

About NIT-Tiruchirappalli

The National Institute of Technology Tiruchirappalli (NIT-T), formerly known as Regional Engineering College, Tiruchirappalli (REC-T) is one of the technical institutes started by the Government of India. REC-T was imparting quality education since its inception. In 2003, the institute has been granted “Deemed to be University” status with the approval of UGC/ AICTE. The college has been conferred with autonomy in financial and administrative matters to achieve rapid development. NIT-T was registered under Societies Registration Act XXVII of 1975. The College has a total campus area of 800 acres. With the cream of engineering and management talent, encompassing exuberant students and inspiring faculty, integrated with state-of-the-art infrastructure facilities, NIT-T today has emerged as one of the premier institutions in the country.

Course Timings

The classes will be conducted from 10:00 AM to 12 Noon and from 2:30 - 4:30 PM on all five days of the short-term course.

About EEE Department

The department of Electrical and Electronics Engineering, National Institute of Technology Tiruchirappalli offers an undergraduate program, post-graduate programs (power systems and power electronics) and research degrees (M.S and Ph.D.) in various fields of Electrical Engineering. The department is recognized for excellence in teaching, research and service to the profession. The department has very well-established laboratories with sophisticated equipment supplementing the academic and research needs of students and research scholars.

Resource Persons

Resource persons from leading research and academic organisations from India and Abroad with rich experience in research and software tools will be handling the sessions.

Coordinators

Dr. Pinkymol K.P
Assistant Professor, EEE, NIT-T

Dr. Ashok Kumar
Assistant Professor, EEE, NIT-T

Dr. Naveen Yalla
Assistant Professor, EEE, NIT-T



FIVE-DAY SHORT TERM TRAINING PROGRAMME
on

SOFTWARE TOOLS FOR POWER CONVERTER DESIGN

(26th-30th April 2021)
(Online Mode)



Organized by:

Department of Electrical and Electronics
Engineering

National Institute of Technology
Tiruchirappalli

Objective of the Course

The performance of the power converter can be optimized by utilizing various software tools during the process of modelling, simulation, design and fabrication.

This short term training programme will provide an opportunity for participants to familiarize themselves with the fundamental software tools employed for developing power converters for academic research and industrial applications. The STTP offers a platform for strengthening the modelling and hardware implementation capabilities of faculty, research scholars and UG/PG students working in the area of power electronics.

Course Contents

The STTP can be broadly segregated into three modules:

Module 1: Modelling of power converter: This section deals with the modelling aspects of the power converter. It is always desirable to evaluate the performance of passive components like an inductor, capacitor before the practical implementation of the topology. **Ansys-Maxwell** is a well-known tool to model and optimize the design of passives which is basically performed by the **Finite Element Method (FEM)**. So, the first part of this course module deals with FEM along with the introduction of **Ansys-Maxwell**. The second part illustrates the process of modelling a converter by

using Model Linearizer and Frequency Response Estimator tools of **MATLAB Control System Toolbox**.

Module 2 : Real-time simulation in power electronics : In this module, different platforms for real-time simulation will be described. The first part is focused on the Real-Time Digital Simulator (**RTDS**), where the **RSCAD** will be used for physical system modelling, along with the basics of software-in-loop, controller-in-loop and hardware-in-loop testing. The second part is dedicated to **OPAL-RT** based platform where **MATLAB** will be used as the software platform for modelling the practical systems.

Module 3 : PCB design : There are many expensive PCB designing softwares available in the market which are sometimes difficult to afford. This module will introduce a well known open source PCB designing software, i.e. **KiCad** which not only requires less storage but also equipped with all the advance features that are available in high-priced softwares.

Payment Procedure

1. Go to the SBI-collect using the link <https://www.onlinesbi.com/sbicollect/icollecthome.htm>
2. Select the state as 'TamilNadu' and category as 'Educational Institutions'.
3. Select "CONFERENCE AND WORKSHOP NIT TRICHY".

4. Select payment category as "SPCD 2021_EEE".
5. Make payment through UPI/ Net Banking/ Credit card/ NEFT.
6. Once the fees is paid, fill up your details and upload the payment receipt in – <https://forms.gle/LSjNaMoaTe1BXuNWA>
Upon successful completion of the short-term course, the certificate will be given to the participants.

Registration Fee

Category	Amount to be paid (INR) *
Students (UG/ PG/ PhD)	Rs 300
Faculty	Rs 500
R&D/Industry personnel	Rs 1000
*excluding 18% GST	

Registration Deadline: 22rd April 2021

Contact Information

For any further queries and clarifications, feel free to contact through mail ID powerconverters.fdp.eee@gmail.com.

or contact at

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