

## Resource Persons

- **Dr. Senthil Kumar**, Professor, NIT Trichy
- **Dr. Amith Kumar**, Professor, NIT, Delhi
- **Dr. Ramesh Anna University**, Chennai
- **Dr. D. Madhan Mohan**, Hitachi ABB Power Grids, Chennai
- **Er. Ekambaram**, Addl General Manager, SRLDC, Grid controller of India., Bangalore
- **Dr. Chittibabu**, Professor, IIITDM, Kanchipuram
- **Dr. Gopinath Selvaraj**, Technical lead, Tataelxi, Bangalore
- **Dr. Ramesh babu**, Director, NPTI, Bangalore

## Topics to be covered.

- Power System Planning considering Alternative Energy Sources and Electric Vehicle Charging Station under Deregulated Environment
- Control & Grid Synchronization of Solar PV System
- Grid Connection Requirements of Solar PV System
- Overview of Hybrid electric vehicle
- Recent development in Electric vehicles
- Battery Management System
- E mobility

## Registration Process

- Prospective participants are requested to register for the FDP through the following web link. <https://events.vit.ac.in/>
- Certificate will be issued to all registered participants.

## Registration Fees (Including GST)

- External Faculty/ Industry Experts Rs. 1500
- Internal Faculty Rs. 1250
- Students / Research Scholars Rs. 1000
- Registration fees include workshop kit, 2 day working lunch and high tea.

## Important Dates

Last date for registration 14<sup>th</sup> October 2023

## 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. Rambabu Kodali**, Vice Chancellor  
**Dr. Partha Sharathi Mallick**, Pro-Vice Chancellor  
**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),  
Department of Electrical Engineering., SELECT.  
**Dr. Ponnambalam**, Professor and HOD,  
Department of energy and power electronics, SELECT.

### Conveners

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

**5-days Faculty Development Program**

on

**Advancement in  
Renewable Energy and Smart  
Electric Vehicle**

**ARESEV-2023  
(HYBRID MODE)**

**16-20, October 2023**



**Organized by**

**Department of Electrical Engineering  
&  
Department of energy and power  
electronics**

**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 93 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 B.Tech. (Electrical and Electronics Engineering), B.Tech. (Electronics and Instrumentation Engineering), M.Tech. (Power Electronics and Drives), M. Tech. (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 ARESEV-2023

The advancement in renewable energy and smart electric vehicles emphasize all aspects of electrical energy, innovation in energy generation and distribution, grid intelligence, renewable resources, electric transportation, and efficient devices and buildings. Advances in Renewable Energy and Electric Vehicles pave a pathway and pose challenges in developing efficient and reliable power electronics solutions for the operation of power systems. The scientific community must follow renewable and

sustainable energy sources because of the remarkable decline in fossil fuels and the simultaneous rise in energy demand.. The necessity for long-term energy solutions have fueled research into novel materials with superior properties, such as higher efficiency, lower cost, and improved durability, can significantly enhance the performance of solar panels and enable the creation of new, more efficient photovoltaic devices. Integrating solar panels in the field of Power System with the optimal placement using Phasor Measuring Units plays a major role in the integration process. Looming environmental problems and growing concerns about the global energy crisis, new technologies are devised to meet the growing demand for clean and sustainable energy systems. New energy electric vehicles have become increasingly popular in the automotive industry and are poised to replace the internal-combustion engine (ICE) to protect environment from pollution. Therefore, electrical power system knowledge is required in handling these modern grid network.

This program on advancement in Renewable Energy and Smart Electric Vehicle knowledge on advanced electric power and energy systems that covers, Solar PV System, Integration of Renewable Energy Systems, with grid Automation in Substation, Grid Synchronisation of Solar PV System, and Grid Connection Requirements of Solar PV System, Overview of Hybrid electric vehicle, Recent development in Electric vehicles that help in solving critical issues in the grid network and also helps in forecasting power system loads and their collective unit pricing.

