2026 URSI Regional Conference on Radio Science (URSI-RCRS 2026)

November 17-20, 2026, IIG Navi Mumbai, India

Website: (URSI RCRS 2026)

Annoucement of

Workshop on Space-based Radio/Microwave Techniques for Natural Hazard Monitoring

(17 November 2026)

Convenor
Mala S. Bagiya, IIG Navi Mumbai

Natural Hazards such as cyclones, landslides, floods, earthquakes, volcanoes and tsunamis pose serious risks to human lives and infrastructure. Space-based radio and microwave remote sensing techniques serve as powerful tools for detection and monitoring these events, enabling early warning systems and effective disaster response. The proposed workshop will introduce principles, basic functioning and applications of these satellite-based technologies in natural hazard monitoring to the participants. The workshop is open for all including research scholars, research associates and professionals from academic institutions/universities and public/private sector industries for deliberating various aspects of these powerful techniques.

The workshop will address techniques including GNSS-based methods for atmospheric sounding to determine vertical profiles of temperature, pressure, humidity and ionospheric sounding during earthquakes, volcanoes and tsunamis, Synthetic Aperture Radar (SAR), Interferometric SAR (InSAR) and Differential InSAR (D-InSAR) for monitoring ground surface deformations, microwave radiometry for soil moisture mapping, cyclone monitoring and rainfall estimation etc. The role of these techniques in real-time disaster monitoring will be emphasised. The workshop is structured around lectures and discussions. An attempt will be made to organise hand-on sessions using open-source satellite data and basic processing tools.

All delegates registered for URSI RCRS 2026 are free to attend the workshop. Please bring your laptop with you for the hands-on training session during the workshop.

Detailed Schedule of Workshop - 1

Time	Topic	Name of the Speaker
09:30 to 09:35	Welcome and Introductory Remarks	URSI-RCRS Convenor / Mala S. Bagiya, IIG, Navi Mumbai
09:35 to 10:05	GNSS-based Ionospheric Monitoring of Earthquakes and Tsunamis	Dr. Mala S. Bagiya, IIG, Navi Mumbai
10:05 to 10:35	GNSS in Seismogenesis and Geodynamics	Dr. Vineet Gahaluat, NGRI, Hyderabad
10:35 to 11:05	GNSS in Seismogenesis and Geodynamics – Hands-on Training	
11:05 to 11:30	Tea Break	
11:30 to 12:00	SAR Interferometry for Deformation Studies	Dr. Deepak, SAC, Ahmedabad
12:00 to 12:45	Mapping and Modelling Earthquake-Induced Surface Deformation Using SAR Interferometry – Hands-on Training	Prof. Y. S. Rao, CSRE, IIT, Bombay
12:45 to 13:30	Advancing Weather and Climate Monitoring and Prediction Using GNSS : Insights from Ground-Based and Satellite Observations	Dr. Randhir Singh, SAC, Ahmedabad
13:30 to 14:30	Lunch	
14:30 to 15:00	Spaceborne observations of Volcano induced Atmospheric-Ionospheric Perturbations	Mr. Satyamesh Tiwari, IIG, Navi Mumbai
15:00 to 15:30	Spaceborne observations of Volcano induced Atmospheric-Ionospheric Perturbations – Hands-on Training	
15:30 to 16:00	Interactive Discussion and Conclusion followed by Group Photograph	
Workshop participants will be awarded with a participation certificate		