

**SREEPATHY INSTITUTE OF MANAGEMENT AND TECHNOLOGY, VAVANOOR**

**Faculty Development Programme on “DO ENGINEERING”  
Organized by APJ Abdul Kalam Technological University and  
Delivered by National Instruments.**

**Date: 17/12/15**

**A Workshop on Experiential Learning Approach for Research and Education**

Attend this workshop to learn how to transcend traditional, theoretical approach to research and education by being more experimental, and hands-on in your approach. Learn about the tools that can be used by professors, researchers, and students alike for experiential education and learning. Instead of relying on simulations, learn how you can bring real world data from actual engineering systems into your research. Instead of relying on textbooks, learn how to use real engineering systems, to teach concepts of engineering to students. Learn about the technologies, and the approach that can enable students to develop systems that solve real world problems, for their final year project. In this workshop, **DO ENGINEERING!**

The first half of this workshop introduces you to the technologies and tools that really make experiential learning possible. Explore a Graphical programming environment, which makes parallel, multi-core, and even FPGA programming easier and faster than ever before. Learn how to use this environment for various research areas, from signal processing to control systems to communications to robotics etc. Learn how to interface with real sensors to bring measurements from various physical phenomena to your computer, implement various signal processing algorithms, analyze this data, and use the results to make control decisions.

The second half of this workshop, introduces you to get hands-on experience on acquire, analyze and automate an application with PC based environment or Embedded target. This platform with the students from classes, to labs, and helps them to implement their final year projects.

**Agenda**

<b>Time</b>	<b>Topic</b>
9.30 AM – 10.00 AM	Introduction to Graphical System Design
10.00 AM – 11.30 AM	Demonstration of GSD for Circuits Engineering lab experiments - Electrical & Electronic Circuits Engineering (analog, digital & power electronics) - Communication system Design (Analog, Digital, RF)

11.30 AM – 11.45 AM	Break
11.45 AM – 12.30 PM	Demonstration of GSD for Mechanical / Civil Engineering lab experiments <ul style="list-style-type: none"> <li>- CRoMe (Control System, Robotics &amp; Mechatronics)</li> <li>- Structural Engineering (sound &amp; Vibration, Condition Monitoring)</li> </ul>
12.30 PM – 1.00 PM	Discussion on Research areas using GSD platform <ul style="list-style-type: none"> <li>- 5G research</li> <li>- Industrial Internet of Things</li> <li>- Cyber Physical Systems</li> </ul>
1.00 PM – 2.00 PM	Lunch
2.30 PM – 4.30 PM	Hands on training on NI Hardware for Acquire – Analyze – Automate an Application (Break around 3:30 p.m. for 15 minutes)
4.30 PM – 5.00 PM	Open Q&A Session