



**Departments of Electronics and Communication Engineering & Artificial Intelligence and Data Science**  
**A Two Day Workshop**  
**on**  
***Utility of PolaRx5S Scintillation Monitoring Receiver for Advanced Research***  
**(14-15 February 2025, DST-SERB SSR Programme)**

**Chief Patron**

Sri.N.Subash, President

**Patrons**

Prof.C.V.Narasimhulu  
Principal

Prof.P.Ravinder Reddy  
I/c Director and Head, R&E

**Organizing Committee**

**Chair Person**

Prof.A.D.Sarma  
Advisor, R&D

**Co-Chairs**

Prof.D.Krishna Reddy  
Director, R&D

Dr.D.L.S.Reddy  
Assoc. Professor, AI&DS

**Coordinating Heads**

Prof.K.Radhika  
Professor & HoD, AI&DS

Dr.K.Vasanth  
Assoc.Prof & HoD, ECE

**Faculty Coordinators**

Dr. A Supraja Reddy  
Assoc.Prof, ECE

Dr. M.Vinodh Kumar  
Assoc.Prof, ECE

Dr. D Sony  
Asst.Prof, ECE

**Convenors**

Dr.KSRS. Jyothsna  
Asst.Prof, ECE

Dr.T.Sridher  
Asst.Prof, ECE

**Co-Convenors**

Mr. K. Lakshmana  
Sr. Research Assistant

Mr. Md Kursheed  
Junior Research Fellow



Worldwide accessibility of Global Navigation Satellite Systems (GNSS) signals, together with the availability of low-cost receivers, provided a quantum leap in Location Based Services (LBS). Today, GNSS is used for providing positioning and timing solutions for a large variety of applications in various fields. However, current GNSS systems accuracy is limited by several factors. Advanced research needs to be carried out to improve the accuracy, particularly for applications requiring high precision such as Autonomous Vehicles, Drones, Defense and Surveying. This two day workshop aims at leveraging the capabilities of PolaRx5S receiver to address various research challenges and opportunities in the GNSS field. The PolaRx5S, developed by Septentrio, is a high-end GNSS reference receiver known for its accuracy, robustness, support for multiple constellations and frequencies. The participants are expected to gain a comprehensive understanding of both the theoretical aspects and practical applications of using PolaRx5S data in GNSS research. Further, the participants will be exposed to State of Art equipment available in Navigation and Communication Research Centre (NCRC) and research activities.

<b>Workshop Contents</b>	<b>Target Participants</b>
1. Research challenges and opportunities in GNSS	Faculty or Research Scholars who are actively involved in Research or willing to carryout Advanced Research on Navigation Systems.
2. Overview of PolaRx5S receiver	
3. GNSS Data Acquisition and Processing	
4. Hands-on sessions on Data Processing using Python and Matlab	
5. ML techniques for GNSS applications	
6. Assignment/Quiz	

**Registration**

1. No Registration Fee (Max Participants: 50)
2. Certificates will be provided to participants based on attendance
3. No TA/DA is admissible
4. Registration is mandatory
5. Last date of Registration: 1<sup>st</sup> February 2025

**Registration link:** <https://forms.gle/9FXxjFWsc5gpTavh9>

**Schedule**

IST (Hrs)	Day 1 : 14 February 2025	Day 2 : 15 February 2025
10:00-11:00	Registration & Inauguration	Ionospheric Scintillations
11:00-11:15	Tea Break	
11:15-12:00	Overview of GNSS System	Forecasting of Scintillations
12:00-13:00	Machine Learning concepts in the context of forecasting	Generation of Regional Scintillation Maps
13:00-14:00	Lunch Break	
14:00-15:00	Hands on session - Installation procedure and Operation of IRNSS-SPS-GPS Receiver	Hands on session- Operation of PoLaRx5S receiver
15:00-15:15	Tea Break	
15:15-16:45	Hands on session- Installation procedure of PoLaRx5S receiver	Assessment of Assignment / Quiz and Validictory