

Resource Person

All technical sessions will be handled by experts from power projects India, Chennai.

Topics To be Covered

- Modelling and TOV study
Introduction about Insulation Co-ordination
- Modelling of Bus. Grid. Transmission line.
Transmission line equivalent circuit. Ferranti effect
Simulation
- Power factor correction and Reactive Power
Compensation
- Short circuit study
- Renewable energy integration
- Power quality studies
- Simulation study and hands on training using Power
system Computer Aided Design (PSCAD/EMTP)
- Role of AI in power and energy sector

Registration Process

- Prospective participants are requested to register for the workshop through the following web link.
- Certificate will be issued to all registered participants.
- Attendance is mandatory for all sessions.

Registration Fees (Excluding GST)

- External Faculty/ Industry Experts Rs. 1250
- Internal Faculty Rs.1000
- Students / Research Scholars Rs. 750

Registration fees include workshop kit, 2 day working lunch and high tea.

Registration Link: <https://events.vit.ac.in/>

Important Dates

Last date for registration 16th Oct 2024

Organizing Committee

Chief Patron

Dr. G. Viswanathan, *Chancellor*

Patrons

Mr. Sankar Viswanathan, Vice President
Dr. Sekar Viswanathan, Vice President
Dr. G. V. Selvam, Vice President
Dr. V. S. Kanchana Bhaaskaran Vice Chancellor
Dr. Partha Sharathi Mallick, Pro-VC
Dr. T. Jayabarathi, Registrar

Organizing Chair

Dr. Mathew Mithra Noel, *Professor (HAG) & Dean*
School of Electrical Engineering

Dr. N. Amutha Prabha, *Professor & Assoc. Dean*
School of Electrical Engineering

Organizing Co-Chairs

Dr. K. Sathish Kumar *Professor & HOD (EEE),*
School of Electrical Engineering

Conveners

Dr. K. Ravi, Professor,
School of Electrical Engineering, VIT, Vellore
+91-9486940357, k.ravi@vit.ac.in

Dr. K. Sathish kumar, Professor,
School of Electrical Engineering, VIT, Vellore
,ksathishkumar@vit.ac.in

Dr. Prabhakar Karthigeyan, Professor
School of Electrical Engineering, VIT, Vellore
+91-9894610689, sprabhakarkarthikeya@vit.ac.in



VIT[®]
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

**2-day Hands on workshop on
POWER AND ENERGY SIMULATION
SOFTWARE with AI TECHNIQUES
PESSAIT-2024
17-18, October 2024**



**Organizing in association with
Power projects India**



**Organized by
Department of Electrical Engineering
School of Electrical Engineering
VIT, Vellore –632 014**

About the Institution

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

The School of Electrical Engineering (SELECT) has over 97 faculty members who pursued their UG, PG and Doctoral degrees from top-notch universities. The faculty members are consistently performing well in teaching and research. Faculty members and students frequently receive awards, laurels and prizes for outstanding research contributions in their respective fields.

The school offers 3 B.Tech. programmes (Electrical and Electronics Engineering, Electrical and Computer Science Engineering and Electronics and Instrumentation Engineering), and 2 M.Tech. programmes (Power Electronics and Drives & Control and Automation), 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. All UG & PG programmes of the school are accredited by the Institution of Engineering and Technology (IET), U.K.

The placement record of the school has always been impressive. Almost 100% of the students 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.

The students are encouraged to take advantage of the growing opportunities by incorporating an international internship experience in their final year undergraduate and postgraduate education. Students are also motivated to opt twin degree program with various reputed universities across the globe. Every year, students get scholarships to do their final year projects abroad under the Semester Abroad Program (SAP).

About Workshop

The basic objective of this 2-day workshop is to impart knowledge on the power and energy related simulation software with AI tools focusing on load flow study, stability analysis, short circuit study and renewable energy, microgrid and transient analysis studies etc.

As power systems evolve, the need for accurate, intuitive simulation tools becomes more and more important. With PSCAD you can build, simulate, and model your systems with ease, providing limitless possibilities in power system simulation. Included is a comprehensive library of system models ranging from simple passive elements and control functions to electric machines and other complex devices.

PSCAD has benefited from over 40 years of continuous research and development. We are inspired by the ideas and feedback from our global user base. This philosophy has helped establish PSCAD as the most popular power system transient simulation package available today.

Artificial Intelligence (AI) has emerged as a crucial technology for the future of industries and infrastructure. This workshop discusses the impact of AI on the power system network, with a particular focus on the different steady state and transient study. Interconnection of large-scale Inverter Based Resource (IBR) such as wind parks (WP) and photovoltaic parks (PV) into the bulk power system has become a more important issue due to their significant impact on power system transient behavior. These models will be focused as black box models and their usage using EMTP .

