

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
&
RESEARCH AND TRAINING UNIT FOR NAVIGATIONAL ELECTRONICS
OSMANIA UNIVERSITY - HYDERABAD 500007



A 5-Day workshop on

GNSS SIGNALS AND RECEIVER ALGORITHMS

(Course Code: NERTU/SC/57) Sponsored BY TEQIP-II

(5-9, AUGUST 2014)

SPEAKERS

1. Sri G.Satheesh Reddy, RCI-DRDO
2. Sri.L.Mruthyanjaya, ISAC-ISRO
3. Dr.K.S.Parikh, SAC-ISRO
4. Sri N.Venkatesh, Redpine Signals
5. Dr.Arjun Singh, Shakthi Aviation
6. Dr.G.Vyasraj, Accord Software & Systems
7. Prof.Sasibhushana Rao, ECE, AU
8. Dr.P.Chandra Sekhar, ECE, OU
9. Prof.P.Laxminarayana, NERTU,OU

Dates: August 5-9, 2014

Time: 09.30AM - 05.30PM

Location: NERTU Auditorium, OU

Registration Fee

Rs. 2000/- for Full Time Students

Rs. 4000/- for Teachers

Rs. 8000/- for Scientists/Engineers from
Research Organizations and
Industries

DD/Cheque should be drawn in favor of

The Head, Department of ECE, OU

Accommodation: Available for limited
people on payment basis on first come first
served.

Last Date For Registration 31st July 2014

More Details and Registration Form at

www.osmania.ac.in or <http://www.uceou.edu>

or

Contact the Coordinators

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Course Overview

At present there are two GNSS systems, GPS and GLONASS in full operation. At present, COMPASS can provide the services to China and its neighboring countries. These three systems are operated by departments of defence of the USA, Russia and China respectively. Other GNSS system Galileo, is in the development stage. India is also developing a Indian Regional Navigational Satellite system called IRNSS. Many GNSS signals will be available in the space. Therefore it is proposed to have a single receiver for all systems, which will compliment or alternative to the other systems, as and when the signals of a system are not available. However the present hardware receivers are not flexible to upgrade/modify them. Therefore an idea of Software Defined Receiver (SDR), is proposed. Software-based GNSS receivers are the focus of current research because of their reprogramming ease and flexibility. Sampling an incoming wideband signal will allow the receiver to capture more navigation signals from different standards. Several research groups have presented their ideas and contributions on software receivers for GPS, GLONASS and Galileo. There are many challenges in SDR, to make the algorithms to run in real time.

The main objective of the course is to give the basic concepts of the GNSS software receiver. The course will cover the topics: signal architecture of GPS, GLONASS, Galileo, GAGAN and IRNSS, simulation of GNSS signals, antennas and front ends, overview of GNSS receiver, signal acquisition, carrier and code tracking, data processing, navigation solution, Kalman Filtering and assisted GPS for indoor locationing.

Targeted Participants

Targeted participants are working engineers, scientists, academicians, research scholars and students interested to work or do the research in software radio or GNSS receivers. Participants are expected to have the UG level knowledge in digital signal processing and communication engineering.

About NERTU

The Research and Training Unit for Navigational Electronics (NERTU) is established in 1982. It is the focal point for research and training in the areas of Electronic Navigation in India. Since its inception, NERTU has successfully executed 47 sponsored and consultancy projects funded by DRDO, ISRO, DST, MIT, ECIL, HAL, BEL, AICTE and ASL. Currently, several projects in different areas related to navigation, signal processing and communications are in progress. It has also conducted 56 short term courses/workshops/conferences on various topics of signal processing, communications and Navigation.

About Department of ECE

The Department of Electronics & Communication Engineering (ECE) was established in the year 1959 with only two faculty members. It bears the indelible stamp of its founder Head of the Department, late Prof.K.Krishnan Nair. He exhorted ECE Department to become a byname for Excellence, Creativity and Enterprise. In the span of five decades the Department has grown to a complement of 16 members of teaching staff and about 500 students at UG, PG and Ph.D with the staff specialized in various fields of Digital Systems, Control Systems, Signal Processing, Microwaves, Microprocessor Applications, Computer Systems, Communication Engineering, Embedded Systems and VLSI Design. The broad spectrum of subjects in the area of ECE is fully represented. At present the research areas in the department are VLSI and Embedded System, Digital Signal Processing, GNSS, Microwave Engineering, and Modern Tele Communications.

Interested candidates can down load the registration form from www.osmania.ac.in or <http://www.uceou.edu> and send the filled form along with DD/Cheque, before 31st July 2014, to the following address.

The Coordinator, GNSS-14,

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