Fest Name:

One Day National Level Workshop on **Hands on Training on** “Computational Intelligence Techniques for Power Systems, Renewable Energy Sources Using Advance MATLAB Tool Boxes” (2015b)

**College Name:**

KONGU ENGINEERING COLLEGE (Autonomous), PERUNDURAI, ERODE 638052 TAMILNADU

Organized Department: Department of Electrical and Electronics Engineering

**Scope of the Event:**

Scope of these Events is the participants to enhance the skills in advance Tool Boxes in MATLAB 2015(b) and Modern Artificial Intelligence Techniques by using MATLAB 2015(b) and MATLAB SIMULINK.

And also This Hands on training Workshop will be very useful for the Research Scholars, UG and PG Students to carry out the Research Work & Final Year Project work without any Struggle in the Areas of Various domains such as Power Systems, Power Electronics, Renewable Energy Sources Integration, Control Systems, and Various Field of Engineering Sciences. The Industry People can apply these techniques in solving simple industrial problems. And also it’s very useful for Faculty Members from Engineering & Science Colleges. Polytechnic colleges can carry out their Academic Works in various fields of Electrical Sciences.

**OBJECTIVE**

Many new challenges are being faced by today's power systems. Two significant challenges are the integration of renewable energy resources into the electric power system and the creation of the deregulated electricity markets. The way of controlling those RES are still updating with advanced controllers. The Innovation of new technologies and updating existing technologies are essential parts of education and research. Now a day’s Computational Intelligence (CI) Techniques have evolved into an active area of research and development, due to the tremendous advances in a broad spectrum of technologies. The integration of CI techniques and tools is used to solve and develop applications related to all aspects of engineering and sciences. It consists of complementary elements of Artificial Neural Networks, Fuzzy Logic, Genetic Algorithm, Evolutionary Computation and Machine Learning, and offers solutions where conventional approaches fail. This will improve the accuracy and performance of the overall system. This workshop aims to provide a forum for current state-of-the-art approaches of computational intelligence techniques in field of Power Electronics applications to Power Systems, Renewable Energy Sources and its applications using advanced MATLAB Tools.

This workshop explains the concept of various computational Intelligence techniques using theoretical and laboratory-based experimental interactions. This provides the use of Advanced MATLAB toolboxes for implementation of CI Techniques for solving problems related to power electronics converters in power quality and power system stability management and technology trends in different Renewable Energy sectors. At the end of the workshop, the participants can apply these techniques in solving simple industrial problems as well as in their B.Tech / M.Tech and Research projects in different areas of science.

**COURSE CONTENTS**

* Introduction to MATLAB 2015b
* Introduction to Computational Intelligence Techniques and its importance
* Hands on Training on Various Soft Computing and Modern Optimization Techniques
* Hands on training on Computational Intelligence Techniques for
* Renewable Energy Sources and its Applications in Power Generation
* Grid Integration of RES (Solar PV System and Fuel cell Design)
* Electric Power Quality issues and Mitigation Techniques
* Simulation of FACTS Controllers, Custom Power Devices for Power System Stability and Power Quality Enhancement

**TARGET AUDIENCE**

Faculty members working from Engineering and Polytechnic Colleges, Research scholars, UG & PG Students, Industry Persons from relevant background of Sciences and Engineering.

**FACULTY**

Sessions will be handled by experienced faculty members, Reputed PhD Supervisors from KEC and Experts from Power industries.

**BOARDING AND LODGING**

Accommodation and boarding if required will be provided in the college campus on chargeable basis of **(Rs. 200/- per day)**.

**Registration Details:**

Registration Fee\* (Including 14.5% Service Tax):

1. **Rs.600/-** (For UG,PG Students and Research Scholars)
2. **Rs.700/-** (For Industrial and Academic Faculty, Others)

\*The registration fee includes course kit, lunch and refreshment. Demand Draft for the registration fee must be drawn in favor of **“IIP Cell Grant in aid A/C”** payable at **Perundurai.**

**HOW TO APPLY**

The applicants should send the filled application and DD to us on or before **15.3.2016.**

**IMPORTANT DATES**

Last Date for receipt of Applications : 15.3.2016

Intimation of Participants : 16.3.2016

Confirmation of Participants : 17.3.2016

Contact Details, Qurries,Application form completed in all respects is to be sent to:

Ms.A.Sheela M.E., (Ph.D.,)

Assistant Professor (Sr.G)

School of Electrical Sciences

Department of EEE

Kongu Engineering College

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**2)Mr.D.Sarathkumar,**

Assistant Professor,

School of Electrical Sciences

Department of Electrical and Electronics Engg.

Kongu Engineering College

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**About the College :**

Kongu Engineering College (KEC) is a leading teaching and research institution with state-of-the- art facilities, run by The Kongu Vellalar Institute of Technology Trust (KVITT). It is an autonomous institution affiliated to Anna University, Chennai, India and has completed 32 years of dedicated service to the students of India and abroad in Technical Education. It is accredited by National Board of Accreditation (NBA) and The Institution of Engineers (India) and also ISO certified. It has a built up area of about 167 acres with about 700 faculty members and 8000 students. It has established itself as one among the top 20 Engineering, Technology and Management Institutions in India. KEC offers 14 undergraduate, 19 post graduate Programmes in Engineering, Technology and Management, and 16 Research Programmes leading to MS and Doctoral degrees. It has an active Industry-Institute Partnership cell to interact with industries and also has a Technology Business Incubator, first of its kind in India, nurturing entrepreneurs in high tech areas. The institute has so far been awarded 9 patents.

**About the Department**

The Electrical and Electronics Engineering department occupies a prominent place in the chronicles of its academic history. The department has been consistently producing illustrious Engineering graduates of high caliber who occupy prestigious positions in the academic and industrial fields. The specialization of the faculty includes Power System Engineering, Power Electronics and drives, Energy Engineering, Applied Electronics, Control Systems, VLSI, Bio-Medical Engineering, Digital Signal Processing, Sensors and Networks, Computer Networks, Instrumentation and Control etc. The department offers four year UG programme in EEE and two year PG programmes in Power Electronics and Drives and Applied Electronics. The department also carrying out many consultancy activities like energy auditing to many industries.EEE Department of Kongu Engineering College has bagged the National level award under the category “Best Industry linked Technical Institute for the Electrical Engineering stream”, on the survey organized jointly by AICTE and CII during June-July 2013, for the year 2012-13.

ABOUT THE LOCATION

The college is situated at Perundurai on the National Highway (NH 47) about 80 km from Coimbatore and 20 km from Erode.

BOARDING AND LODGING

Accommodation and boarding if required will be provided in the college campus on chargeable basis of

1) Faculty, Industry Person, Working Employee in industry or College and Research Scholars is provided in College Alumni Guest House (R.s 200/- per day).

2) U.G and P.G Students are provided in College Hostel (Rs.175/- per Day)