

Report on Annual Convention of the Indian Society of Remote Sensing and National Symposium – 2008

The Annual Convention of Indian Society of Remote Sensing (ISRS) and National Symposium was held at Ahmedabad during December 18 – 20, 2008. The National Symposium on **“ADVANCES IN REMOTE SENSING TECHNOLOGY AND APPLICATIONS WITH SPECIAL EMPHASIS ON MICROWAVE REMOTE SENSING”**, hosted jointly by the Space Applications Centre (ISRO), ISRS – Ahmedabad Chapter and Nirma University was held in the Nirma University Campus, Ahmedabad.



The inaugural session began with traditional invocation and lighting of the lamp by the dignitaries. Shri D. Rajagopalan, Chief Secretary, Govt. of Gujarat, inaugurated the symposium. In his inaugural address, Shri Rajgopalan stressed upon the progress made in the field of Remote Sensing, sensor technology with special emphasis on microwave sensors and the need for newer analysis techniques in the use of high-resolution satellite data in thematic mapping and applications with special reference to problems associated with coastal regions of Gujarat. Dr. Ketan Kotecha, Director, Institute of Technology, Nirma University welcomed all the distinguished guest and delegates. Dr. R. R. Navalgund, Director, Space Applications Centre and Chairman, Organising Committee, briefed all the delegates about the Symposium. The efforts made by the Organising Committee to ensure the success of the programme were brought forth by Dr. Navalgund and thanked all the delegates for the overwhelming response received for the Symposium. He also thanked ISRS for awarding National Symposium during Silver Jubilee year of the Ahmedabad Chapter.



Dr. Shailesh Nayak, President ISRS and Secretary, Ministry of Earth Sciences (MoES), in his Presidential address welcomed all the delegates and gave an account of the activities of the Society and reiterated that the Ahmedabad Chapter was privileged to organize the Annual Convention of ISRS and National Symposium – 2008 during its Silver Jubilee year. He mentioned about the initiatives taken by the Society to popularize remote sensing and GIS technology specially by publishing ISRS Journal by Springer. Prof. Orhan Altan, President Indian Society of Photogrammetry & Remote Sensing (ISPRS) and Guest of Honour, mentioned about various activities of ISPRS and stressed upon the need for strengthening bond between ISPRS and ISRS at international level. Several ISRS individual achievement awards were presented during the inaugural function and the same was introduced by Dr. S. K. Saha, Secretary, ISRS. BHASKARA AWARD – 2007 was presented to Shri A.S. Kiran Kumar, Dy. Director, Sensor Development Area, Space Applications Centre (SAC), ISRO Ahmedabad for his outstanding contributions to the development of electro optical imaging sensors for earth observation programme in the country; NATIONAL GEO-SPATIAL AWARD FOR EXCELLENCE – 2007 was presented to Dr. Parvatham Venkatachalam, Principal Research Scientist, CSRE, IIT Bombay; P. R. Pisharoty Memorial Award – 2008 and Indian National Geospatial Award – 2008 were presented to Dr.(Ms) Rashmi Sharma, Scientist, Space Applications Centre (SAC), ISRO Ahmedabad and to Mr. Srinivasa Kumar Tummala, INCOIS, Hyderabad respectively. The inaugural function concluded with vote of thanks by Shri N.S.Mehta, Organising Secretary, ISRS Symposium – 2008.

The inaugural programme was followed by invited talks and technical parallel sessions. The industry and space exhibition was inaugurated by Prof. Orhan Altan just before lunch. As per convention, the first day's programme concluded with the Dr. Vikram Sarabhai



Memorial Popular Lecture. This year the lecture was delivered by Prof. R. Narasimha, FRS, Member Space Commission & Earth Commission on "Climate Change and the Indian Space Programme". During three days six invited talks by eminent personalities such as: Prof. Orhan Altan, President ISPRS, Dr. Robert O. Green from JPL (NASA), Shri S.S. Rana, Dy. Director, MRSA, Space Applications Center (ISRO), Ahmedabad, Shri A.S. Kiran Kumar, Dy. Director, Sensor Development Area, Space Applications Centre (SAC), ISRO Ahmedabad, Dr. V. Jayaraman, Director, National Remote Sensing Center, Hyderabad and Dr. Stophel, KMI from Netherlands were delivered and fifteen parallel technical sessions covering different areas related to the focal theme of the conference as well as various aspects of natural resources and environmental inventory, and management were organized. In all there were 92 oral and 59 poster presentations made by scientists representing more than 70 Organisations / Universities in the country on following topics:

- Microwave Sensors / Systems
- Optical sensors / Processing
- Marine & Coastal Applications
- Disaster Management
- Hyper Spectral Applications
- Land use / Land cover
- Microwave Signal & Image Processing
- Agriculture
- Geology & Hydrology

- Extra Terrestrial & Advances in Microwave Techniques
- Atmosphere & Meteorology
- Soil
- Forestry & Environment
- Urban & Infrastructure Planning
- Water Resources



In addition to above fifteen parallel technical sessions, one session on industry presentation and a special session for students was also organised. In all 350 registered participants took part in the deliberations of the three-day Symposium.

At the end of the technical sessions on third day i.e. on 20th December, a plenary session on the focal theme of the conference was held and resolutions (Annexure – I) were passed for onward transmission to various users in Ministries and NGO's. The session ended with presentation of awards to best papers, both general as well as student categories presented during the symposium (Annexure – II).



The Annual General Body meeting of the Indian Society of Remote Sensing was held on the evening of 19th December. Silver Jubilee Celebrations of ISRS Ahmedabad Chapter followed by dinner was organized for the members of the chapter and delegates of the symposium after the Annual General Body Meeting.

The Conference was Co-sponsored by Ministry of Earth Sciences (MoES), Indian Space Research Organisation (ISRO), National Remote Sensing Centre (NRSC), Indian National Centre for Ocean Information Services (INCOIS), Antrix Corporation, Andhra Pradesh State Remote Sensing Applications Centre (APSRAC), State Remote Sensing Applications Centre (SRAC) Jodhpur, Bhaskaracharya Institute for Space Applications and Geo – informatics (BISAG), Gandhinagar, Center for Space Science and Technology Education in Asia and the Pacific (CSSTEAP), Dehradun and Uttarakhand Space Applications Centre (USAC), Dehradun. Lunch and Dinner were hosted by Space Applications Centre, GIS Development and Speck Systems Ltd.

Pre-Symposium tutorials were organised during December 16 – 17, 2008 at Space Applications Centre (ISRO), Ahmedabad. First tutorial was on “Microwave Signatures” where 33 participants were there and second was on “Hyperspectral data and Analysis Techniques” where 37 participants took part. Both the tutorials received overwhelming response and was appreciated by all the participants.



Annexure - I

Resolutions for ISRS Symposium 2008:

“Advances in Remote Sensing Technology and Applications with Special Emphasis on Microwave Remote Sensing”

Resolution 1: Microwave Sensor/Systems and Signal & Image Processing

The Symposium

Noting

Phenomenal development taking place in the field of microwave sensors in India, such as RISAT, DMSAR, Scatterometer, Synthetic Aperture Radiometer, MSMR, etc.

Recognizing

- the complexities involved in understanding microwave interactions, signatures and data products resulting in its limited use among common users

Recommends

- Development and improvement of procedures for signal & image processing and generation of user/theme oriented data products
- Encourage indigenous development and improvement of open source software and analysis methodologies for classification/analysis of microwave data with respect to multi-angle, multi-polarization, multi-frequency and interferometry.
- Intensive capacity building in the field of microwave remote sensing-signature studies and applications

Resolution 2: Optical Sensors and Processing with Special Emphasis on Hyperspectral Remote Sensing

The Symposium

Noting

Increasing availability of high spatial, hyper-spectral and high temporal resolution remote sensing data from various earth observation optical sensors

Recognizing

Efforts made in developing advanced data processing techniques for on-board data compression, noise removal, image classification and DEM generation

Recommends

- Development of signal and data processing techniques for high spatial resolution and hyperspectral data which can generate user friendly data products
- Development of software and analysis methodologies for pre-processing and classification using hyperspectral data

Resolution 3: Retrieval of Bio-geo-physical Parameters

The Symposium

Noting

- The growing use of quantitative remote sensing and its linkages with earth process models
- The availability of a host of theme specific sensors on-board Indian Satellites

Recognizing

- Retrieval of attributes/parameters is essential to understand the bio-geo-physical processes/interactions for modeling
- Limited availability of bio-geo-physical products from Indian missions
- Need for validated products over Indian sites

Recommends

- Development of physical/analytical algorithms/techniques for extraction of parameters
- Use of satellite data products for regular monitoring of earth processes
- Increased emphasis on calibration and validation of products

Resolution 4: Use of remote sensing and geospatial technology for early warning, monitoring & mitigation of disasters

The Symposium

Noting

- India being a highly susceptible country to many types of disasters, like earthquakes, tsunamis, floods, droughts, landslides, cyclones, forest fire, etc.
- Growing importance of role of earth observation inputs in better disaster management / risk reduction

Recognizing

- Use of RS inputs for early warning of disaster is still at a nascent stage
- Limited availability of timely, usable data from EO satellite at the time of disaster

Recommends

- Development and validation of models for early warning of disasters using remote sensing data
- Creation of a network of satellites using both optical and microwave sensors for hazard monitoring and vulnerability assessment
- Development of international cooperation towards data sharing
- Creation of public access GIS database and its near real time dissemination for emergency management

Resolution 5: Utilization of earth observation data for understanding the Climate Change and its impact

The Symposium

Noting

The growing concern for climate change and its impact on food security, hydrology, ecosystem services, human health etc.

- The use of remote sensing data to monitor the impacts of climate change

Recognizing

- Uncertainty of climate change scenario and impact assessment models
- Limited availability of long-term dataset for impact monitoring

Recommends

- Development of procedures for integrating remote sensing data for improving the accuracy of regional scale climate models
- Development of a long-term, calibrated, seamless dataset from various EO sensors for impact monitoring
- Calibration, validation and utilization of impact assessment models to forecast climate change impacts and suggest adaptation measures.

Annexure - II

Sl. No.	Category	Authors	Title
ISRS – SPECK Award			
1.	Oral Presentation (General) - First	Rakesh Bhan, Deepak Putrevu, Tapan Misra and D. B. Dave	Radar Imaging Satellite (RISAT) System Characterization Initial Results
2.	Oral Presentation (General) - Second	R. S. Chatterjee; S. K. Saha; Suresh Kumar; Sarika Mahew; R. C. Lakhera and V. K. Dadhwal	Erosion Potential Study of Chambal Ravines using Spaceborne INSAR Derived Information
3.	Oral Presentation (General) - Third	Shweta Sharma and S. K. Pathan	Potential of Multi-polarisation and Multi-frequency SAR Systems for Urban Applications
4.	Poster Presentation (General) – First	Rajendra N Gaikwad and Subhan K. Pathan	Resource Sharing, its Important and Security Over Network
5.	Poster Presentation (General) - Second	Abha Chhabra, K R. Manjunath and Sushma Panigrahy	Estimating Nitrogen Losses from Rice crop using Remote Sensing and GIS
ISRS – Student Award			
1.	Oral Presentation – First	M. B. Rajani, Satadru Bhattacharya and A. S. Rajawat	Synergistic Application of Optical and Radar Data for Archaeological Exploration in the Talakadu Region, Karnataka
2.	Oral Presentation - Second	Amitava Dutta, Anil Kumar and Valentyn Tolpekin	Contextual Fuzzy C - means Classification of Remotely Sensed Multi-spectral Data for Land Cover Mapping
3.	Poster Presentation – First	Bazigha Badar and ShakilAhmad Romshoo	Geoinformatics Tools for Comparative Studies of Pollution Analysis in Two Micro-watersheds
4.	Poster Presentation - Second	V. S. Palria, N. Sharma, Vikram Tak, S. K. Parihar and Sarvesh Palria	Environmental Impact Assessment of Fire Clay Mines in Than Area (District Surendragar, Gujrat) using High Resolution Satellite Data and GIS