



Two Week Online Faculty Development Program on

Sustainable and Secure Energy Systems a Step Towards Green Intelligence

20th July – 31st July 2026

Under the aegis of
Electronics and ICT academy, Phase-II
at National Institute of Technology Patna,

Jointly organized by
C.V. Raman Global University Odisha
and
National Institute of Technology Patna

Supported by
Ministry of Electronics and Information
Technology (MeitY), Govt. of India

Convener
Prof. K. C. Patra, Director, CGU, Odisha

Coordinators
Dr. Aditi Chatterjee
Associate Prof., Dept. of EE, CGU, Odisha
and
Dr. Trilochan Penthia
Assistant Prof., EE Dept., NIT Patna

CHIEF PATRON

Prof. B. Majhi, VC, CGU, Odisha
Prof. P K Jain, Director, NIT Patna

PATRON

Prof. G. Sridevi, Pro VC, CGU, Odisha

About the FDP

The FDP focusses on energy sustainability, system security, and integration of intelligent technologies for ensuring long-term availability of energy by minimizing environmental impact and carbon emissions. The major focus areas of the FDP will be smart and secure systems, green energy technology, leveraging AI/ML/ blockchain/TinyML and IoT technology in energy systems and energy efficiency strategies.

Objectives of the FDP

- To enhance the participants understanding of sustainable energy systems (PV, Wind, Green hydrogen, Energy Storage, EV technology)
- To develop competencies among the participants in the field of data-driven energy management, security and intelligent control systems.
- To enable the participants to explore the application of AI/ML/Blockchain/TinyML and IoT in energy systems.
- To investigate challenges related to cybersecurity in smart grids and energy infrastructure.

Topics to be Covered

- Development and applications of TinyML models in smart energy systems.
- Introduction to blockchain technology and its applications.
- Cyber security issues and challenges in smart grids
- AI-Driven energy optimization for renewable powered E-mobility.
- Real time monitoring and predictive maintenance of smart energy infrastructure using IoT devices and ML models.
- Design of intelligent controllers for power converters
- Hands on/ Lab session on development of ML models using Python
- Hands on/ Lab session on using IoT devices for real time data collection and storing data in cloud.
- Hands on/ Lab session on MATLAB/SIMULINK for design of intelligent controllers for power converters

Resource Persons

Leading academicians from IITs/NITs/Central Universities/NIRF ranked Universities/ Universities outside India/ Scientists and experts from national research laboratories and industry will deliver lectures, conduct hands on session and discuss industrial case studies.

About Electronics & ICT Academy

The Ministry of Electronics and Information Technology, Government of India has instituted seven Electronics and Information & Communications Technology (ICT) Academies of which, the academy of NIT Patna is one. The Academy at NIT Patna aims to design and organize basic as well as specialized training programs and research promotion workshops in niche areas of electronics and ICT for the development of the required knowledge base, skills, and tools to equip the teaching community with better knowledge and understanding.

About NIT Patna

The National Institute of Technology (NIT) Patna is one of India's most historic technical institutions, tracing its roots back to 1886, when it began as a pleaders' survey training school. Over time, it evolved into the Bihar College of Engineering Patna in 1924, making it the 6th oldest engineering institute in the country. On 28th January 2004, the college was rechristened as NIT Patna, becoming the 18th National Institute of Technology under the Ministry of Education, Government of India. NIT Patna has been a pioneer in technical education for well over a century, offering undergraduate (UG), postgraduate (PG), and PhD programs in engineering, technology, science, and humanities. The institute expanded its graduate-level offerings to include doctoral programs in 1978, further strengthening its academic portfolio. Located on the south bank of the holy river Ganges, near the iconic Gandhi Ghat in Patna, the institute stands as a symbol of both academic excellence and cultural significance. With a mission to set high standards in education and research, NIT Patna is actively involved in research and development (R&D), pushing the boundaries of innovation across various fields. It holds a distinguished reputation for its long record of academic excellence.

About CGU Odisha

C.V. Raman Global University (CGU), formerly known C.V. Raman College of Engineering (CVRCE), started its journey in 1997 and since its inception, it steadfastly remained committed to bringing about rapid transformations in the field of technical education. This led to the establishment of smart classrooms, world-class labs, AICTE idea lab, skilled courses, and over 27 Centers of Excellence in collaboration with industries. These include Bosch Rexroth, Festo, Siemens, Schneider Electric, Cisco, AWS, CDAC, Tata Technologies, GalSen, and Quasar to our advanced manufacturing centres catering to PSUs, and ISRO to global industries. CVRCE was conferred 'Autonomous' status from the year 2017 and finally, it was converted to a university in 2020. CGU has maintained its NIRF ranking within 100 since 2017. The university today has over 35 startups under its Atal Incubation Centre (AIC) and Technology Business Incubation (TBI). Further, CGU nurtures 1000s of young aspirants in a skill program, under the umbrella of Gov. of Odisha and Gov. of India. Leveraging the NEP2020 process, CGU aspires to be a truly global university.

The **Department of Electrical Engineering** was established in the year 2002 and is dedicated to develop skilled engineers to meet industry needs. The Department has state-of-the-art laboratories in almost all areas of Electrical Engineering and the latest simulation tools like MATLAB, Python, PSCAD, EMTDC, ETAP, PSPICE etc., to cater to various specializations and is equipped with facilities for measurement, characterization and synthesis of experimental, and theoretical results as well as for research.

Details of FDP

- Mode of Conduction: **ONLINE**
- Session Timings:
Monday to Friday: 3:00 p.m. -7:00 p.m.
Saturday and Sunday: No session
- The online training (10 working days) includes 24 hours of Theory session and 16 hours of Lab session. A total of **40 hours** mega sessions.
- **E-certificates** will be given to participants who have attended more than 70% of the FDP sessions and complete the given online assessments during FDP.

Who Can Participate?

Faculty members, research scholars of recognized universities from India and abroad, and industry personnel. Selection will be made on the first-come-first-serve basis to a maximum number of 150.

Registration Fee

India and SAARC Countries: Rs. 500 (Inclusive of GST)
Other than SAARC countries: 60 USD (Inclusive of GST)

Registration Process

The registration fee should be paid through bank transfer or UPI. The account detail for this purpose is as follows:

Account Name: E and ICT ACADEMY

Account no: 50380476798

IFSC Code: IDIB000B810

Bank Name: Indian Bank

Branch Name: NIT Patna

or

Scan QR code for payment

using UPI



- After the successful payment, take snapshot of payment proof with the transaction reference number, date, etc. which are to be uploaded in online registration form.
- Click the link below to proceed the registration:
<https://forms.gle/5rgahC29wdw8gJw28>
- The online meeting link for FDP will be sent to the selected candidates two days before the FDP.

Registration deadline: 17th July 2026, 11:59 PM (IST)

For any queries, please contact:

Dr. Aditi Chatterjee, CGU, Odisha

Email: aditichatterjee@cgu-odisha.ac.in

Dr. Trilochan Penthia, NIT Patna

E mail: trilochan.ee@nitp.ac.in