Nalla Narasimha Reddy Group of Institutions
NNRG
Integrated Campus

NALLA NARASIMHA REDDY

Education Society's Group of Institutions–Integrated Campus

(Approved by AICTE, PCI, New Delhi. Affiliated to JNTU-Hyderabad)

Near Narapally, Chowdariguda (V), Korremula 'X' Road, Ghatkesar (M), Medchal (District), Hyderabad - 500088, Telangana.

Accredited by NBA CSE ECE ME NAAC

Report on

Guest Lecture

(Date: 25/01/2020)

"Indigenous Satellites – IRNSS & GAGAN Systems"

Resource Person: HARI PRIYA SAKETHAPURAM
Scientist/Engineer 'SD' NRSC Member.
IEEE (GRSS) Member.
email:gsk@inohmic.com

HARI PRIYA SAKETHAPURAM
Scientist/Engineer 'SD' NRSC Member, IEEE(GRSS) Member, Synthetic Aperture RADAR SAR Standards Committee

Qualification: Bachelor's in Physics –Applied Electronics from University of Madras. Master's in Physics-Specialisation in Microwaves from Osmania University Hyderabad. M.Tech in Nano Technology with MEMS as Specialisation from Jawaharlal Nehru Technological University (JNTU) Hyderabad. Recruitment through ISRO Centralised Recruitment in 2010.

Work Profile: Scientist in Microwave Remote Sensing Data Processing Division National Remote Sensing Centre (ISRO). RISAT-1, RISAT-2, SARAL, NASA ISRO SAR(NISAR) Data Processing related activities. Played a pro-active role in Initial Phase Operations of RISAT-1, first ISRO SAR mission. Posted at ISTRAC during RISAT-1 launch for co-ordinating between ISTRAC and NRSC teams for First SAR Payload operation and data collection at IMGEOS Shadnagar. Major contribution in the External Calibration – Validation activities for RISAT-1 and RISAT-2. Developed software "SigmaSAR" and "SigmaSARPOL" for generating Sigma Naught Images for RISAT-1 and for polarimetric studies of Indian and Foreign satellite missions. This has been hosted on the NRSC website for utilisation of the student and user community. Six technical reports and has co-authored a Technical Paper on "Development of Conventional and Polarization specific corner reflectors and their deployment for calibration of RISAT-1 SAR" which was presented at the 8th International conference on Microwaves, Antenna propagation and Remote sensing, 2012. Focal Point for ISO 2015- Quality Management Systems focal point for Microwave Remote Sensing and Global Data Processing Group. Executive member in NESA-NRSC Engineers and Scientist's Association.

In this lecture,"**Indigenous Satellites – IRNSS & GAGAN Systems**"; speaker **Hari Priya Sakethapuram**covered the latest aspects of Indigenous satellites such as IRNSS and GAGAN systems. IRNSS is an autonomous regional satellite navigation system being developed by ISRO. The main objective of the IRNSS is to implement an independent and indigenous regional spaceborne navigation system for national applications.Similarly, ISRO and Airport Authority of India (AAI) developed the GPS-aided GEO augmented navigation (GAGAN). It is an implementation of a regional satellite-based augmentation system (SBAS) to improve the accuracy of a GNSS receiver by providing reference signals. GAGAN systems provides non-precision approach (NPA) service accurate to within the radius of $1/10^{th}$ of a nautical mile over the Indian FIR. The speaker also showed the major elements/sections of GAGAN system. By adopting GAGAN for aviation'sflight delays, diversions and cancellations (DDC) were minimized while reducing controlled flight into terrain incidents by 75 percent. Further, GAGAN facilities enhanced oceanic air traffic control in areas where ground-based navigation system is unavailable. The speaker concluded the session by showing how India became fourth country in the world to implement an SBAS system for civil air navigation after WAAS, EGNOS and MSAS. The lecture was attended by Faculty members, U.G/ P.G students of the institution.

Head of the Department
Head of the Department
Electronics & Communication Engineering
Nalla Narasimha Reddy Education Society's
Group of Institutions - Integrated Campus
Chowdariguda(Vill), Ghatkesar (Mdl), R.R.Dist 500 088