

## Organising Committee

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**Dr. Jaganatha Pandian B, Assoc. Professor & HOD (C&A)**

**Dr. Rajini G K, Professor & HOD (Instrumentation)**

### Convenor

**Dr. Raju J**

**Associate Professor,  
Dept. of Energy & Power Electronics,  
SELECT**

### Coordinators

**Dr. Saravanakumar R**

**Professor, Dept. of Control & Automation,  
SELECT**

**Dr. Vijayapriya P**

**Professor, Dept. of Electrical Engineering,  
SELECT**

**Dr. Thiruvenkadam S**

**Professor, Dept. of Electrical Engineering,  
SELECT**



Vellore Institute of Technology, Vellore  
&  
National Mission of Power Electronics Technology  
(NaMPET)

Short Term Course on  
'Power Electronics applications to Smart Grid  
and integration of Renewable Energy source'  
(PESGRE 2023)

27<sup>th</sup> November 2023 – 1<sup>st</sup> December 2023

Organized by  
School of Electrical Engineering (SELECT)



An Initiative of



Ministry of Electronics and  
Information Technology  
Government of India

Under the aegis of

NaMPET Phase III

National Mission on

Power Electronics Technology

Towards Power Electronics Excellence

Nodal Centre



Centre for Development  
of Advanced Computing  
(CDAC), Trivandrum

## About Vellore Institute of Technology

VIT was established with the aim of providing quality higher education on par with international standards. It persistently seeks and adopts innovative methods to improve the quality of higher education on a consistent basis. The campus has a cosmopolitan atmosphere with students from all corners of the globe. Experienced and learned teachers are strongly encouraged to nurture the students. The global standards set at VIT in the field of teaching and research spur us on in our relentless pursuit of excellence. In fact, it has become a way of life for us. The highly motivated youngsters on the campus are a constant source of pride. Our Memoranda of Understanding with various international universities are our major strength. They provide for an exchange of students and faculty and encourage joint research projects for the mutual benefit of these universities. Many of our students, who pursue their research projects in foreign universities, bring high quality to their work and esteem to India and have done us proud. With steady steps, we continue our march forward. We look forward to meeting you here at VIT.

## About School of Electrical Engineering (SELECT)

The School of Electrical Engineering (SELECT) has over 93 faculty members who pursued their UG, PG and Doctoral degrees from top-notch universities. Faculty members and students frequently receive awards, laurels and prizes for outstanding research contributions in their respective fields. The school offers B.Tech. (EEE), B.Tech. (EIE), M.Tech. (PED), M. Tech. (CA), Ph.D and Integrated Ph.D in Engineering. Both B.Tech. and M.Tech. programmes attract the Intelligent students from the country and abroad. The B.Tech. Electrical and Electronics Engineering and B.Tech. Electronics and Instrumentation Engineering Programmes are accredited by the Engineering Accreditation Commission of ABET. The Institution of Engineering and Technology (IET), U.K. accredit all UG & PG programs of the school. The placement record of the school has always been impressive. Almost 100% of the student's secure job from the campus placement and many of them are recruited in core companies. We encourage our students to carry out industry-based projects during their B.Tech. and M.Tech degrees.

The school has state-of-the art laboratories in almost all the areas of Electrical, Electronics and Instrumentation Engineering. The school has the latest simulation tools to cater various specializations and is equipped with facilities for measurement, characterization and synthesis of experimental as well as theoretical results. SELECT has industry sponsored advanced laboratories for performing world class research and consultancy. Danfoss Advance Drives Lab, Schneider Electric Smart Energy Monitoring Lab, Fluke Testing and Calibration Lab, Q-Max Automated Test Engineering Lab (Alumni Sponsored Lab) and NxP Semiconductors, India, have established Centre of Excellence for students R&D activities under the guidance of faculty members and industry experts.

### About National Mission on Power Electronics Technology (NaMPET)

National Mission on Power Electronics Technology NaMPET is a national mission program launched by the Ministry of Electronics and Information Technology (MeitY), Govt. of India, with a vision to provide the country with the capability to become a dominant player in Power Electronics Technology. Through this National level R&D Programme, the Research, Development, Deployment, and Commercialization of Power Electronics Technology are envisaged by enhancing the indigenous R&D expertise and infrastructure in the country with active participation from academic institutions and industries. Centre for Development of Advanced Computing, CDAC, Thiruvananthapuram, a premier R&D organization under MeitY, is the Nodal Centre coordinating the activities of NaMPET. The ongoing third phase of NaMPET is focusing on Technology development in key areas such as e-mobility, Smart grid, Wide Band Gap devices, etc. along with Awareness creation activities.

### About Centre for Development of Advanced Computing (CDAC)

About Centre for Development of Advanced Computing (CDAC): CDAC undertakes application-oriented research, design, and development in electronics, so as to generate state-of-the-art producible, marketable, field-maintainable products and systems. The Power Electronics group has wide experience in developing successful power electronics products/systems, and a very good industry interaction by way of transfer of technology, field implementation, etc. It has a very close association with reputed academic institutions like IISc, IITs, NITs, etc. CDAC has contributed significantly to the growth of the industry through the indigenous development of commercially viable products and systems, foreign technology absorption, consultancy, training, and turnkey implementation of contract projects.

### About the Course

The short course focuses on the latest technologies, strategies and challenges faced by power electronic systems, electric drives, renewable energy resources integration, and the interconnection to modern power systems, and operation in the smart grid for a better, smarter and more environment-friendly power system. Focus areas of the short course are Power Electronic Converters, Control Systems, Smart Grid Technology, Renewable Energy Resources, Distributed Generation and Grid Interconnection, Electric Vehicles, Energy storage & battery charging techniques, FACTS & Custom power. This course will also offer laboratory sessions for demonstrating the development aspects of power electronic converters and smart grid for renewable energy sources integration and transportation applications. Various hardware will be used for the hands-on and demonstration.

### Resource Persons

Academicians from IISc/IITs/NITs/VIT, Professionals from CDAC and industries are invited to deliver lectures in the STC

### Topics to be covered

- Future Electric Grid with Power Electronics based Utility Interface.
- Grid integration of renewable energy systems including power quality.
- Control of grid power electronics system in an unbalanced grid.
- Renewable-based off-Grid/Grid-Interactive systems.
- Topology of grid power electronics system.
- Energy storage technologies for hybrid energy systems.
- Micro-inverter for grid integration of solar modules.
- Advances in energy storage technologies and applications for renewable energy integration

### Who Can Attend

The faculty, Post Doc., Ph.D. scholars, PG/UG students, and working professionals from various industries can attend this STC

### Registration Details

Participants can apply for this short-term course using the link <https://events.vit.ac.in/> and should send the scanned copy of the Mandatory Registration Form to the coordinator email. The Participants will have to attend the short-term course in “offline” mode.

Category	Fees (Rs)
Ph.D. Scholar / P.G. / U.G. Student	750*
Faculty	1000*
Professionals from Industries	2500*

\*Inclusion of 18 % GST

**Note:** Registration fees includes Tea/Coffee, Snacks and Lunch for all five days and workshop kit.

**Accommodation** will be provided in University Hostels based on the request from participants on payment basis

**Last date for registration: 20-11-2023**

### Contact Details

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+91 9952392065

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**VIT**<sup>®</sup>  
Vellore Institute of Technology  
(Deemed to be University under section 3 of UGC Act, 1956)



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**REGISTRATION FORM**

1. Name: \_\_\_\_\_
2. Designation: \_\_\_\_\_
3. Department \_\_\_\_\_
4. Organization: \_\_\_\_\_
5. Address for correspondence: \_\_\_\_\_  
\_\_\_\_\_
6. E-mail: \_\_\_\_\_
7. Mobile No (WhatsApp No.): \_\_\_\_\_
8. Teaching/Industry experience: \_\_\_\_\_
9. Research area: \_\_\_\_\_
10. Registration payment details: \_\_\_\_\_
11. Accommodation Required: Yes / No: \_\_\_\_\_

Place:

Date:

Signature of the Applicant

Signature and the Seal of Head of the Institution/Department/Section