Geospatial Technology: Journey from Data to Intelligence

ISRS and ISG National Symposium

Program at a Glance

15-17 Nov 2022
Hyderabad

GEOSPATIAL WORLD
ADVANCING KNOWLEDGE FOR SUSTAINABILITY

INDIAN SOCIETY OF GEOMATICS
ISG

INDIAN SOCIETY OF REMOTE SENSING
1969

TUESDAY 15th November

0930 – 1130   OPENING SESSION

0930   Curtain Raiser   I   Invocation Performance

0940   Welcome Note: **Sanjay Kumar**, Founder and CEO, Geospatial World

0945   Address by: **Dr Prakash Chauhan**, President, ISRS

0950   Address by: **Dr Raj Kumar**, President, ISG

0955   Address by: **Lena Halounová**, President, ISPRS

1000   Keynote Address: **Agendra Kumar**, Managing Director, ESRI India

1010   Keynote Address: **Boris Skopljak**, Vice President, Surveying & Mapping Strategy and Product Marketing, Trimble Inc

1020   Guest Address: **DR. M. Ravichandran**, Secretary, Ministry of Earth Sciences

1030   Guest Address (Video) by **Shri S. Somanath,** Chairman ISRO and Secretary, DOS

1035   **Releases**

Geospatial Artha Report and Presentation by Ananyaa Narain, Director – GW Consulting, Geospatial World on "Indian Geospatial Strategy for National Development"
Release of Atlas: Geology from Space
Release of Abstract Volume

1050   **Awards and Recognitions**

Geospatial World Leadership Awards
ISRS Awards
ISG Awards

1105   Inaugural Address: **Shri Gajendra Singh Shekhawat**, Hon'ble Union Minister, Ministry of Jal Shakti

1125   Vote of Thanks: **Dr VV Rao**, Associate Director, National Remote Sensing Centre

1130 – 1200   EXHIBITION OPENING AND NETWORKING TEA/COFFEE BREAK

1200 - 1300   PLENARY SESSION 1: *#Geospatialbydefault: Empowering Billions*

Moderator: Kanwar Chadha, Founder SiRF & Executive Chairman, Argoid Binatone & Hubble

Krishna Bodanapu, Managing Director & CEO, Cyient

Nadine Alameh, CEO, OGC

Sajid Malik, Chairman/Managing Director, Genesys

Dr Prakash Chauhan, Director, National Remote Sensing Centre

1300 – 1400   **LUNCH**

1400 – 1500   **PLENARY PANEL 2:** *SPACE INFRASTRUCTURE AND GEOSPATIAL VALUE CHAIN FOR INDIAN ECONOMY*

Moderator: Dr. R.R. Navalgund, Former V S Distinguished Professor and Former Director Space Applications Centre, ISRO

Hukum Singh Meena IAS, Additional Secretary, Department of Land Resources, Ministry of Rural Development

Alok Prem Nagar, Joint Secretary, Ministry of Panchayati Raj

Massimo C Comparini, Deputy CEO Thales Alenia Space

Kaname IKEDA, President, Restec, Japan

Dr S Sarkar, Associate Director, Space Application Centre

Basanta Raj Shrestha, Director Strategic Cooperation, Directorate

1500 - 1600   **PLENARY PANEL 3:** *DIGITAL CITIES AND INFRASTRUCTURE*

Moderator: Bhupinder Singh, Principal, InTwin Insights & Board Member, Irth Solutions

Amit Ghosh, Additional Secretary, Ministry of Road Transport and Highways

Pramod Kaushik, President, Hexagon India

Kai Umino, President, Topcon Sokkia Positioning Japan

Dr Motoyuki Arai, Founder and CEO, Synspective

1600 - 1645   **NETWORKING TEA/COFFEE BREAK**

1645 - 1715   **PLENARY PANEL 4:** *GEOSPATIAL FOR LA&BI*

Moderator: Dr. Shailesh Nayak, Director, National Institute of Advanced Studies

Abhishek Chaudhary, Vice President- Corporate Affairs, HR & Company Secretary · National Industrial Corridor Development Corporation

Puneet Aggarwal, Vice President – IoT, Smart Mobility, Reliance Jio Infocomm

Azad Mishra, Sr. VP, Rural and Agri Business Group, HDFC Ergo

Nilotpal Gupta, Head of Data Science, ICICI Securities

1715 – 1745   **VIKRAM SARABHAI MEMORIAL LECTURE**

Chair: Dr Prakash Chauhan, Director, National Remote Sensing Centre

Lecture by: Dr. M. Ravichandran, Secretary, Ministry of Earth Sciences

ISRS-ISG National Symposium on "Geospatial Technology: Journey from Data to Intelligence"

Tuesday 15-Nov-2022

Time	Session
14:00 – 17:30 hrs	Poster Session 1 (Venue: Foyer area)

Wednesday 16-Nov-2022

Time	Session
09:30 – 11:15 hrs	Plenary Session (Venue: Hall #5-6) Chair: **Dr. Shantanu Bhatawdekar**, Scientific Secretary, ISRO/DOS. **Plenary Session Talk: Dr. Prasad, Dr. Raj Kumar, Dr. V.V. Rao & Prof. K.S. Rajan**
11.15 – 12.00 hrs	Poster & Visit to Exhibition and Tea/Coffee Break
12.00 – 13.00 hrs	ISG Millennium Lecture (Venue: Hall#5-6) Chair: **Dr. Raj Kumar**, Prof. Satish Dhawan Professor, SAC **Millennium Lecture: Dr. Bharat Lohani**, IIT-Kanpur
09:30 – 13:00 hrs	Poster Session 2 ((Venue: Foyer area)
13.00 – 14.00 hrs	Lunch

Time	Session - 01	Session - 02	Session - 03	Session - 04
14.00 – 15.30 hrs	**Session - 01** Natural Resources Monitoring and Accounting (Venue: Hall-5) Chair: Dr. S. K. Srivastava, CGM, NRSC **Lead Talk:** Shri. P.L.N. Raju, Director, Assam State Space Application Centre (ASSAC): **Title:** *"Local and community based Climate resilient programs – Government of Assam initiatives, a step towards India's net zero commitment by 2070"*	**Session - 02** Satellite Oceanography and Blue Economy (Venue: Hall -6) Chair: Dr. T. Srinivasa Kumar, Director, INCOIS **Lead Talk:** Dr. R.K. Nayak, NRSC **Title:** *"Seasonal Dynamics of Chlorophyll concentration in the North Indian Ocean based on satellite Observations and Numerical Model"*	**Session - 03** Microwave Remote Sensing for Natural Resources & Disaster Management Services (Venue: G-01) Chair: Shri. M.K. Srinivas, Chairman, Ganga Flood Control Commission (GFCC), MoJS **Lead Talk:** Dr. Deepak Putrevu, SAC **Title:** *"Microwave Remote Sensing: SAR applications with EOS-04"*	**Session - 04** Atmospheric Trace gases and Aerosols (Venue: G-02) Chair: Dr. J.V. Thomas, Associate Director, EDPO, ISRO-HQ **Lead Talk:** Dr. Som K. Sharma, PRL **Title:** *"Investigations of the Atmospheric Clouds using Ground Based Lidars and Satellite Observations over India"*
15.30 – 16.00 hrs	Poster & Visit to Exhibition and Tea/Coffee Break			
16:00 – 17:30 hrs	**Session - 05** Natural Resources Monitoring and Accounting	**Session - 06** Climate Risk & Climate Resilience and SDGs	**Session - 07** Academia Session (G-01)	**Session - 08** Geospatial Industry Session (Venue: G-02)

Time	(Venue: Hall-5)	(Venue: Hall-6)		
	Chair: Dr. V. V. Rao, AD, NRSC **Lead Talk:** Dr. C. Patnaik, SAC **Title:** *"Estimating the AGB of India's forests from SAR images"*	**Chair:** Dr. R.P. Singh, Director, IIRS. **Lead Talk:** Dr. Lena Halounova, President, ISPRS **Title:** *""Mosaic stones of geospatial technologies from ISPRS for Sustainable Development Goals"*	**Chair:** Prof. M. Gopal Naik, Osmania University **Lead Talk:** Dr. T.P. Singh, Director, Symbiosis Institute of Geoinformatics **Title:** *"Geospatial Education and Changing Dimensions in Reference of New Education Policy"*	**Chair:** Dr. P. Subba Rao, Ananth Technologies **Lead Talk:** Dr. G. Rupesh, Ananth Technologies **Title:** *"Modern Trends in Surveillance and Reconnaissance"*
14:00 – 17:30 hrs	**Poster Session 3** (Venue: Foyer area)			

Thursday   17-Nov-2022

Time	Session – 09	Session – 10	Session - 11	Session - 12
09.30 – 11.00 hrs	Agriculture, Water and Other Natural Resources Management (Venue: Hall-5) **Chair:** Dr. S. P. Aggarwal, Director, NESAC **Lead talk:** Dr. Parul patel, SAC **Title:** *"A Novel Two Stage upscaling approach for Validation of SMOS Derived Soil Moisture"*	Sensor Technologies and Data Processing (Venue: Hall -6) **Chair:** A. Senthil Kumar, Chair, Financial Commission ISPRS **Lead talk:** Dr. Harish Seth, SAC **Title:** *"Pre-Flight Radiometric Calibration of OCM-3 and Estimation of its calibration uncertainty"*	Data Science, AI, ML (Venue: G-01) **Chair:** Dr. P. V. Radhadevi, Director, ADRIN. **Lead Talk:** Dr. Chinmoy Roy, Antrix Corporation Limited **Title:** *"Legal issues for use of artificial intelligence in remote sensing"*	Satellite Meteorology (Venue: G-02) **Chair:** Dr. Raj Kumar, Prof. Satish Dhawan Professor **Lead Talk:** Dr. M. Venkat Ratnam, NARL **Title:** *"Impact of COVID-19 lockdown observed on various atmospheric processes obtained using ground-based, space-borne and model simulations"*
11.00 – 12:00 hrs	Poster & Exhibition Visit and Tea/Coffee Break			
12:00 – 13:00 hrs	**Session - 13** Agriculture, Water and Other	**Session - 14** Decision support system	**Session - 15** Cryosphere processes &	**Session - 16** Advance future Technologies

	Natural Resources Management (Venue: Hall-5)	for e-governance (Venue: Hall-6)	Climate Change (Venue: G-01)	for EO missions (Venue: G-02)
09:30 – 13:00 hrs	**Chair:** Dr. K. Vinod Kumar, DD, RSA, NRSC **Lead Talk:** M.S.S. Nagaraju, *ICAR-NBSS and LUP, Nagpur* **Title:** *"Development and validation of spectral models for prediction of soil properties in soils of Maharashtra"*	**Chair:** Dr. Y.V.N. Krishna Murthy, Registrar, IIST. **Lead Talk:** Dr. Sameer Saran, IIRS. **Title:** *"Recent trends in Geoinformatics for e-governance"*	**Chair:** Dr. Rajashree Bothale, DD, ECSA, NRSC **Lead Talk:** Dr. Sanjay K. Jain, NIH, Roorkee. **Title:** *"Snow-glacier melt runoff separation and variability assessment under glaciers change in Himalayan Teesta River basin"*	**Chair:** Dr. Uma Devi, DD, SDR&ISA, NRSC. **Lead Talk:** Dr. Anup Das, SAC **Title:** *"NISAR: Mission Updates and Science Plan"*
09:30 – 13:00 hrs	**Poster Session 4** (Venue: Foyer area)			
13:00 -14:00 hrs	**Lunch**			
	Session - 17 PhD/Research Scholar Session (Venue: Hall-5) **Chair:** Prof. K.S. Rajan, IIIT-Hyderabad	**Session - 18** Innovation for Geospatial Technology (Venue: Hall-6) **Chair:** Col Rajat Sharma, Director, SOI, Dehradun, Uttarkhand. **Lead Talk:** Prof. S.K. Ghosh, IIT-Roorkee **Title:** *"Geospatial Technology: A way forward to Intelligent solution for Society".*	**Session - 19** Health GIS (Venue: G-01) **Chair:** Prof. I.V. Muralikrishna, JNTU **Lead Talk:** Prof. S. Jyothi, Sri Padma Mahila University, Tirupati. **Title:** *"Healthcare Clinic Asset Mapping using Machine Learning Techniques"*	**Session - 20** Ecosystem Accounting, Resilience and Restoration (Venue: G-02) **Chair:** Dr. Sreenivasa Reddy, TRAC **Lead Talk:** Mr. Ashwini Gujarati, SAC. **Title:** *"Wetland Health report card using Remote sensing inputs"*
14.00 - 15.00 hrs				
14:00 – 15:00 hrs	**Poster Session 5** (Venue: Foyer area)			
15.15 - 16.00 hrs	Closing Panel of Geosmart India – ISRS – ISG Symposium			

ISRS – ISG National Symposium on
"Geospatial Technology: Journey from Data to Intelligence"

Nov 16, 2022

Plenary Session (09:30 – 11:15 hrs)	
Chair: **Dr. Shantanu Bhatawdekar**, Scientific Secretary, ISRO/DOS.	
09:30 – 09:35 hrs	Opening Remarks by Chair(s)
09:35 – 09:55 hrs	**Dr. Prasad S. Thenkabail**, USGS, Western Geographic Science Centre, US *"A Paradigm-shift in Mapping the Planet Earth from Satellites: petabyte scale big-date analytics, machine learning, and cloud computing for global food and water security in the twenty-first century"*
09:55 – 10:15 hrs	**Dr. Raj Kumar**, SAC, ISRO. "Unravelling fine scale features in the ocean using space based observations"
10:15– 10:35 hrs	**Dr. V. V. Rao**, Associate Director, NRSC, ISRO. "Natural Resource Management: Technological inventions and emerging trends"
10:35 – 10:55 hrs	**Prof. K. S. Rajan**, Head, Lab for Spatial Informatics, IIIT-Hyderabad. "GeoAI"
10:55 – 11:15 hrs	Discussion & Concluding remarks by Panel members and Chair
11:15 – 12:00 hrs	**Poster & Visit to Exhibition and Tea/Coffee Break**

ISG Millennium Lecture (12:00 – 13:00 hrs)	
Chair: **Dr. Raj Kumar,** Prof. Satish Dhawan Professor & President, ISG.	
12:00 – 13:00 hrs	**Dr. Bharat Lohani**, IIT Kanpur "ISG Millenium Lecture"
13:00 -14:00 hrs	**Lunch**
	Parallel sessions

Session – 01

Natural Resources Monitoring and Accounting (14.00 – 15:30 hrs) 16th November 2022	
Chair: **Dr. S. K. Srivastava**, CGM, NRSC.	
14:00 – 14:15 hrs	**Lead talk**: Shri. P.L.N. Raju, Director, Assam State Space Application Centre (ASSAC): **Title:** "*Local and community-based Climate resilient programs – Government of Assam initiatives, a step towards India's net zero commitment by 2070*"
14:15 – 14:24 hrs	Satellite-based assessment of paddy stubble burnt area progression in Punjab	Bhavana Sahay, Abhishek Chakraborty, and Varun Pandey *National Remote Sensing Centre*
14:24 – 14:33 hrs	Assessing intra-annual and seasonal vegetation trends in Alaknanda River basin, Uttarakhand: An outcome of 40 years of Earth Observation time series data	Neeti Neeti, Mohit Kesarwani, Benidhar Deshmukh, Sukanya Das, J.K. Garg, and Anjal Prakash *Azim Premji University*

14:33 – 14:42 hrs	Prediction of spatial soil carbon loss influenced by surface erosion processes using geo-spatial modeling: A case study from Karnataka, India	Janakirama Suresh K.G., Tarik Mitran, Sujatha G, Sreenivas K. *National Remote Sensing Centre.*
14:42 – 14:51 hrs	Endmember Variability Based Spectral-Spatial Weighted Sparse Unmixing for Abundance Estimation of Red and Black Soil over Sparsely Vegetated Areas Using AVIRIS-NG Image	Touseef Ahmad, Anand S Sahadevan, Rosly B Lyngdoh, Soumyendu Raha, and Deepak Putrevu *Space Applications Centre.*
14:51 – 15:00 hrs	Assessment of Long Term Coastline Monitoring from Satellite Imageries using Geospatial Techniques from Panavila to Pullaviala, Kerala, India – A Case Study	Suneeta Jatwa, Yuvraj Jaydeep Joshi, and S D Ranade *Central Water and Power Research Station, Dept. of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti*
15:00 – 15:09 hrs	Mapping the changing green cover of Ahmedabad city during 2003-21 using remotely sensed NDVI data and Statistical Analysis	Anurag Kandya, Mehul Pandya, Abha Chhabra, Rishabh Oza, and Aditya Vaghela *Pandit Deendayal Energy University*
15:09 – 15:18 hrs	Fore-warning of forest fores using static and dynamic factors	Nikhil Lele and Gayatri Devi *Space Applications Centre.*
15:18 – 15:27 hrs	Biophysical Parameter Retrieval from temporal Sentinel images and Inter comparison with MODIS and PROBA products	Ammaladinne Tharun Kumar, Professor Jayshankar Telangana State Agricultural University
15:27- 15:30 hrs	Closing remarks by Chair	

Session – 02

Satellite Oceanography and Blue Economy (14.00 – 15:30 hrs) 16th November 2022	
Chair: **Dr. T. Srinivasa Kumar**, Director, INCOIS	
14:00 – 14:15 hrs	**Lead talk:** Dr. R.K. Nayak, NRSC **Title:** "*Seasonal Dynamics of Chlorophyll concentration in the North Indian Ocean based on satellite Observations and Numerical Model*"
14:15 – 14:22 hrs	Impact of Marine Heat Wave on Fish Catch along the Indian Coast	P. C. Mohanty, R. S. Mahendra, R. K. Nayak, Sudheer Joseph, T. M. Balakrishnan Nair, and T. Srinivasa Kumar *Indian National Centre for Ocean Information Services (INCOIS).*
14:22 – 14:29 hrs	Characteristics of Ocean Internal Waves detected from EOS-04 (RISAT-1A) data	Anup Kumar Mandal, Seemanth M, and Abhisek Chakraborty *Space Applications Centre (SAC)*
14:29 – 14:36 hrs	A study on improving the accuracy of SCATSAT-1 retrieved winds using SST-dependent correction	Rajesh Sikhakolli and Prakash Chauhan *National Remote Sensing Centre.*

14:36 – 14:43 hrs	Monitoring of Marine Microplastic using Satellite data	Abhinav Gummalla, Reema Mathew, Ramana M.V, P.V. Nagamani, and Prakash Chauhan *National Remote Sensing Centre.*
14:43 – 14:50 hrs	Shallow-water Bathymetry Mapping with Space-borne LiDAR	Anam Sabir, and Unmesh Khati *Indian Institute of Technology, Indore*
14:50 – 14:57 hrs	Detection of Floating Plastic Wastes in Coastal Water bodies using Multispectral Sentinel-2 Satellite Imagery	R.M. Narayanan, V. Niranjana, P.V. Nagamani, Rajashree V Bothale, and Prakash Chauhan *Dr. M.G.R Educational & Research Institute and NRSC*
14:57 – 15:04 hrs	Estimating Temporal & Spatial Variations of Partial pressure of Carbon dioxide from Remotely Sensed Biogeochemical and Bio-optical Parameters.	Anju R, Nandini Menon N, Pranav P, Rajdeep Roy, Nagamani P V, Grinson George *ICAR-Central Marine Fisheries Research Institute, Kochi & NRSC*
15:04 – 15:11 hrs	Monitoring biological productivity over coastal Arabian Sea as a consequence of climate change	Akshay Rai, Alpana Shukla, Rimjhim Bhatnagar, and Mini Raman *MG Science Institute & SAC*
15:11 – 15:18 hrs	Bio-optical properties and Phytoplankton size classes of Cochin Estuary during Southwest Monsoon	Soumya K. P, Nagamani P. V, and Shaju S. S *Cochin University of Science and Technology & NRSC.*
15:18 – 15:25 hrs	Identification of the Southwestern Bay of Bengal Coastal Upwelling Zone using Clustering	Sthitapragya Ray, and Debadatta Swain *IIT Bhubaneswar*
15:25 – 15:30 hrs	Closing remarks by Chair.	

Session – 03

Microwave Remote Sensing for Natural Resources & Disaster Management Services (14.00 – 15:30 hrs) 16th November 2022	
Chair: **Shri. M.K. Srinivas**, Chairman, Ganga Flood Control Commission (GFCC), MoJS	

14:00 – 14:15 hrs	**Lead Talk:** Dr. Deepak Putrevu, SAC **Title:** "*Microwave Remote Sensing: SAR applications with EOS-04*"	
14:15 – 14:22 hrs	Debris flow volume estimation from UAV derived DEM	Priyom Roy, Tapas Ranjan Martha, and K Vinod Kumar *National Remote Sensing Centre.*
14:22 - 14:29 hrs	Urban flood modelling using PCSWMM and Geospatial Techniques: A case study of Hyderabad Metropolitan City	M. Gopal Naik, A. Naresh, and A. Rajeswari *Osmania University*
14:29 – 14:36 hrs	Landslide detection using SAR amplitude data– Few case studies	Tapas Ranjan Martha, Priyom Roy, and K Vinod Kumar *National Remote Sensing Centre*
14:36 – 14:43 hrs	Estimation of slope movement by PSInSAR technique at Koteshwar reservoir area, India using Sentinel-1	Manoj Kuri *Engineering College Bikaner*

	dataset	
14:43 – 14:50 hrs	Multi-frequency Backscatter characterization of flooded areas- A precursor study for NISAR mission	Panchagnula Manjusree, *National Remote Sensing Centre*
14:50 – 14:57 hrs	Flash flood simulation and inundation assessment in Song Watershed of Dun valley, Uttarakhand	Praveen Kumar Thakur, Sanjay Kumar Dwivedi, Antony Joh Moothedan, RP Singh, MPS Bisht *Indian Institute of Remote Sensing*
14:57 – 15:04 hrs	Exploring the potential of EOS-04 (RISAT-1A) satellite data for Jute and Rice Crop Mapping	Srikanth P, Karun Kumar Choudhary, and VV Rao *National Remote Sensing Centre*
15:04 – 15:11 hrs	Polarization Signature based crop classification using L band Airborne SAR data	Tarun M, Sanid C, and Deepak P *Space Applications Centre*
15:11 – 15:17 hrs	Monitoring Slow Landslide Movement along the Northern Railway Track in Jammu & Kashmir using SAR Interferometry	Y. S. Rao, Vaka Divya Sekhar, and Chandrakant Ojha *Indian Institution of Technology Bombay*
15:17 – 15:24	Effective Multi-satellite Synthetic Aperture Radar (SAR) data Planning for Disaster Support	A.V. Ramani, V. Rama Krishna Sastry, N. Rama Devi, K. Sudhakar, N. Aparna *National Remote Sensing Centre*
15:24 - 15:30 hrs	Closing remarks by Chair	

Session – 04

Atmospheric Trace gases & Aerosols (14.00 – 15:30 hrs) 16th November 2022		
Chair: **Dr. J.V. Thomas**, Associate Director, EDPO, ISRO-HQ		
14:00 – 14:15 hrs	**Lead Talk:** Dr. Som K. Sharma, PRL **Title:** *"Investigations of the Atmospheric Clouds using Ground Based Lidars and Satellite Observations over India"*	
14:15 – 14:26hrs	Impact of INSAT-3D atmospheric motion vectors in hybrid ensemble-3DVAR data assimilation systems in high resolution simulation of heavy rainfall event over NER of India	Rekha B Gogoi, Shyam S Kundu, Govindan Kutty M, and S P Aggarwal *North Eastern Space Applications Centre*
14:26 – 14:37 hrs	Modeling Approach for CO2 Concentration Retrieval for Point Source Emission using AVIRIS-NG	Hasmukh K. Varchand, Mehul R. Pandya, Jalpesh A. Dave, Parthkumar N. Parmar, Himanshu J. Trivedi, and Vishal N. Pathak *N. V. Patel college of Pure and Applied Sciences- Vallabh Vidyanagar & SAC.*
14:37 – 14:48 hrs	Monitoring of GHGs over the Indian region: Status, Challenges and Way forward	Mahesh P, Mahalakshmi D.V, Alok Taori, Rajashree V Bothale and Prakash Chauhan *National Remote Sensing Centre*
14:48 – 14:59 hrs	Variability of atmospheric CO2 over Indian monsoon regions and its diagnostics based on Atmosphere	shaik Allahudheen, A Bhuvana Chandra, Rabindra K Nayak, M Krishnapriya, M V Lakshmaiah

	Transport Model and satellite observations	*National Remote Sensing Centre*
14:59 – 15:10 hrs	Spatial Asymmetry in the distribution of UTLS aerosols over Asian Summer Monsoon Anticyclone	A Hemanth Kumar, M. Venkat Ratnam, P. Prasad, K.V. Subrahmanyam *National Atmospheric Research Laboratory*
15:10 – 15:21 hrs	Pollution monitoring & Source tracker drone	Ranvijay *IIMT College of engineering*
15:21 – 15:30 hrs	Closing Remarks by Chair	

Session – 05

Natural Resources Monitoring and Accounting (16.00 – 17:30 hrs) 16th November 2022		
Chair: **Dr. V. V. Rao**, AD, NRSC.		
16:00 – 16:15 hrs	**Lead Talk:** Dr. C. Patnaik, SAC **Title: "***Estimating the AGB of India's forests from SAR images***"**	
16:15 – 16:23 hrs	Alteration mineral mapping using AVIRIS-NG hyperspectral data in the gold bearing Gadag Schist belt, Karnataka, India.	Tamal Samaddar and Vinay Kumar *Indian Institute of Remote Sensing*
16:23 – 16:31 hrs	LSMS and OBIA Techniques are used for Automatic Detection of the Built-up Area	Poonam Sharma, Anup Kumar and Virender Singh Arya *HARSAC*
16:31 – 16:39 hrs	An Integrated Geospatial Modelling Approach To Assess And Predict Growth Pattern And Loss Of Agriculture Land In The Industrial Town Of Mandideep, Madhya Pradesh	Vinaya Thakur, Abhishek Mishra, Shobharam Ahirvar, and J. P. Shukla *CSIR-AMPRI*
16:39 – 17:47 hrs	Modelling the spatial-temporal pattern of thermal zones and their correlation with satellite-derived land use indices for the past three-decades in Salem, Tamil Nadu.	Linda Theres B, Selvakumar R, Avvari Bharga, Banala Rakesh, and Kanamarlaputi Bhuvanesh *SASTRA Deemed to be University*
16:47 – 16:55 hrs	Assessment of Net Primary Productivity of Alpine Pasture using CASA Model in a part of Western Himalaya	Kuldeep Rana, Hitendra Padalia, and Ishwari Datt Rai *Indian Institute of Remote Sensing*
16:55 – 17:03 hrs	Use of earth observation satellites for routine monitoring of Indian mangroves; a comparative study carried out in Kerala and Andhra Pradesh, India.	P Pranav, Nandini Menon N, Ummey Shameem and Grinson George *Central Marine Fisheries Research Institute*
17:03 – 17:11 hrs	Rainfall induced landslides and their impact on large wood budget in a mountainous stream	Lasyamayee L Sahoo, Somesh Kumar, Subashisa Dutta *IIT Guwahati*
17:11 – 17.19 hrs	Indexed Based Approach for Monitoring and Burn Severity Analysis of Forest Fire in Charda	P. Kunwar, Anil Kumar, Paridhi Nagiyan, Pranjali Tripathi *Remote Sensing Application*

	Forest Block of Bahraich Forest Division, Uttar Pradesh	*Centre, U.P.*
17:19 – 17:27 hrs	Estimation of Actual Evapotranspiration using Remote Sensing based on Dual Crop-Coefficient Soil Water Balance Approach	Anurag Mishra, Chandrasekar K, Nidhi Misra, Mohammed Ahamed J, Abdul Hakeem K., Madhavi P and Venkat Raju P *National Remote Sensing Centre*
17:27 – 17:30 hrs	Closing remarks by Chair	

Session – 06

Climate Risk and Climate Resilience, SDG & Desertification, Land Degradation & Droughts (16.00 – 17:30 hrs) 16th November 2022	
Chair: **Dr. R. P. Singh**, Director, IIRS.	
16:00 – 16:15 hrs	**Lead Talk:** Dr. Lena Halounova, President, ISPRS. **Title:** ""*Mosaic stones of geospatial technologies from ISPRS for Sustainable Development Goals*"
16:15 – 16:24 hrs	Geospatial Technology & Artificial Intelligence based alert system for predicting vulnerabilities due to Climate Change triggered Hazard	L. P. Sharma, *National Information Centre (NIC)*
16:24 – 16:33 hrs	Geospatial Monitoring of Sustainable Development Goals (SDG) Indicators	Nitin Mishra, Kalyan Deep K, R.N. Anjani, S.S Rao, and T. Ravishankar *National Remote Sensing Centre*
16:33 – 16:42 hrs	Village Level Impact Assessment of MGNREGA using Geospatial Tools: A Case Study	Stutee Gupta, Harika Chikkala, K.M. Reddy, and V V Rao *National Remote Sensing Centre*
16:42 – 16:51 hrs	Unravelling relationships between drivers of climate change vulnerability of forests in Nagaland	Lungyina Beulule Meru, *Forest Research Institute, Dehradun*
16:51 – 17:00 hrs	Data Science / Machine Learning Perspective: Landslide susceptibility mapping	Vivek Saxena, Upasna Singh, and L.K.Sinha *DRDO, Chandigarh*
17:00 – 17:09 hrs	Development of Forest Loss monitoring system over North Eastern Region of India using Google Earth Engine	Dhruval Bhavsar, Ritu Anilkumar, Nilay Nishant, Praveen Kumar, Kasturi Chakraborty, K K Sarma, and S P Aggarwal NESAC
17:09 – 17:18 hrs	Development and Comparative Assessment of Yield modelling Techniques for Rabi Pulses using Geospatial Techniques & Ancillary Datasets: A Case Study for Drought Affected Region on India	Abhishek Danodia, T Udaya Bhaskar Jayanth, N.R. Patel, Dipanwita Haldar, Prakash Chauhan *Indian Institute of Remote Sensing (IIRS)*
17:18 – 17:27 hrs	Assessment and Monitoring of Multi-Aspect Drought Severity using Geo-spatial Technology in Cheyyar Watershed, Palar Basin, Tamil Nadu	J. Killivalavan, P. Masilamani, T. Ilakiya, S. Abdul Rahaman, and K. Kumaraswamy *Bharathidasan University*
17:27 - 17:30 hrs	Closing Remarks by Chair	

Session – 07

Academia Session (16.00 – 17:30 hrs) 16th November 2022		
Chair: **Prof. M. Gopal Naik**, Osmania University		
16:00 – 16:15 hrs	**Lead talk**: Dr. T.P. Singh, Director, Symbiosis institute of Geoinformatics. **Title:** *"Geospatial Education and Changing Dimensions in Reference of New Education Policy"*	
16:15 – 16:23 hrs	Sentinel-1 SAR Interferometry for Land Cover Classification in a Shifting Cultivation Landscape of Tripura, Northeast India	Krishna Das *Indian Institute of Remote Sensing, ISRO*
16:23 – 16:31 hrs	Comparison of ANN and XGBoost for landslide Susceptibility Assessment in Garhwal Himalayas	Shubham Badola Amity *Institute of Geo-informatics and Remote sensing, Amity University NOIDA*
16:31 – 16:39 hrs	Rainfall induced landslides and their impact on large wood budget in a mountainous stream	Lasyamayee Lopamudra Sahoo, *Indian Institute of Technology Guwahati*
16:39 -16:47 hrs	U-Net based surface Water mapping using Sentinel 1 and NOVASAR data	Aparna R *IISER, Mohali*
16:47 - 16:55 hrs	Spatiotemporal changes in land terminating glaciers in contrasting topographic zones of Jammu and Kashmir region	Mansha Bashir *University of Kashmir*
16:55 -17:03 hrs	Estimation of Surface Ice Velocity of Drang Drung Glacier, Western Himalaya using COSI-Corr from Landsat Images	Suhail Ahmad, Avtar Singh Jasrotia, Praveen Kumar Thakur *University of Kashmir*
17:03 – 17:11 hrs	Mapping of Mustard Crop with Planet Scope High-Resolution Dataset using ML Algorithms	Vishal Sharma, and Sanjay Kumar Ghosh *IIT Roorkee*
17:11 – 17:19 hrs	Mapping of storm water harvesting potential within parks and open spaces using GIS	Ar. Raghvi Goel *Indira Gandhi Delhi technical University for Women*
17:19 – 17: 27 hrs	Technology Assisted Spatial Decision Support System for Livestock Management	Prithivi K, Balachandran J, Radhakrishnan T, Lal Prakash P L, and Shimi Rajan *Digital University of Kerala*
17:27 -17:30 hrs	Closing remarks by Chair	

Session – 08

Geospatial Industry Session (16.00 – 17:30 hrs) 16th November 2022	
Chair: **Dr. P. Subba Rao**, Ananth Technolgies. Co- Chair: Dr. Prasad Putta, Vassar Labs.	
16:00 - 16:15 hrs	**Lead Talk:** Dr. G. Rupesh, Ananth Technologies **Title:** *"Modern Trends in Surveillance and Reconnaissance"*
16:15 - 16:25 hrs	Campbell
16:25 - 16:35 hrs	Vassar Labs
16:35 - 16:45 hrs	MAXAR

16:45 - 16:55 hrs	ESRI
16:55 - 17:05 hrs	NRSC Data Centre
17:05 - 17:15 hrs	RSI
17:15 - 17: 25 hrs	SGL
17:25 - 17:30 hrs	Hexagon
	Closing remarks by chair

Session – 09

Agriculture, Water and Other Natural Resources Management (09:30 – 11:00 hrs) 17th November 2022		
Chair: **Dr. S. P. Aggarwal**, Director, NESAC.		
09:30 – 09:45 hrs	Lead talk: **Dr. Parul Patel**, SAC *A Novel Two Stage upscaling Approach for Validation of SMOS Derived Soil Moisture*	
09:45 – 09:54 hrs	Identification of mango varieties and estimation of leaf chlorophyll and nitrogen content using Hyperspectral data	Mohammed Ahamed J, Shilpashree V.M, Hebbar R, and Raghupathi H.B *RRSC South, NRSC*
09:54 -10:03 hrs	Hydrodynamics Assessment of Rapti River in Balrampur and Gorakhpur District by Geospatial Techniques	Harit Priyadarshi, and Sangharash *Mangalayatan University, Aligarh*
10:03 – 10:12 hrs	Estimation of Major Soil Nutrient in Humid Tropical Regions of India: A Non-Destructive Approach using hyperspectral data and Machine Learning Models	S. Rama Subramoniam, U. Surendran, Naveena K, B. Chandrasekaran, Girish Gopinath, and R. Hebbar *RRSC South, ISRO*
10:12 – 10:21 hrs	Impact of Upstream Water Storage Structure in Streamflow Modeling – A Case study of Ujjani Reservoir	Saksham Joshi, Arivoli E, PV Raju, Simhadri Rao B, and VV Rao *National Remote Sensing Centre*
10:21 – 10:30 hrs	Hybrid Retrieval of Leaf Area Index and Chlorophyll Content of Rice Crop using PRISMA Hyperspectral Data	Karun Kumar Choudhary, Varun Pandey, Mamta Kumari, P Srikanth, and Sunil Kumar Dubey *National Remote Sensing Centre*
10:30 – 10:39 hrs	SWOT Hydrology Simulator set up for River Discharge estimation over Narmada River Basin	Shard Chander, Ritesh Agrawal, Sarthi More, Rajat Choudhary, Dhanya C. T, and Praveen K Gupta *Space Applications Centre*
10:39-10:48 hrs	Digital mapping of soil properties of Vidarbha region with legacy data and minimum sampling	Nirmal Kumar, M S S Nagaraju, Hrittick Biswas, S Chattaraj, R K Naitam, P C Moharana, R P Sharma, G P Obi Reddy, N G Patil, and B S Dwivedi *CAR National Bureau of Soil Survey and Land Use Planning*
10:48-10:57 hrs	Estimation of groundwater storage change at small basin scale using GRACE time series data: a case study of the Subarnarekha River Basin, India	Farhin Tabassum and Akhouri Pramod Krishna *Birla Institute of Technology, Mesra, Ranchi*

10:57-11:00 hrs	Closing remarks by chair

Session – 10

Sensor Technologies and Data Processing (09:30 – 11:00 hrs) 17th November 2022		
Chair: **A. Senthil Kumar,** Chair, Financial Commission ISPRS		
09:30 – 09:45 hrs	**Lead talk:** Dr. Harish Seth, SAC. **Title:** *"Pre-Flight Radiometric Calibration of OCM-3 and Estimation of its calibration uncertainty"*	
09:45 – 09:53 hrs	Evaluation of scientific CMOS image sensor for space application	Vikash Kumar Jangir, Shambhu Lal Dhaker, Brahma Pawan Kumar *Space Application Centre*
09:53 – 10:01 hrs	Radiometric Characterization of Resourcesat2A LISS-3 Sensor using PICS	Saritha.P.K, SupanthaSen, Raghavender. N, Santhi Sree B *National Remote Sensing Centre*
10:01 – 10:09 hrs	A postprocessor for characterization and correction of Scalloping and Banding in Scan-SAR imagery	Bhaskar Dubey and Debajyoti Dhar *Space Applications Centre*
10:09 – 10:17 hrs	Improved discrimination of plantation crops in multi-tier agroforestry systems using UAV Images and Deep Learning	Nagashree Mohan Kumar, Nalini Gunjal, Chandrasekaran B, and Hebbar R *RRSC -South / NRSC*
10:17 – 10:25 hrs	Extraction and Mapping of Coconut Trees in an Urban area from UAV Imagery using Object Based Image Analysis	Minakshi Kumar and Arshad Peer Mohamed *Indian Institute of Remote Sensing*
10:25 – 10:33 hrs	Characterization of EOS-04 Hybrid Polarimetric Data using Standard Radar Targets	P.V. Jayasri, K. Niharika, S. Haripriya, Aakashneel Basak, HSV Ushasundari Ryali, P. Krishna Murthy, EVS Sita Kumari *National Remote Sensing Centre*
10:33 – 10:41 hrs	Leveraging Drone Technology for Large scale mapping	COI Rajat Sharma and Maj Jatinder Singh *Survey Of India*
10:41 – 10:49 hrs	Inter Drone Cooperation using robust video analytics for tracking moving objects on ground	Amitesh Raman Mishra, Emmanuel Sanjay Raj K C, Novaline Jacob, P Radha Devi *ADRIN, ISRO*
10:49 – 10:57 hrs	Spectral and Special Quality Evaluation of High-resolution Pan-sharpened Data for Information Extraction in Urban Area.	Sujata Ghosh, MV Srivally, and P V Radhadevi *ADRIN, ISRO*
10:57 – 11:00 hrs	Closing remarks by Chair	

<u>Session – 11</u>

Data Science, AI and ML (09:30 – 11:00 hrs) 17th November 2022		
Chair: **Dr. P. V. Radhadevi**, Director, ADRIN.		
09:30 – 09:40 hrs	**Lead Talk:** Dr. Chinmoy Roy, Antrix Corporation Limited Title: "*Legal issues for use of artificial intelligence in remote sensing*"	
09:40 – 09:47 hrs	Semantic segmentation on multi-resolution optical and microwave data using deep learning	Jai G. Singla and Bakul Vaghela *Space Applications Centre*
09:47 – 09:54 hrs	Modelling Urban Sprawl of Mumbai Metropolitan Region (MMR) using ResNet34	Varsha Bhosale and Archana Patankar *Vidyalankar Institute of Technology*
09:54 – 10:01 hrs	Land Cover Classification of Mid-resolution RS Datasets using Machine Learning Techniques	Dhiroj Kumar Behera, Rajiv Kumar, Raaj Ramsankaran, and Sreenivas Kandrika *National Remote Sensing Centre*
10:01 – 10:08 hrs	Satellite Image Classification using a Hybrid Optimization method by Different Genetic Optimization Algorithm	Amit Kumar Rai *Asansol Engineering College*
10:08 – 10:15 hrs	AI and ML for Remote Sensing Applications in Agriculture	N. R. Patel, Shweta Pokhariyal *Indian Institute of Remote Sensing*
10:15 – 10:22 hrs	Effect of Loss Function on Performance of Semantic Segmentation Model for Building Extraction	Vandita Srivastava, Somenath Bera, and Vimal K. Shrivastava *Indian Institute of Remote Sensing*
10:22 – 10:29 hrs	Deep Learning Based Automatic Change Detection for Very High Resolution Remote Sensing Images	Devesh Kumar, P. Suresh Kumar, Chandrakanth, and P. V. Radhadevi *ADRIN*
10:29 – 10:36 hrs	A novel method to generate high precision deep learning based object detection models	Manish Singh, D. Anthony Balaraju, K.K. Jena, S Swarajya Lakshmi, Novaline Jacob, and P.V. Radhadevi *ADRIN*
10:36 – 10:43 hrs	A comparison of pixel-based and object-based image analysis with Machine Learning Algorithms for Heterogeneous Horticultural landscapes.	Manjunath C B, Gnanappazham L, Vijayakumar R M, Jagadeeswaran R, Kavino M, Ramsubramoniam S, and Neeraj V *Vikram Sarabhai Space Centre*
10:43 – 10:50 hrs	Computer vision and Geoanalytics	Seshagiri Rao V, and Bharath Kumar V V *Sonata Software*
10:50 – 10:57 hrs	Deep Learning Model for Object Recognition in High & Medium Resolution Remote Sensing Images	Anshum Agrawal, A. Sai Venkata Lakshmi, R. Chandrakanth *ADRIN*
10:57 – 11:00 hrs	Closing remarks by Chair	

<u>Session – 12</u>

Satellite Meteorology (09:30 – 11:00 hrs) 17th November 2022		
Chair: **Dr. Raj Kumar**, Prof. Satish Dhawan Professor, SAC		
09:30 – 09:45 hrs	**Lead talk:** Dr. M. Venkat Ratnam, NARL **Title:** "*Impact of COVID-19 lockdown observed on various atmospheric processes obtained using ground-based, space-borne and model simulations*"	
09:45 – 09:54 hrs	A mathematical modelling approach for deriving land surface temperature diurnal model parameters over India using INSAT-3D Imager data	Mehul R. Pandya, Ashwin Gujrati, Vishal Pathak, Tejas Turakhia, Rajesh Iyer *Space Application Centre*
09:54 – 10:03 hrs	Deciphering the signatures of convective rain cells using simultaneous observations from C-band SAR onboard EOS-4 satellite and GPM measurements	Kandula V Subrahmanyam, M.V. Ramana, Rajashree V Bothale, and Prakash Chauhan *National Remote Sensing Centre*
10:03 – 10:12 hrs	Machine Learning based Estimation of Total Precipitable Water from INSAT-3D Imager Observations	Rishi Kumar Gangwar, and Pradeep Kumar Thapliya *Space Applications Centre*
10:12 – 10:21 hrs	Role of Planetary Boundary Layer on the surface absorbing aerosols over a hilly remote station of North-East India	Arundhati Kundu, Shyam S. Kundu, Som Kumar Sharma, Manasi Gogoi, Arup Borgohain, Rahul Mahanta, and Rekha Bharali Gogoi *North Eastern Space Applications Centre (NESAC)*
10:21 – 10:30 hrs	An analysis of LIS lightning data on-board TRMM vis-à-vis deep convective clouds detected from SAPHIR on-board Megha-Tropiques	Shailendra S Srivastava, Munn V Shukla, Prashant Kumar, Nitesh Kumar Kaushik, Pradeep K Thapliyal, Atul K Varma *Space Applications Centre.*
10:30 – 10:39 hrs	Estimation of land surface temperature to study urban heat island and its effect using remote sensing	Srayashi Mallick *Shiv Nadar School*
10:39 – 11:48 hrs	Gridded Ensemble Precipitation Estimates for India	Anagha P, Manabendra Saharia *IIT Delhi*
10:48 – 10.57 hrs	Inter Sensor comparison of Continental scale land surface albedo derived from INSAT-3D and MODIS Sensors	Vishal N Pathak, M. R. Pandya, and R. Iyer *St' Xaviers Science College and SAC.*
10.57 – 11:00 hrs	Closing Remarks by Chair	

Session – 13

Agriculture, Water and Other Natural Resources Management (12:00 – 13:00 hrs) 17th November 2022	
Chair: Dr. K. Vinod Kumar, DD, RSA, NRSC.	
12:00 – 12:10 hrs	**Lead Talk:** M.S.S. Nagaraju, *Division of RSA, ICAR-NBSS and LUP, Nagpur* "*Development and validation of spectral models for prediction of soil properties in soils of Maharashtra*"
12:10 – 12:18 hrs	Detection of late blight of potato by integrating epidemiological, proximal and remotely sensed data	Raj Setia, Sandeep Jain, Revathy R, Brijendra Pateriya *Punjab Remote Sensing Centre, Ludhiana*
12:18 – 12:26 hrs	Assessment of Hydrological Behavior of Jhelum Basin using the Modelling and Geo-spatial Approach	Bhaskar R. Nikam, Vishal Sharma, Praveen Kumar Thakur, and Vaibhav Garg *Indian Institute of Remote Sensing*
12:26 – 12:34 hrs	Hyperspectral remote sensing-based neural network model for early disease detection in commercially important crops	Manisha, Kishor Chandra Kandpal, and Amit Kumar *RS-GIS Laboratory, Environmental Technology Division, CSIR-Institute of Himalayan Bioresource Technology, Palampur, Himachal Pradesh*
12:34 – 12:42 hrs	Sun Induced Fluorescence (SIF) as stress indicator in Wheat crop and its relation with key photosynthetic parameters	Jayachandra Ravi, Rahul Nigam, Vinay Hegde, Jagdish Rane, Devansh Desai, Bimal K. Bhattacharya, and Parul R. Patel *Nirma University*
12:42 – 12:50 hrs	Mapping of spatial distribution of Tropical Tasar primary host plants in Jharkhand using advanced geospatial techniques	T. Sarmah, B. K. Handique, Immanual G. Prabhu, and P. Jena *North Eastern Space Applications Centre*
12:50 - 12:58 hrs	Satellite-Based Crop Evapotranspiration Estimation using Basal Crop Coefficient and PET Approach	Landge Omkar Prakash, Abhishek Danodia, Bhaskar R. Nikam and Praveen K. Thakur *Indian Institute of Remote Sensing*
12:58 – 13:00 hrs	Closing remarks by Chair	

Session – 14

Decision support system for e-governance (12:00 – 13:00 hrs) 17th November 2022	
Chair: Dr. YVN Krishna Murthy, Registrar, IIST.	
12:00 – 12:10 hrs	**Lead talk:** Dr. Sameer Saran, IIRS. **Title**: *"Recent trends in Geoinformatics for e-governance".*
12:10 – 12:16 hrs	Multi-Criteria Decision Analysis (MCDA) Based Evaluation of Forest Fire Risk Zones in Pilibhit District using Satellite Remote	P.Kunwar, Anil Kumar, Paridhi Nagiyan, and Pranjali Tripathi *Remote Sensing Application Centre, U.P., Lucknow*

	Sensing and Analytical Hierarchy Process (AHP) Techniques.	
12:16 – 12:22 hrs	Innovative Geospatial Technology in Urban Mapping and City Planning: Government Initiatives	Dr. Pawan Kumar, *Town and Country Planning Organization, Ministry of Housing and Urban Affairs (MoHUA)*
12:22 – 12:28 hrs	GIS based Decision Support Tool for Avalanche Risk Assessment along Amarnath Yatra Route, India	Anurag Sharma, Sudhir Dhamija, and H. S. Negi *DGRE, DRDO*
12:28 – 12:34 hrs	Geo-Portal Application real time Statistics and Analysis platform	V V Sarath Kumar, M. Srinivas, I. Abhinav, M. Arulraj *National Remote Sensing Centre*
12:34-12:40 hrs	Bhuvan CDMA - A Geospatial Application for Urban Tax Planning	R S Vijay Krishna, Kalyandeep K, TSVN Thrilleswar Rao, Lesslie A, Arulraj M, and Ravisankar T *National Remote Sensing Centre*
12:40 – 12:46 hrs	Enabling Transparency and Efficacy in Governance using Geospatial Technology: A Web-application for the State of Rajasthan	Seema Jalan, Shailesh Chaure, Urmi Sharma and Jayshree Nandwana *Mohanlal Sukhadia University Udaipur*
12:46 – 12:52 hrs	A GIS-Based Ecotourism Site Suitability Assessment of Scotland, United Kingdom	Sumith Satheendran S., Sumith Satheendran S, and Smitha Chandran S *Advanced Space Applications Laboratory (Amrita-ASAL), School of Physical Sciences, Amrita Vishwa Vidyapeetham University.*
12:52 – 12:58 hrs	Volume estimation of Municipal solid waste using UAV remote sensing – A case study of Vijayawada Municipality, AP	Abhrankash Kanungo, Ch. Tata Babu, G.Prasada Rao, K.V.Ramana, and B. Sundar *APSAC*
12:58 – 13:00	Closing remarks by Chair	

Session – 15

Cryosphere Processes & Climate Change (12:00 – 13:00 hrs) 17th November 2022	
Chair: **Dr. Rajashree Bothale**, DD, ECSA, NRSC	
12:00 – 12:10hrs	**Lead talk:** Dr. Sanjay K. Jain, NIH, Roorkee. **Title:** *"Snow-glacier melt runoff separation and variability assessment under glaciers change in Himalayan Teesta River basin"*
12:10 – 12:18 hrs	Atmospheric Precursor Response to the Antarctic Sea Ice Record Low	Avinash Kumar, Juhi Yadav, and Rahul Mohan *National Centre for Polar and Ocean Research.*
12:18 – 12:26 hrs	Aspect wise Monitoring and Estimation of Mass Balance of Glaciers of Baspa Basin, District Kinnaur, Himachal Pradesh, India	Randhawa Surjeet Singh, Jain Lalit, and Kumar Rajesh *State Centre on Climate Change under the aegis of the HP Council*

	using remote sensing techniques	*for Science, Technology & Environment* (HIMCOSTE)
12:26 – 10:34 hrs	Lichen probability mapping in Antarctica using machine learning on satellite remote sensing data	C. P. Singh, Harsh Joshi, Dhruvkumar Kakadiya, Malay S. Bhatt, Rajesh Bajpai, Shailendra Saini, Naveen Tripathi, Sandip R Oza, Mehul R Pandya, and Bimal K Bhattacharya *Space Applications Centre*
12:34 – 12:42 hrs	Snow depth retrieval in Polar Ural using L-band SAR	Gulab Singh, Ivan I. Lavrentiev, Andrey Glazovsky and Gennady Nosenko *IIT Bombay*
12:42 – 12:50 hrs	Glacio-Hydrological Modelling Approach for Assessing the Water Availability in Upper Indus Basin	Varun Khajuria, Praveen K. Thakur, Bhaskar Ramchandra Nikam, Ajay K. Taloor, and Pramod Kumar *Indian Institute of Remote Sensing*
12:50 – 12:58 hrs	AI-based extraction of glacial lakes in Himachal Pradesh	Anita Sharma, Chander Prakash and Amol Sharma *National Institute of Technology Hamirpur*
12:58 – 13:00 hrs	Closing remarks by Chair	

Session – 16

Advanced Future Technologies for EO Missions (12:00 – 13:00 hrs) 17th November 2022		
Chair: **Dr. Umadevi**, DD, SDR&ISA, NRSC		
12:00 – 12:10 hrs	**Lead Talk:** Dr. Anup Kumar Das, SAC (co-authors: Deepak P. & Raj Kumar) **Title**: "*NISAR: Mission Updates and Science Plan*"	
12:10 – 12:17 hrs	Evaluation of methods for computation of Satellite Velocity vector from position vector	D. Shanmukha Rao, T. Radhika and M. Manju Sarma *National Remote Sensing Centre*
12:17 – 12:24 hrs	Blockchain Technology - Introduction and Perspective for Space Applications with a Geo-spatial Use Case	Ashutosh Gupta and Debajyoti Dhar *Space Application Centre*
12:24 – 12:31 hrs	Development of Elastic Computing Platform to host Geospatial Applications with Dynamic Workloads	I. Abhinav, V.V. Sarath Kumar, M. Arul Raj, and T. Ravi Shankar *National Remote Sensing Centre*
12:31 – 12:38 hrs	Image Denoising using Machine Learning for individual and huge data with its metric analysis	Anees Ahamed Baig and A Ravi Google
12:38 – 12:45 hrs	A Theoretical Modelling Study for Selection of Optimal Split-Window Algorithm to Retrieve Land Surface Temperature for ISRO's	Jalpesh A. Dave, Mehul R. Pandya, Dhiraj B. Shah, Hasmukh K. Varchand, Parthkumar N. Parmar, and Himanshu J. Trivedi

	Upcoming EOS-06 SSTM TIR Sensor	*N. V. Patel College of Pure and Applied Sciences & SAC*
12:45 – 12:52 hrs	Mapping forest canopy height using machine learning approach by coupling GEDI and Sentinel-1 data	Abhishek Aswal, Subrata Nandy, and Muna Tamang *Indian Institute of Remote Sensing*
12:52 – 11:59 hrs	Evidence of preserved channel splay in Mawrth Valles of Mars, A site for future Mars exploration	Swati Singh, Priyom Roy, and K Vinod Kumar *National Remote Sensing Centre*
12:59 – 13:00 hrs	Closing remarks by Chair	

Session – 17

PhD/Research Scholars Session (14:00 – 15:00 hrs) 17th November 2022		
Chair: **Prof. K.S. Rajan**, IIIT		
14:00 – 14:10 hrs	Spatio-temporal variations in atmospheric CO2 over India (Indian subcontinent, South Asia) and implications on terrestrial CO2 source sink	Mahesh Pathakoti, PhD Student, IIIT Hyderabad and NRSC
14:10 – 14:20 hrs	Object Detection Using Fusion of Multi-Band Microwave Data	Sanjay Singh, Research scholar, Delhi Technological University, New Delhi
14:20 – 14:30 hrs	Machine Learning for Multiclass Geospatial Objects - need for Accelerated Mapping of Airports	Durga Prasad, PhD Student, IIIT Hyderabad and Honeywell International Inc
14:30 – 14:40 hrs	IOT Application in Agricultural Schemes and Policy making using temporal data.	Devishree V, Research Scholar, Institute of Remote Sensing, Anna University, Chennai
14:40– 14:50 hrs	Multiscale DEM and Watershed Analysis	Asiya Begam, PhD Student, IIIT Hyderabad and NRSC
14:50 – 15:00 hrs	Closing remarks by Chair	

Session - 18

Innovation for Geospatial Technology (14:00 – 15:00 hrs) 17th November 2022		
Chair: **Col Rajat Sharma**, Director, SOI Dehradun, Uttarakhand		
14:00 – 14:15 hrs	**Lead talk:** Prof. S.K. Ghosh, IIT-Roorkee **Title**: *"Geospatial Technology: A way forward to Intelligent solution for Society".*	
14:15 – 14:23 hrs	Drone Image Derived 3D Point cloud for Infrastructural Change Monitoring in North Eastern Region	Puyam S Singh, Victor Saikhom, Dibyajyoti Chutia, Nilay Nishant, and S.P Aggarwal *North Eastern Space Applications Centre*
14:23 – 14:31 hrs	The interactive map-comparing web framework for cloud-based web-map services	Ashutosh Kumar Jha, S. K. Ghosh, and Sameer Saran *Indian Institute of Remote Sensing*
14:31 – 14:39 hrs	Impact of Urbanization and Vehicular Traffic in hilly town and implementation of Urban Green	Sanjay Kumar Ghosh, Uttam K Roy, M. Parida, Ravindra Kumar *IIT Roorkee*

	Space using geospatial techniques.	
14:39 - 14: 47 hrs	Assessment of geospatial risk associated with property management in India	Vishesh Vatsal, Kapil Gauravan and Animesh Nama *Hyspace Technologies*
14:47 – 14:55 hrs	Edge Computing for Remote Sensing Satellites: Bringing Innovative Technologies to Space	Adithya Kothandhapani and Vishesh Vatsal *Hyspace Technologies Pvt Ltd*
14:55 – 15:00 hrs	Closing remarks by Chair	

Session - 19

Health GIS (14:00 – 15:00 hrs) 17th November 2022		
Chair: **Prof. I.V. Muralikrishna**, JNTU		
14:00 – 14:15 hrs	**Lead Talk:** Prof. S. Jyothi, Sri Padmavati Mahila University, Tirupati. Title: **"***Healthcare Clinic Asset Mapping using Machine Learning Techniques"*	
14:15 – 14:25 hrs	Assessment of Mobility and Health Condition on COVID-19 Morbidities and Mortalities - A Case Study of Tamil Nadu, India	Prakash. K, Jegankumar R, Kumaraswamy. K and Masilamani. P. *Bharathidasan University*
14:25 – 14:35 hrs	Spatio-Temporal Diffusion Pattern and Hotspot Detection of Dengue: A case study of Delhi region	Vipasha Sharma, Sanjay Kumar Ghosh, and Siddhartha Khare *IIT Roorkee*
14:35 – 14:45 hrs	GIS Applications during Covid Management - Telangana Experience	Maj (Dr.) G Shva Kiran, *Commissioner and Director Municipal Administration CDMA-Telangana*
14:45 – 14:55 hrs	Integrated Hyperspectral Remote Sensing and Artificial Neural Network (ANN) algorithm for non-invasive age determination of Himalayan medicinal plants	Kishor Chandra Kandpala, and Amit Kumar *RS-GIS Laboratory, Environmental Technology Division, CSIR-Institute of Himalayan Bioresource Technology*
14:55 – 15:00 hrs	Closing Remarks by Chair	

Session - 20

Ecosystem Accounting, Resilience and Restoration (14:00 – 15:00 hrs) 17th November 2022		
Chair: **Dr. Sreenivasa Reddy**, TRAC		
14:00 – 14:15 hrs	**Lead Talk:** Mr. Ashwini Gujarati, SAC. *Title:* "*Wetland Health report card using Remote sensing inputs*"	
14:15 – 14:23 hrs	Forest Health Index: Developing a framework towards efficient monitoring of forest ecosystem	Aaheli Chaki, Bhaskar Sinha, Jigyasa Bisaria, Ashutosh Verma *Indian Institute of Forest Management Bhopal*
14:23 – 14:31 hrs	A systematic review of current knowledge on the impact of climate change on India's	Debanjan Sarkar, Anindita Debnath, and Gautam Talukdar *Wildlife Institute of India*

	biodiversity: trends, and gaps	
14:31 – 14:39 hrs	Classification of Coastal Mangroves using Sentinel 2 Data Sharpened with Google Earth Images	Adithiy R *Cochin University of Science and Technology*
14:39 – 14:47 hrs	Impact of land-use systems on soil organic carbon and its projection in north-western India	Manju Sharma, Raj Setia, Madhuri Rishi, Brijendra Pateriya *Panjab University*
14:47 – 14:55 hrs	Analysing Temporal Trends of Climatic Variables and Its Relationship with Water Discharge for Dindori Watershed of Narmada Catchment	Manisha Singh A, Bhaskar Sinha B, Jigyasa Bisaria C, and T. Thomas, *Indian Institute of Forest Management*
14:55 – 15:00 hrs	Closing Remarks by Chair	

Closing Panel of GeoSmart India - ISRS - ISG (15:15 – 16:00 hrs)

Chairman:

Dr. A.S. Kiran Kumar, Vikram Sarabhai Professor & Former Chairman, ISRO

Members:

Dr. Shantanu Bhatawdekar, Scientific Secretary, ISRO/DOS.

Dr. Prakash Chauhan, President, ISRS

Dr. Raj Kumar, President, ISG

Poster Session 1

15 November 2022   **Afternoon session: 1400 – 1730 hrs**

S. No.	Title	Author
1	Flood Risk Mapping using Multi-criteria Analysis: A case study on the Gandak River Basin	Adhya Burman
2	Urban Area Mapping for Rescue Operations during Disaster by using Satellite Data	Shikha Verma et. al
3	Better decision making of soil and water conservation through democratize scientific information	Chiranjit Guha et. al
4	GIS as core component for integration and development of citizen web Portal for Moradabad Smart City.	Sayali Bhagwan Barsale et. al
5	Role of IT in smart City department	Pooja vitthal Gore

6	Smart city planning using Geo-informatics for UNESCO World Heritage Site Badami of Bagalkot District	Manju Kumar P et. al
7	Urban Planning Using Google Street View Images	R. Vishnu Vasan et. al
8	A cloud based Mapping of Flood Disasters in Cities for effective preparedness	Kishore Kowtham et. al
9	Development of a Smart phone based Soil Quality parameters estimation Application (SSQ-App) at farmer's field level based on Quantitative Colour Measurement	Justin George Kalambukattu et. al
10	Assessment of River Water Dynamics and Optically Active Water Quality Parameters over Punjab, India using Google Earth Engine Approach	Mohit Arora et.al
11	Automatic Land Water transition zone detection from satellite images using Python	Kuhelika Bera
12	Shrinking Urban Greenery Spaces within the Catchment of Upper Bagjola Canal, West Bengal- A Case Study Using Geospatial Technology Applications	Debaroti Das
13	The digital cadastral information and RS satellite data in natural resource monitoring and accounting - Geospatial Technology, Journey from data to intelligence	S. Jane Mithra et.al
14	Improving the classification accuracy of coastal mangroves using Sentinel 2 data fused with Google earth images	Adithiy R et.al
15	Bamboo Mapping in part of North East India using Random forest in Google Earth Engine	Muna Tamang et.al
16	High resolution remote sensing for precise biomass estimation of Himalayan forests	Vivek Dhiman et.al
17	Long-term monitoring of urban conditions over Navi-Mumbai from thermal infrared remote sensing	Anusha Roy et.al
18	Spatio-temporal analysis of groundwater levels in the Tons river basin, India	Praveen Kalura et.al
19	Time series mapping of water quality parameters of Chembarambakkam lake using sentinel 2 data	Raghul M et.al
20	Decadal change in Vegetation Condition in Marathwada , Maharashtra-A Geospatial Approach	Mohini Narnaware et.al
21	Building Detection In Very High Resolution Satellite Data For Indian cities Using Deep Learning	Reedhi shukla et.al
22	Building Segmentation using deep learning and applications	Manish Singh et.al
23	Unsupervised change detection in multi temporal optical satellite imagery using multi scale convolution neural network	Ashutosh Kumar et.al
24	Evolution and Future of AI	Alisetodeh
25	Potato Leaf Disease Detection using Deep Learning	Deep Kothari et.al
26	Analysis of Machine learning-based classification algorithms for ship detection in LISS IV remote sensing data	T Ganesh Kumar et.al

Poster Session 2

16 November 2022　　　　　　　　**Morning session: 0930 – 1300 hrs**

S. No.	Title	Author
1	Design and development of automatic Indian sign language to text conversion using LSTM from video sequences	Jella Sandhya et.al
2	IoT Sensors in Agriculture	Kanak Saxena et.al
3	Application of Advance Geospatial Techniques and Cloud Computing Methodology in Characterization of Braided River Morphology	Ketan Kumar Nandi et.al
4	Are there monthly anomalies in Landsat derived Land Surface Temperature? A comparison between three cities in India	Sneha Pandey et.al
5	Spatiotemporal variability of extreme temperature indices and its relation with forest fire incidences over different Biogeographic Zones of India	Madhusmita Murmu et.al
6	Challenges and Opportunities in Attaining SDG 14; A Review of India's Progress	Jyotsna C et.al
7	Connected Pixels Based Region Growing Algorithm for Water Extraction from EOS-04 Medium Resolution Scan SAR (MRS) Data	Bharath Kumar Reddy K et.al
8	Impact of Cyclone Titli on Vegetation Damage	Kadali Srikanth et.al
9	Soil Moisture Estimation through Synthetic Aperture Radar (SAR) Data	Gavali Madhuri Dilip et.al
10	Maize crop phenological studies with Sentinel-1 Polarimetric SAR data	C. Das et.al
11	A GIS-Based Landslide Susceptibility Mapping to Highlight Potential Hazard Zones in Nainital District	Lakshya Tripathi et.al
12	Ensemble Machine Learning Approach for PM2.5 Reconstruction using MERRA-2 and Long-term Analysis for India (1980-2021)	Vikas Kumar et.al
13	Retrieval of Optical Radiative Properties of Atmospheric Aerosols from Sun-sky Radiometer over Desalpar	Nandkishor Kumawata et.al
14	A GIS Based frame work for the monitoring of air quality parameters in mega cities	Avinash Kumar Sharma et.al
15	A Study on air pollution monitoring system using MODIS remote sensing data and image processing techniques.	Pinki Chakraborty et.al
16	Downscaling of GRACE and its utility in exploring Cryospheric hydrological components	Vishal Singh et.al
17	Time series remote sensing data analysis for retrieval of non-climatic glacier parameters as a part of climate change indicators: A detail analysis of Chandra River	Ritwik Majumdar et.al

	Basin (CRB), Himachal Pradesh	
18	Snow Cover Area variability during heat wave in early summer 2022 over North-west Himalayan sub-basins	Sai Krishna C et.al
19	Assessment of glacial lake area dynamics and lake water surface temperature in Himachal Pradesh	Karthika K et.al
20	Dynamics of Glaciers in Himachal Pradesh using Google Earth Engine	Vinayak Thakur et.al
21	Glacier Lakes Mapping using Google Earth Engine in Himachal Pradesh	Ravish Patial et.al
22	Surge of Hispar Glacier, Pakistan, between 2013 and 2017 detected from remote sensing observations	Heena naz
23	Capturing the Properties of Zemu Glacier in the Sikkim Himalayas using Satellite Remote Sensing	Sandeep Kumar Mondal et.al
24	Understanding the dynamics of the Zanskar group of glaciers using surface velocity derived from remote sensing data	Nufaisa Farooq
25	Assessing Climate change using different Meteorological Parameters Over Bhubaneswar and surroundings	Dikshika Mahapatra et.al
26	Climate and Land use change scenarios on the Hydrological Response of Suketi Watershed, Himachal Pradesh, India	Mayank Upadhyay et.al

Poster Session 3

16 November 2022   **Afternoon session: 1400 – 1730 hrs**

S. No.	Title	Author
1	Use of Cartosat Imagery for identifying erosional surfaces in the Pokso sub-watershed, Jharkhand	Abira Dutta Roy et.al
2	Comparison of Standardized Precipitation Index (SPI) and Standardized Precipitation Evapotranspiration Index (SPEI) for drought monitoring in Marathwada region of Maharashtra	Mohit Kesarwani et.al
3	Identifying landslides from open-source satellite imagery using cloud computing	Nirdesh Kumar Sharma et.al
4	Spatial Analysis of Precipitation, Drought and Groundwater level in Tamil Nadu State – A Geo-informatics Approach	K. Kumaraswamy et.al
5	Radiometric Normalization for SAR Imagery	Swati Upadhyay et.al
6	Novel Spatial and Spectral Quality Metrics for Pan-sharpened Multispectral Remote Sensing Images	Garima Kuchhal et.al
7	SDAT: A Python based Tool for Processing and Analysing Spectroradiometer Data	Anand S Sahadevan et.al
8	Semantic Segmentation of shelf extents for Amery Ice Shelf using space borne Sentinel-1and Deep Learning Techniques	Anupam Das et.al
9	Simultaneous multi-field spectral response measurement of wide FoV Electro-optical imaging sensors	Thathaiah P et.al

10	End-member Variability Based Spectral-Spatial Weighted Sparse Un-mixing for Abundance Estimation of Red and Black Soil over Sparsely Vegetated Areas Using AVIRIS-NG Image	Touseef Ahmad et.al
11	UAV data decision support system and content summarization	Ravi Kumar Singh
12	Effective Use of Drone Imagery for Crop and Pasture Monitoring in the Advancement of Precision Agriculture	Prakaasham K S V et.al
13	Application of UAV Data in Mapping and Visualization of Heritage site: A case study of Manjarabad Fort, Karnataka	Suhas Muralidhar et.al
14	Landscape characterization of Cauvery basin using geomorphic indices derived from digital elevation model	Sudhanshu Raghubanshi et.al
15	Understanding the behaviour of basaltic layers in groundwater recharge with integrated modelling of remote sensing, 3D stratigraphic and electrical resistivity tomography data	Rajarshi Saha et.al
16	Machine Learning Approach on Multi-temporal Remote Sensing Data for Identification of Rabi Crop in Tehri Garhwal Uttarakhand	Priyadarshi Upadhyay et.al
17	Current and future challenges for water resource management and future directions for research	Gulfam Ansari et.al
18	Utilization of airborne hyper-spectral AVIRIS-NG data in identification and mapping of hydrothermal alteration zones for gold deposits in Gadag Schist Belt, Karnataka	Nikhil Kumar Baranval et.al
19	Deep Neural Network for soybean crop yield estimation at disaggregated level using multi temporal weather and earth observation dataset.	Varun Pandey et.al
20	Identification and Mapping of Bamboo growing in selected site of North Eastern region of India areas using PRISMA satellite data	Dhruval Bhavsar et.al
21	Development of an integrated system for effective planning and monitoring of Crop Cutting Experiments (CCE) for the state of Meghalaya	B.K. Handique et.al
22	Integrated Study in Different Micro-Watersheds of Panchakula District, Haryana	Poonam Sharma et.al
23	Identification of Groundwater Potential zone in Konar Basin using Geospatial techniques	Puja Priya
24	Hyper-spectral Image classification and un-mixing of classes from AVIRIS-NG image of Ahmedabad	Jayachandra Ravi et.al
25	Assessing spatio-temporal variations in crop water requirement of wheat crop in semiarid region of Punjab	Niharika Vullaganti et.al
26	Remote Sensing and GIS for the analysis of crop diversification patterns in Nalgonda District, Telangana - State, India	Harish Balduri et.al

Poster Session 4

S. No.	Title	Author
1	Concept of River Recovery in Anthropogenically Disturbed River Systems: Integration of Google Earth Engine and Fluvial Dataset	Chandan Pradhan et.al
2	Intra and Inter-Annual groundwater storage assessment using gravity based terrestrial water storage from grace and grace-fo data in Ganga and Brahmaputra river buffer	Chethan V A et.al
3	Inter-comparison of Long-Term Trends of Rainfall for Hydrological studies over Meteorological zones and major River Basins of India	Saurabh Choubey et.al
4	Flow Regime assessment of River Basins in Himachal Pradesh	Munish Kumar et.al
5	Predicting Yields of Rabi Wheat Crop Using Daily NDVI Data for Insurance Applications	Upelina Bina Murmu et.al
6	Temporal trend analysis and runoff sensitivity to rainfall and air temperature of Tawi catchment, Western Himalayas	Komal Kumar Singh et.al
7	Mapping the Changing Blue Cover of Ahmedabad city of Gujarat, India using satellite data	Aditya Vaghela et.al
8	Analysis of AVIRIS-NG Hyper-spectral Remote Sensing Data for Mapping Talc Mineral Types at the Amba Mata Mines, Rajasthan	Anshika Gupta et.al
9	Utilization of GNNS Receivers in Regional Geophysical Gravity Surveys	S. Bangaru Babu
10	Investigation of the impact of a strong magnetic storm occurred on 26 August 2018 by using GPS-TEC measurements observed at Agra.	Priya Gupta et.al
11	Correction of tropospheric delay in IRNSS Data	Hiren Solanki et.al
12	GIS for Control of Communicable Diseases	Gaurav Aggarwal et.al
13	Standoff detection of Novel Corona Virus by Laser induced Fluorescence (LIF) Method	P Sudhakar et.al
14	Healthcare Facilities & Its Accessibility in the Tribal Dominated Dahod District of Gujarat, India	Ashishkumar Upadhyay et.al
15	Near real time thermal based Ecological monitoring using Google Earth Engine	Riddick Kakati et.al
16	Machine learning techniques to map mangroves in the Coringa wildlife sanctuary Andhra Pradesh, India	P Pranav et.al
17	Study of Atmospheric Clouds using a Lidar, Satellite and Reanalysis datasets over Udaipur	Dharmendra Kumar Kamat et.al
18	Northern Europe Heat Wave July 2022: Cause, Effects and the Future of the Earth	Saheb Sk et.al
19	Long-term Trend of the Planetary Boundary Layer and its Relationship with Atmospheric Pollutants over North East India	Manasi Gogoi et.al
20	Surface Energy Fluxes over Ahmedabad city, India: An	Yagni Rami et.al

	investigation using MERRA-2 Satellite Data and WRF-Chem Model	
21	Detection of Heat wave using Land Surface Temperature products of INSAT-3D, MODIS and Meteorological Air Temperature Data over Gujarat during March 2022	Parthkumar N. Parmar et.al
22	Evaluation of a high-resolution wave modelling system for the Indian ocean using in-situ and satellite data	Sandhya K G et.al
23	Assessment of Optical characteristics and Trophic state of Tropical waters using Moderate Resolution Optical Remote Sensing Techniques	Ranith R et.al
24	Review of Shallow Water Bathymetry Estimation using different Techniques from Optical Sensor Data off the Visakhapatnam	Mohammed Suhail et.al
25	Coastal Water Characteristics along Eastern Coast of Tamil Nadu, India during Northeast Monsoon Period	V. Niranjana et.al
26	Role of Geophysical Parameters in Influencing the Activity of Atlantic Ocean Hurricanes	Sidha Sankalpa Moharana et.al

Poster Session 5

17 November 2022   **Evening session: 1400 – 1500 hrs**

S. No.	Title	Authors
1	Performance of the MODIS nFLH algorithm in Coastal and Open Ocean waters from period 2012-2018: A Case Study	Y. Umamaheswara Rao et.al
2	Site suitability modelling for coral recruits with reference to calcareous algae in selected locations in Palk Bay region	Senthilnathan Lakshmanan et.al
3	Touching the Untouched: Implications of geospatial tools in mapping the reservoirs for fisheries development	Kanchi Bhargavi et.al
4	Garudalytics Smart Mapping	Jayanta Poddar et.al
5	Earth Observation Satellites Ground Station	A.N. Satyanarayana et.al
6	Geo Smart Science Education its Software Development and its Role of Importance in World Utility	G.Machender et.al
7	Association between Vegetation Optical Depth and AMSR2 Microwave Channels over biomes of the Indian region	Sampelli Anoop et.al
8	Secured communication between satellite network links	Hephziba Merlin J
9	First operational Surface Reflectance products from Resoursesat-2A Sensors (AWiFS and LISS-3)	V. Keerthi et.al