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Dr. K. Anitha Sheela

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Mrs. A .Rajani

Mrs. P. Sowjanya Sridevi

Two-day Faculty Development Program

on

Hands-on with GNU Radio and SDR

4th & 5th April, 2014

Venue

ECE Department, JNTUHCEH

Organized by



**Department of E.C.E
JNTUH College of Engineering
Hyderabad, INDIA**

Coordinator

Dr. K. Anitha Sheela,
*B.Tech(NITW), M.E(OU),
Ph.D(JNTU), MIETE, MISTE*
Assoc. Professor, ECE Department
JNTUH CEH.

In collaboration with



Sponsored by



**&
TEQIP**

Jawaharlal Nehru Technological University, the **First Technological University** of India, was established on 2nd October 1972 in Andhra Pradesh with head quarters located in a historic city **Hyderabad**. The University is one of the premier Universities in India accredited by **NAAC** with '**A**' Grade. After successful and proven levels of appreciated existence and stature spanning over 36 years, JNTU has been divided into four different universities by Govt. of Andhra Pradesh, through Act No.30, Dt. 24th September, 2008. One of the constituent colleges of the University "**JNTUH College of Engineering, Hyderabad**" is regarded as a pioneer in shaping the excellence of some of the leading organizations of the industry, by churning out the finest professionals with a resolve to scale greater heights in the technological scenario, every year.

The Department of **Electronics and Communication Engineering**, established in 1973, is instrumental in molding the careers of students and helping them to become world-class professionals. Besides highly qualified and experienced staff and well-equipped laboratories, the Department has been awarded **8.1** points out of **10** by the **State Board of Technical Education**.

About (TCRIX)

The Center for Research and Innovation Exchange (TCRIX) is an inclusive organization established to support learning, innovation, research at the grass root level with the help of industrial collaboration and partnership with ecosystem contributors. TCRIX supports multiple emerging technologies and platforms through collaborative environments in Wireless Communications, BigData, Cloud and Chip Design.

About the Faculty Development Programme:

The goal of the workshop is to make the faculty to acquire good quality insight on programming and analyses of Software Defined Radio (SDR) and GNU radio software.

The workshop provides hands on experience on working with GNU Radio, a open source signal processing software, for analyzing the signal processing aspects of communication. Also the workshop will provide the opportunities to flourish the knowledge and to pursue research in these areas.

Topics to be covered:

- Review of DSP basics
- Introduction to SDR
- SDR Architecture
- Introduction to USRP
- Basics of RF Terminologies
- Software tools for SDR
- Basics of Python Programming
- Installation and working with GNU Radio
- Demonstrations with GNU Radio & USRP
- Writing code in GNU Radio & Basic hacking

Prerequisite:

Knowledge in

- Digital Communication & Digital Signal Processing
- Programming languages (C++, Matlab)

Resource Persons:

Resource persons drawn from TCRIX, IITH and others.

Eligibility:

Professors, Associate Professors, Assistant Professors, Lecturers and Research Scholars working in the relevant area.

Important Dates:

Last date for registration: **03-04-2014**

Starting date of Workshop: **04-04-2014**

Ending date of Workshop: **05-04-2014**

Time: Programme commence sharp at 09.30 AM on 04-04-2014

How to Apply:

Interested faculty may fill the online registration form in the following link **strictly** on or before **04-04-2014**.

Online Registration Link:

https://docs.google.com/forms/d/13IBIo9_Qto0MaTBf1KY2SViLeBZnbeuz_Bc-uOnc5pk/viewform

As the number of participants are limited to 40 interested participants are advised to register well in advance.

Registration Fee:

Rs. 3,000/- (Spot Payment)

Accommodation:

Limited accommodation will be provided on first come-first serve basis, on payment in University Guest House.

**Two-day FDP on
Hands-on with GNU Radio and SDR
4th & 5th April 2014
ECE Department, JNTUHCEH**

	10.00 am	11.00 am	11.15 am	12.15pm	01.30 pm	02.30 pm	03.00 pm	03.30 pm	03.45 pm	05.00 pm
Day 1	Introduction to SDR Technology, Research & Teaching	TEA BREAK	SDR Architecture & Introduction To USRP	Review of DSP: Sampling, Filtering, Multirate signal processing & FFT	LUNCH BREAK	Basics of RF Terminologies	Software Tools for SDR Research & Teaching	TEA BREAK	Brief tutorial on Python	Conclusion
	10.00 am	10.30 am	11.30 am	11.45 am	01.30 pm	02.30 pm	03.30 pm	05.00 pm	05.15 pm	
Day 2	Learning to install GNU Radio	GNU Radio basics	TEA BREAK	Basic GNU Radio Experiments	LUNCH BREAK	Experiments with GNU Radio & USRP	Writing your own code in GNU Radio & Basic Hacking	TEA BREAK	Conclusion & Query	