One day faculty training on

# "GNU Radio on Raspberry PI"

(Hands-on Practice)

6<sup>th</sup>July 2016

To,

Sardar Patel Institute of Technology, Munshi Nagar, Andheri (W), Mumbai 400 058 Phone: 26707440/26708520 Extn. 380

From,			





### **Topics to be covered:**

- 1. Introduction to Raspberry Pi
- 2. Linux revisited
- 3. GNU Radio and installation on Rpi
- 3. Interfacing the transceiver and antenna module with Rpi
- 4. Demo applications

# BharatiyaVidyaBhavan's



# **Sardar Patel Institute of Technology**

#### **PRESENTS**

One day faculty training on

# "GNU Radio on Raspberry PI" (Hands-on Practice)

6<sup>th</sup>July 2016
Organized by

Sardar Patel Institute of Technology, Munshi Nagar, Andheri (W), Mumbai 400 058

Tel: 91-22-2670 8520, 26707440, 2628 7250 Fax No.: 91-22-26701422

www.spit.ac.in

Vice Principal Dr. Y. S. Rao **Principal**Dr. Prachi Gharpure

#### About us

In 1957, the Bharativa Vidva Bhavan conceived the idea of establishing an engineering college in Mumbai. In 1995 Self Financed Engineering Course were added to it and it functioned as SPCE (Unaided-wing) conducting Electronics Engineering Computer Engineering. Information Technology courses and Masters course in Electronics since 2005 till 2008. These courses have earned a great reputation in the field of engineering education, as well as industry. Bharatiya Vidya Bhavan's Sardar Patel College of Engineering, Unaided Wing from year 2005-2006 was established in its new building under the name and style of Bharatiya Vidya Bhavan's Sardar Patel Institute of Technology and is affiliated to Mumbai University. Subsequently Electronics and Telecommunication course was started at graduate and post graduate level in the years 2006 and 2010 respectively. In addition to these programs Electronics and Telecommunication and Computer Engineering Departments have started Ph.D. program from 2012.

# **About the Program**

The GNU Radio software provides the framework and tools to build and run software radio or just general signal-processing applications. With software-defined radio systems, reconfigurability is a key feature. Instead of using different radios designed for specific but disparate purposes, a single, general-purpose, radio can be used as the radio front-end, and the signal-processing software (here, GNU Radio), handles the processing specific to the radio application.

These flowgraphs can be written in either C++ or the Python programming language. The GNU Radio

infrastructure is written entirely in C++, and many of the user tools are written in Python.

In this workshop we will be using GNU Radio framework using Raspberry PI single board computer. The SDR implementation will be done using USB TV FM+DAB Radio Tuner Receiver Stick Realtek RTL2832U+R820T MCX.

#### **Expected outcomes:**

After successful completion of this training program, faculty will be able to configure Raspberry PI SBC with GNU framework and implement SDR using radio stick.

#### **Chief Patron:**

Dr. Prachi Gharpure

#### **Co-ordinators:**

Dr. Y.S.Rao

#### **Resource Persons:**

Mr. Bhavin kamdar

(Technology Analyst at Morgan Stanley)

#### Venue:

R&D Lab, 310, 3<sup>th</sup> Floor, S.P.I.T.

#### **Course Fees:**

Faculty: Rs. 500/-Students: Rs. 300/-

Participants from Industry: Rs. 1000/-

# **Registration:**

Confirm your registration by:

E-mail: ysrao@spit.ac.in Mobile: 9820962870

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Institution:		
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