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Organizers

Dr. Chitra A., chitra.a@vit.ac.in

Dr. Razia Sultana W., wraziasultana@vit.ac.in

ELIGIBILITY FOR REGISTRATION

Registration is open only for Foreign students.

Prospective participants are requested to register for the program through the following web link:

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

Participation fee:

Registration Fee: Free

Food and accommodation: 100 USD

Course Content:

- ❖ Components of EV power train
- ❖ Power train Architectures of HEV and EV
- ❖ Sizing of traction motor along with road dynamics
- ❖ Introduction to Electric Drives , Dynamics of drives, Load Torque profiles
- ❖ Torque speed characteristics, Speed control , Converter fed drives, Chopper fed drives, Closed loop control
- ❖ Mathematical modelling, Analysis of steady state operation, Control strategies of PMSM
- ❖ ANN based motor parameter estimation, Intelligent speed estimation for PM drives, Green energy drives.

Department Lab Facility



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

International Summer School – 2024

Course on Design and Control of Drives for Electric Vehicles

08th – 12th July 2024

Organized by
Department of Energy and Power
Electronics,
School of Electrical Engineering,
Vellore Institute of Technology,
Vellore-632014, Tamil Nadu, India

Vellore Institute of Technology (VIT)

VIT, Vellore was founded in 1984 as Vellore Engineering College by the Founder and Chancellor Dr. G. Viswanathan. University status was conferred in 2001 by MHRD Govt. of India in recognition of its excellence in academics, research and extracurricular initiatives. VIT has emerged as one of the best institutes of India and is aspiring to become a global leader. Quality in teaching-learning, research and innovation makes VIT unique.

- Engineering and Technology subject areas of VIT are the 240th best in the World and the 9th best in India, and eight subjects of VIT are within the top 500 in the world (as per QS World University Rankings by Subject 2023).
- The 8th best University, the 11th best research institution and the 11th best engineering institution in India (NIRF Ranking, Govt. of India 2023).
- Ranked among the top 600-800 Universities of the world (THE World University Ranking 2024).
- NAAC Accreditation with A++ grade (3.66 out of 4).
- The 173rd best Institution in Asia (QS - Asia University Rankings 2023).

About the School

The School of Electrical Engineering (SELECT) offers B.Tech. (Electrical and Electronics Engineering), B.Tech. (Electronics and Instrumentation Engineering), B.Tech. (Electrical and Computer Science Engineering), M.Tech. (Power Electronics and Drives), M. Tech. (Control and Automation), Ph.D. and Integrated Ph.D. in Engineering. The programmes are accredited by the Engineering Accreditation Commission of ABET and Institution of Engineering and Technology (IET), U.K. The school played a key role in securing a QS Subject Ranking in Electrical and Electronics Engineering between 201-250 globally and ranking 8th in India.



The school has state-of-the-art laboratories in almost all the areas of Electrical, Electronics and Instrumentation Engineering. SELECT has industry sponsored advanced laboratories for performing world class research and consultancy. The school's industry partners Danfoss, Schneider Electric Smart Energy, Schneider Electric Building Automation, Fluke, Q-Max Automated Test Engineering 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 for twin degree programs 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). The school's pre-incubation cell supports product development, patent filing and start-up enthusiasts.

About the Department

The Department of Energy and Power Electronics provides a platform for the creation and application of power electronics technology in multidisciplinary fields to provide clean and sustainable energy. The courses are designed to provide well-balanced theory and hands-on training in Power Electronics, drives and controls, Electric Vehicles, Embedded control and more to meet the demand of industries.



Through specific courses the graduates are employed in building automation, process control industries, automobile industries and pharmaceutical industries in addition to career as a researcher in premiere institutes in India and abroad.

About the Program

This summer school will equip you with the knowledge and skills to thrive in the age of Industry 4.0, the digital transformation towards sustainable modern industries. Participant will gain hands-on experience with cutting-edge technologies like: Industrial controller tuning and programming, HMI panel design, Control system simulation and analysis in MATLAB. Whether you're an engineering student, a young professional, or someone looking to upskill, this summer school provides a springboard for a successful career in the intelligent factories of tomorrow.

Learning Outcomes:

- Understand the Power train used in EV
- Interpret the various control algorithms used in motors
- Apply suitable control for drives deployed in

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