Announcement of a Special Issue of Advances in Space Research (ASR)

Spaceborne SAR Remote Sensing for Characterization of Natural and Manmade Features

The synthetic aperture radar (SAR) remote sensing technique has shown its significance to retrieve information of manmade and natural features. It has been widely used for land use and land cover mapping. Nowadays several advancements have been done in SAR remote sensing techniques to improve the accuracy in the biophysical and geophysical characterization of manmade and natural features from the local scale to a global scale. The active microwave imaging SAR system has not only the potential to characterize parameters of the objects but also to measure the height of the terrain and vegetation cover, velocity of glacier & sea ice, movement of the tectonic plates, the lava flow direction of a volcanic eruption and subsidence in the earth surface with very high accuracy. Several valuable studies have been conducted with the help of SAR remote sensing to characterize the surface and subsurface of the planetary bodies. Venera's SAR, Magellan mission, Cassini's radar, Lunar Reconnaissance Orbiter's Mini-RF, and Chandrayaan-1's Mini-SAR have explored the structural properties of the planetary bodies of our solar system. The scientific community has a very high expectation from dual-frequency fully polarimetric SAR system of Chandrayaan-2 mission to reveal the truth underneath the dark polar locations of the Lunar surface. The SAR systems have been widely used in the applications of solid earth, ecosystem, and cryosphere. Seeing the importance of SAR remote sensing, many space agencies have launched state-of-the-art sensors in space and many unique feature sensors have been planned for the future. NASA-ISRO Synthetic Aperture Radar (NISAR) mission is a unique spaceborne SAR mission that will be launched in the future with dual-frequency capability. Similarly, the P-band BIOMASS mission of the European Space Agency (ESA) will be the first mission in space dedicated to the biomass of the tropical forest. By seeing the requirement of advanced SAR remote sensing techniques, advancement in data processing, and innovation in modeling approaches for the characterization of manmade and natural features is essentially required. This special issue invites those papers, which make a significant and innovative contribution in data processing techniques and modeling approaches to advanced spaceborne SAR remote sensing techniques.

1) Forest parameter retrieval
2) Advance InSAR data processing techniques for subsidence monitoring and change detection
3) Oil Spill and Ship Detection
4) PolSAR, PolInSAR and SAR Tomography
5) Dielectric Characterization and Soil moisture estimation.
6) Volcanic applications
7) Urban Mapping
8) Glacier mapping and monitoring
9) Sea Ice detection and mapping
10) SAR- based unique findings of planetary bodies.
11) Subsurface studies
12) Geological and geomorphological applications

Manuscripts must be submitted electronically to **https://www.editorialmanager.com/AISR**. To ensure that all manuscripts are correctly identified for inclusion into the special issue, **authors must select "S.I.: Adv. in Spaceborne SAR"** when they reach the "Article Type" step in the submission process.

Submitted papers must be written in English and should include full postal affiliation addresses for all authors. The general format for submission of papers can be found on the ASR Elsevier web site at
http://www.elsevier.com/wps/find/journaldescription.cws_home/644/authorinstructions.

Only full-length papers will be considered for publication, subject to peer review by a minimum of two reviewers. There are no page limits although the length of the paper should be appropriate for the material being presented. While the **deadline for submissions is 31 October 2021**, papers will be published electronically as soon as they are accepted. The printed issue will be assembled within a reasonable time with late papers being printed in regular issues of ASR. Contributors to this issue will have an opportunity to purchase individual issues once the issue is finalized. All articles will be typeset at no cost to the author; there is a charge for printing color figures although there is no charge for color figures in the electronic version.

Dr. Shashi Kumar (shashi@iirs.gov.in; sksinghiirs@gmail.com) and Dr.Himanshu Govil (hgovil.geo@nitrr.ac.in) are the Guest Editors for this special issue. Questions can be directed to Dr. Kumar and Dr. Govil or to the ASR Co-editor for Special Issues, Peggy Ann Shea sssrc@msn.com).