#### SPONSORSHIP CERTIFICATE

Certified that Mr/Ms/Dr/Prof.....

is an employee of our institute/organisation and is hereby sponsored for the FDP on "LabVIEW for Engineers & Scientists (With Case Studies in Signal Processing, Machine Vision and Automated Testing)" at College of Engineering, Pune during the period from 7<sup>th</sup> July to 11<sup>th</sup> July 2014.

Place: Date: Name & Signature (Director/Principal/HR/CEO)

(Seal of the institution/organisation)

#### **Important Information**

Early registration is encouraged as the seats are limited. Registration charges are non refundable for selected participants

Last date for Receiving applications: 30-06-2014

Intimation of selection on or before: 01 - 07 - 2014

Brochure & application form can also be downloaded from our website: http://www.coep.org.in

- Address for Correspondence
- Dr. Uttam Chaskar

FDP on "LabVIEW for Engineers & Scientists

(With Case Studies in Signal Processing, Machine Vision and Automated Testing)"

Department of Instrumentation & Control

College of Engineering, Pune, Shivajinagar, Pune - 411 005

Maharashtra, India

Phone: 020 25507176 (O) / Mob. : 098502 46712

Email: umc.instru@coep.ac.in / umchaskar@gmail.com

#### ACCOMMODATION

Participants have to make their own arrangement for accommodation. We will assist participants in getting accommodation nearby College of Engineering, Pune.

#### TRAVEL

Outstation participants have to make their own arrangement for travel.

#### **COEP's HERITAGE**

College of Engineering, Pune (COEP) was established in the year 1854 and is one of the oldest and premier engineering institutions in the country. It is the Lead Centre under the Technical Education Quality Improvement Program (TEQIP) assisted by the World Bank. The college was also a participant of the Canada India Industry Institute Linkage Program. COEP is considered amongst the top engineering colleges in the country in the various independent surveys on technical education. The institute offers B. Tech, M. Tech & PhD programs and need based Short Term Training Courses. The number of enrolled student for regular degree courses is around 3500.

### **CoE - SIGNAL & IMAGE PROCESSING**

Center of Excellence in Signal & Image Processing (CoE-S&IP)at College of Engineering Pune, is a project funded by World Bank-MHRD, Govt, of India, under TEQIP-Phase-II with the vision and objective to become a leading centre, regionally and nationally, for research, education, and technology innovations, in the domain of Signal & Image Processing.

With national and international collaborators, oth, from Industry and Academia, this Multidisciplinary Centre intends to transform the potential of our human resource, in terms of PG education and PhD programs, to match global standards and competitiveness in this much diversified and potent arena of development. With Department of Electronics and Telecommunication at the nuclear position, other departments viz. Instrumentation & Control, Electrical and Computer Engineering, are cohesively contributing to the development of the Centre in terms of patents and referred publications, developing real life applications with the ultimate objective of generating passionate and resourceful researchers in the domain.

Specific Areas of Excellence at CoE-S & IP:

- Multimedia-Multidimensional Signal Processing spanning from text, document, graphics and animation through speech, audio, image and video signals
- Signal Analysis and Decision support systems for biological/biomedical/genomic, Automotive/industrial and metallographic signals
- Signal Processing Applications in RF/Microwave/Optical Communication
- DSP/Reconfigurable/Full custom VLSI Hardware Technologies for Signal/Image Processing Applications Development

# Center of Excellence on Signal & Image Processing (TEQIP II)

# Organizes

One Week Faculty Development Program on

# LabVIEW for Engineers & Scientists

(With Case Studies in Signal Processing, Machine Vision and Automated Testing)

# (7<sup>th</sup> July 2014 ~ 11<sup>th</sup> July 2014)





United We Control

# **Co-ordinator**

# Dr. Uttam Chaskar

## Hosted by

**Department of Instrumentation and Control** 

College of Engineering, Pune Shivajinagar, Pune - 411 005. Maharashtra, India

#### PREAMBLE

LabVIEW is a graphical programming language that has been widely adopted throughout industry, academia, and research labs as the standard for data acquisition and instrument control software. LabVIEW is a powerful and flexible instrumentation and analysis software system that is multiplatform we can run LabVIEW on Windows, Mac OS X, and Linux. We can also run LabVIEW on PDAs (PalmOS, PocketPC, or Windows CE devices), on real-time platforms, and even embed LabVIEW programs into FPGA chips and 32-bit microprocessors. Creating our own LabVIEW program, or virtual instrument (VI), is simple. LabVIEW's intuitive user interface makes writing and using programs exciting and fun! LabVIEW departs from the sequential nature of traditional programming languages and features an easy-to-use graphical programming environment, including all of the tools necessary for data acquisition (DAQ), data analysis, and presentation of results. With its graphical programming language, sometimes called "G", we program using a graphical block diagram that compiles into machine code.

The programme on will have tutorial flavor and practical hands on experience will be delivered to the participants who are not necessarily LabVIEW and related hardware experts. It will also provide a timely update on the most recent developments in this area. The field of LabVIEW and related hardware in Signal and Image Processing, Control system design, Embedded Design using LabVIEW FPGA and LabVIEW real time is expanding rapidly with 20 ever-new developments and applications. The applications of LabVIEW in Signal processing and image processing encompass the fields of Communication, Industrial automation, Multimedia, and medical imaging etc. Active research is being conducted in various R & D organizations and academic institutes. Hence it has become important for the educators, practicing engineers and the students, to continuously update their knowledge and skills in LabVIEW, related hardware and its applications. We will bring together scientists and engineers for an interdisciplinary exchange of research and problems. It will help participants to update their knowledge and widen their horizon.

#### **COURSE CONTENTS**

- ➡ LabVIEW Introduction:
- LabVIEW Application Development Environment
- Creating a Virtual Instrument in LabVIEW
- Dataflow programming concepts, SubVIs and modular code creation
- Data Acquisition in LabVIEW

- Loops and Charts, Arrays and File I/O, Waveform Graphs
- Strings, Clusters, and Error Handling, Case & Sequence Structures
- Web Connectivity via Remote Front Panels
- LabVIEW Case Studies:
  - Image Acquisition, Analysis and Machine Vision, Automated Testing, Embedded Vision System
  - Sound and Vibration measurement and analysis
  - Advanced Signal Processing (Signal Processing and Spectral Measurements)
  - Software Engineering, Data Visualization, Data base and internet connectivity
  - Distributed Computing , LabVIEW to MATLAB
  - Embedded Systems Development
  - FPGA for embedded real time systems
  - Embedded mobile applications, State Chart Machine / module LabVIEW for ARM
  - Control Design and Simulation, Motion Control

# **RESOURCE PERSONS**

Faculty experts from COEP, Invited experts from National Instruments Private Limited Bangalore

# WHO SHOULD ATTEND

Faculty Members / Research Scholars / Students / Engineers from Industries / Public Sector undertaking & Utilities are eligible to attend this program.

### **REGISTRATION FEE**

- The details of registration fee is as follows :
- Faculty of Academic Institute : ₹ 8,000/-
- r Student / Research Scholars : ₹ 5,000/-
- r Person from Industries / R & D / Utilities : ₹ 10,000/-

The Registration Fee Include registration kit, high tea & working lunch.

Fees shall be paid by demand draft in favour of "Director, College of Engineering, Pune" payable at Pune.

#### HOW TO APPLY

Duly filled Application in the prescribed format sponsored by the competent authority of Institute / Organization may be sent to the coordinator so as to reach on or before 30<sup>th</sup> June 2014. The applicant may also send an advance scanned copy of the application form & DD copy through Email.

#### For further details contact Dr. Uttam Chaskar Co-ordinator Phone 020-25507176 (O) / Mob. : 098502 46712 E-mail : umc.instru@coep.ac.in / umchaskar@gmail.com

#### **REGISTRATION FORM**

#### "LabVIEW for Engineers & Scientists

(With Case Studies in Signal Processing, Machine Vision and Automated Testing)" 7<sup>th</sup> July to 11<sup>th</sup> July 2014

CoE - Signal & Image Processing College of Engineering, Pune, Shivajinagar, Pune - 411 005 Maharashtra, India.

# 

5. Address for Communication :

### 

- 8. Highest Qualification:
- 9. Specialization:

10. Years of Experience

- Teaching
- Industry

11. Area of work / Interest:

12. Whether accommodation needed: Yes / No

13. Payment Details : DD No.

Date

The information furnished above is true & correct to the best of my knowledge. I agree to abide by the rules and regulations governing the program. I shall attend the program for the entire duration.

Place: Date:

Signature of the Applicant