering, information technology, and control systems, enabling faculty members and researchers to update their knowledge in this multidisciplinary domain. Through expert lectures, case studies, and interactive sessions delivered by leading academicians and industry practitioners, the program will provide insights into real-world implementation challenges, research opportunities, and future directions in CPES. Participants will gain exposure to interdisciplinary methodologies that combine power systems, communication, control, and computing, enabling them to incorporate contemporary topics into teaching, curriculum development, and research activities.

Topics to be Covered

- Overview of Cyber-Physical Energy Systems and Smart Grids
- Renewable Energy Integration and Distributed Energy Resources
- Microgrids and Energy Management Systems
- Battery modelling
- Cybersecurity in Power Systems
- AI, Machine Learning, and Data Analytics in Power Systems
- Real-Time Monitoring, State Estimation, and Digital Twins

Distinguished Speakers from Academia & Industries

- **Dr. Ranjan Pramanik**, System Architect, Jaguar Land Rover, UK.
- **Dr. Chittaranjan Pradhan**, Senior Engineer in R&D E-Mobility, VOLVO Construction Equipment Global, Sweden
- **Prof. Jiaqi Yan**, ETH Zurich.
- **Dr.Bikky Routh**, Senior research Engineer, Agratas, Bengaluru.
- **Prof Abhisek K. Behera** IIT Roorkee.
- **Prof. Soumya Ranjan Sahoo**, IIT Kanpur.
- **Prof. Manas Kr. Bera**, NIT Rourkela.
- **Prof. Asim Kumar Naskar**, NIT Rourkela.
- **Prof. Manoranjan Sahoo**, NIT Rourkela.
- **Prof. Sribalaji C.Anand**, University of Pennsylvania, USA.
- **Prof. Abhinav Sinha**, University of Cincinnati, USA.

Online Short Term Course & Faculty Development Program on

Trends and Challenges in Cyber-Physical Energy Systems (TCCPES-2026)

20^{th} – 24^{th} March 2026

Organized by

Department of Electrical Engineering

National Institute of Technology Rourkela

Odisha-769008, India

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About the Institute

National Institute of Technology (NIT), Rourkela was founded as Regional Engineering College, Rourkela in 1961. 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, a close interaction with industry and a strong emphasis on teaching and research in both basic and applied fields. Being an Institute of National Importance it has been consistently ranked within TOP 20 engineering institutes for last five consecutive years as per NIRF ranking of Ministry of Education, Government of India. The Institute houses twenty versatile departments across different fields of engineering, science, management, and humanities.

NRF Overall	NRF Engg.	NRF Research	QS Sustainablity (Asia)
34	13	30	167

To know more about the Institute please Click Here.

About the Department

The department of Electrical Engineering is established with the vision to design technologies and nurture technologists for diverse and sustainable growth in electrical engineering, leading to wealth and welfare of humanity. The department offers various UG and PG programmes with the mission to develop a platform for forging students as technocrats in line with cutting-edge academic, research and modern industrial practices, and enhancing their aptness in any technical sectors across the globe.

To know more about the EE Department please Click

Who Should Attend

A team of distinguished experts from academia and industries will share their expertise. Thus, the course is suitable for engineers, faculty, and research scholars pursuing a Ph.D. This course will open up many potential research directions, opportunities and challenges ahead. Interested UG and PG students who would like to further explore cutting-edge research in this area will be accommodated in this course.

The participants will be provided with online certificates upon successful completion of the course.

Registration Details

Category	
Research Scholar/PG/ UG Students	Rs. 590/-
Faculties from Academia	Rs. 590/-
Engineers from Industry and R&D Organizations	Rs. 590/-

Registration Fee*: To be deposited in the following account.
Account Name: Continuing Education NIT Rourkela
Account Number: 10138951784
IFSC Code: SBIN0002109; **Swift Code:** SBINBB137
Bank: State Bank of India; **Branch:** NIT Campus Rourkela

To complete online registration, Please fill up the Google Form. The payment link is included in the Google Form.
Registration deadline: 18th March, 2026
Confirmation to participants: 19th March, 2026
Online platform details and detail program schedule will be intimated by: 19th March, 2026

Note: Registration fees is not required for Faculty/Staff/Student of NIT Rourkela. Without registration fees no certificate will be provided.

Coordinators

Dr. Jatin K. Pradhan, Asst. Prof.

Dr. Arijit Guha, Asst. Prof.

Dr. Rajiv Kumar Mishra, Asst. Prof.

Department of Electrical Engineering

National Institute of Technology Rourkela,

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Contact and Queries

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