Program for NISAR Science Workshop

Space Applications Centre (ISRO), Ahmedabad

17-18 November 2014

Venue: SAC New Auditorium

17 November MONDAY		
0900 – 1000	*Registration of Participants (Basement of New Auditorium)*	
1000 – 1005	Welcome Address	Tapan Misra, SAC
1005 – 1020	Opening Remarks	Director, SAC
1020 – 1035	NISAR Mission Overview	Tapan Misra, SAC
1035 – 1100	ISRO Science Plan for NISAR Mission	Manab Chakraborty, SAC
1100 – 1130	*Tea Break*	
1130 – 1150	NASA Perspectives on the NISAR Mission	M. Craig Dobson, NASA
1150 – 1200	L & S band Airborne SAR mission	M. Ramanujam, SAC
1200 – 1215	UAVSAR as a bridge to Maturing Possible NISAR Science and Applications	Scott Hensley, JPL
1215 – 1245	Planned Data Products and Science Processing Paradigm for the NISAR Mission	Paul Rosen, JPL
1245 – 1300	Key Findings from US NISAR Applications Workshop	Gerald W. Bawden, NASA
1300 – 1400	*Lunch Break*	
Invited Talks: Ecosystem (Co-Chairs: Dr. Josef M. Kelindorfer, WHRC and Dr. P.K. Pal, SAC)		
1400 – 1420	Ecosystem science goals and application opportunities with the NISAR mission	Dr. Josef M. Kelindorfer, Woods Hole Research Center
1420 – 1435	SAR applications in forestry: Present status and future needs	C.S. Jha, NRSC
1435 – 1450	Operational crop monitoring and production forecasting using SAR data	S.S. Ray, MNCFC, Delhi
Invited Talks: GeoSciences and Hazards (Co-Chairs: Dr. B.K. Rastogi, ISR & Dr. Bradford H. Hager, MIT)		
1450 – 1510	Anticipated advances in solid earth sciences from NISAR	Bradford H. Hager, MIT
1515 – 1530	SAR measurements for earthquake studies in India	B.K. Rastogi, ISR
1530 – 1545	*Tea Break*	
1545 – 1600	SAR applications in land deformation and geological hazards	P.K. Champati Ray, IIRS
Invited Talks: Cryosphere (Co-Chairs: Dr. Ashwagosha. Ganju, SASE & Dr. Ian R. Joughin, Univ. of Washington)		
1600 – 1615	Remote sensing of Snow and Avalanche in Himalayan region	Ashwagosha Ganju, SASE
1615 – 1635	Measuring Ice-sheet dynamics from space: past, present and future	Ian R. Joughin, Univ. Of Washington
1635 – 1650	SAR applications in Himalayan Snow & glacier monitoring	Manab Chakraborty, SAC

Invited Talks: Atmosphere, Ocean & Coasts (Co-Chairs: Dr. Raj Kumar, SAC & Dr. Benjamin M Holt, JPL)			
1650 – 1710	Ocean Studies with SAR		Benjamin M. Holt, JPL
1710 – 1725	Ship Detection using SAR		R. Ramachandran, ADRIN
1725 – 1740	Ocean parameter retrieval using SAR data		Raj Kumar, SAC
1740 – 1800	*High Tea*		
1800 - 1840	Panel Discussion Moderator: Paul Rosen (JPL) Panelists: Tapan Misra (SAC), P.K. Pal (SAC), Mylswamy Annadurai (ISRO), Sanghamitra Dutta (NASA), M. Craig Dobson (NASA)		
1840	Adjourn		
18 November TUESDAY			
0930 – 1000	Characterizing regional and global hydrology with NISAR		Gerald W. Bawden, NASA
1000 – 1020	Full and compact polarimetric SAR data analysis for various land features		Y.S. Rao, IIT-Bombay
1020 – 1050	Sea Ice studies with SAR		Benjamin M. Holt, JPL
1050 – 1100	Brief on Breakout Sessions (Identify Potential NISAR Applications and Measurement Requirements)		Anup Das, SAC
1100 – 1130	*Tea Break*		
1130 – 1300	**Breakout-1**: Four Application areas in Four parallel sessions; Venue and Co-Chairs for applications are listed below:		
	Ecosystem	Vikram Hall – Main lecture Hall	Dr. Josef M. Kelindorfer, Woods Hole Research Center & Dr. P.K. Pal, SAC
	Geosciences and Hazards	Vikram Hall – Horse Shoe Room	Dr. B.K. Rastogi, ISR & Dr. Bradford H. Hager, MIT
	Cryosphere	Vikram Hall – Seminar Room	Dr. A. Ganju, SASE & Dr. Ian R. Joughin, Univ. of Washington
	Atmosphere, Ocean and Coasts	New Auditorium Conference Room	Dr. Raj Kumar, SAC & Dr. Benjamin M Holt, JPL
1300 – 1400	*Lunch Break*		
1400 – 1530	**Breakout-2**: by application area (Same as Breakout-1)		
1530 – 1545	*Tea Break*		
1545 - 1700	**Breakout-3**: by application area (Contd../) (Same as Breakout-1)		
1700 - 1800	Reports from Breakout sessions		Breakout Co-Chairs
1800 – 1815	Vote of Thanks and Adjourn		Anup Das, SAC

ECOSYSTEM (Co Chairs: Dr. Josef M. Kelindorfer, WHRC and Dr. P.K. Pal, SAC) (Vikram Hall – Main Lecture Hall)		
Breakout Session – 1 (18 Nov., 1130 – 1300 Hrs)		
1130 - 1220	**Short Presentations – 05mins each (10 Nos)**	
	Biomass estimation using SAR data	Rajib Panigrahi, IIT-Roorkee
	PolInSAR based Modeling for Forest Aboveground Biomass and Height retrieval	Shashi Kumar, IIRS
	Forest Fuel Load Quantification using Microwave Sensing	C.P. Singh, SAC
	Estimation of above ground biomass of a tropical forest site	Hitendra Padalia, IIRS
	Characterizing Ecosystem stress uisng SAR remote sensing	B.K. Bhattacharya, SAC
	Full vs. compact polarimetry for agriculture	Y.S. Rao, IIT-Bombay
	Investigation of NISAR for biodiversity assessment	G. Sandhya Kiran, MSU
	Forest Above Ground Biomass Estimation and Forest & Non Forest Classification	T.R. Kiran Chand
	SAR Applications in Vegetation	Rajsi Udayan Kot
	Applications of NISAR in studying bird migration	Sneha M. Chopda, NIO
1220 – 1300	Discussion	
Breakout Session – 2 (18 Nov., 1400 – 1530 Hrs)		
1400 – 1420	Remote sensing applications in agriculture: present prospects and future needs	K.R. Manjunath, SAC
1420 – 1450	**Short Presentations – 05mins each (06 Nos)**	
	Microwave emissivity and land surface variables estimation	Sanjeev Kimothi, Swami Rama Himalayan Univ.
	Exploring SAR data for biophysical parameter retrieval to enhance agriculture monitoring	Rahul Nigam, SAC
	Parameter retrieval and enhanced growth monitoring of rice crop using SAR data	Indrani Chaudhary, DAIICT
	Identification of areas vulnerable to water-logging in irrigation command areas using L&S band airborne SAR data	R.L. Mehta, SAC
	Crop biomass retrieval for Gujarat region using L&S band SAR	Rucha Dave, AAU
	Ground truth collection using ground based polarimetric scatterometer with multiple polarization	OPN Calla, ICRS
	PolSAR Image classification for various Land cover features	Varsha Turkar, VIT
1450 – 1530	Discussion	
Breakout Session – 3 (18 Nov., 1545 – 1700 Hrs)		
1545 - 1600	SAR Applications in Soil Moisture Retrieval	Harisankar Srivastava, IIRS
1600 - 1630	**Short Presentations – 05mins each (06 Nos)**	
	Retrieval of high resolution surface soil moisture over India using NISAR	Kishan Lal Gadri, ICRS
	Retrieval of crop biophysical parameters from NISAR	Ramandeep Kaur Malhi, MSU
	Soil moisture retrieval using microwave remote sensing	Sasmita Chaurasia, SAC
	Use of satellite observations in the soil moisture assimilation system at NCMRWF	John P. George, NCMWRF
	Impact of sea level rise on Lakshadweep islands ecosystem	Ashutosh Saidawat, CSIR
	Spatial ecology for coastal zone management and coastal EIA, for sustainable development	Pranay Kumar Singh, CSIR-ASIR
	Agriculture Remote Sensing (Tentative)	Anil Sood, PRSC
1630 – 1700	Discussion	

GEOSCIENCES AND HAZARDS (Co-Chairs: Dr. B.K. Rastogi, ISR & Dr. Bradford H. Hager, MIT) (Vikram Hall – Horse Shoe Room)		
Breakout Session – 1 (18 Nov., 1130 – 1300 Hrs)		
1130 - 1220	**Short Presentations – 05mins each (10 Nos)**	
	Potential of multi-frequency & wide swath DInSAR in land subsidence studies	RS Chatterjee, IIRS
	Flood assessment, monitoring and management using SAR Data	MVSS Giridhar, JNTU
	Crustal deformation studies using advanced InSAR time series data	KM Sreejith, SAC
	DInSAR for seismic hazard studies	John Mathew, NRSC
	Multi-angle urban classification using polarimetric SAR	Shaunak De, IIT-Bombay
	Suitablity of SAR data for topographical modelling	Ritesh Agrawal, SAC
	Major Climatic changes in north western parts of Rann of Kachh	Rohan Thakkar, Guj. Univ.
	SAR measurement for earthquake studies in India	Rakesh Dumka, ISR
	SAR Data utilization for deformation and plate tectonic movement studies	Abdul Qadir, NESAC
	Impact of thermal expansion on Persistent Scatterer Interferometry Products	Shweta Sharma, SAC
1220 – 1300	Discussion	
Breakout Session – 2 (18 Nov., 1400 – 1530 Hrs)		
1400 – 1420	SAR Applications in Geoscience / Geo-archaeology	A.S. Rajawat, SAC
1420 – 1450	**Short Presentations – 05mins each (06 Nos)**	
	Active tectonic deformation: Possible applications of NISAR data on Plate boundary processes	Anil Earnest, CSIR-Fourth Paradigm Instt.
	Study of terrestrial planetary analogues using NI-SAR	Shiv Mohan, PRL
	Microwave probing of planetary surface including Earth	C. Suresh Raju, SPL, VSSC
	Geomorphology around mount Sinabung volcano (Indonesia) using RISAT SAR data	Sandhya Rani Pattanaik, SAC
	Impact of Urban Canopies on Heat islands: A case study	Anurag Kandya, Indus Univ.
	Study of ground deformation of Bhuj area using PSInSAR	Kausik Biswas, IIT-Kh
1450 – 1530	Discussion	
Breakout Session – 3 (18 Nov., 1545 – 1700 Hrs)		
1545 - 1600	Disaster management support program of ISRO: Operational flood mapping and management	V. Bhanumurthy, NRSC
1600 - 1625	**Short Presentations – 05mins each (05 Nos)**	
	Tripura needs a different remedial plan for disaster handling	Suman Dev, NIT-Agartala
	Application of L-band SAR data for deriving vital hyrdogeological inputs for groundwater management	G. Sreenivasan, RRSC-C
	Implementation of RS & GIS in Civil Engineering	Tarun Sahoo, SAO Univ.
	Data Quality Evaluation and Monitoring Approach for SAR Sensors	Maneesha Gupta, SAC
	ITG-Tool: A GUI based software for InSAR processing for monitoring surface deformation	Biswajit Manna, IIT-Kh
1625 – 1700	Discussion	

CRYOSPHERE (Co-Chairs: Dr. Ashwagosha Ganju, SASE & Dr. Ian R. Joughin, Univ. of Washington) (Vikram Hall – Seminar Room)		
Breakout Session – 1 (18 Nov., 1130 – 1300 Hrs)		
1130 - 1200	**Short Presentations – 05mins each (06 Nos)**	
	Snow and glacier studies highlights using L and C-band SAR data and future hydrological applications using SAR data in part of North Western Himalayas	Praveen Thakur, IIRS
	Monitoring of glacial zones and transient snow line of chhota sigri	Sanchayita Kundu, SAC
	Application High Resolution SAR Imagery for Snow Physics	Sanjeev Kumar, SASE
	Generation and Validation of the Interferometric SAR DEMs from TanDEM-X data for Indian Himalayan glacier	Ankur Pandit, IIT-Bombay
	Dynamics of the Gangotri Glacier Inferred from Long-Term and Seasonal Fluctuations in Velocity	S.P. Satyabala, IISc
	Applications of L- & S-band Radar Measurement to monitor cryosphere	Subhra Mathur, ICRS
1200 – 1300	Discussion	
Breakout Session – 2 (18 Nov., 1400 – 1530 Hrs)		
1400 - 1420	Polar-Ice studies using microwave data	Sandip R. Oza, SAC
1420 – 1440	**Short Presentations – 05mins each (04 Nos)**	
	Identification of Major Hot Spot areas in selected parts of Antarctica	Sarvesh Palria, MDS Univ.
	Monitoring and quantifying changes in ice velocities in Antarctic margins	P. Jayaprasad, SAC
	Energy balance partitioning and glacial processes: Role of SAR remote sensing	Nilendu Singh, WIHG
	Snow Parameters estimation from backscattering measurement	Asha Thapliyal, USAC
1440 – 1530	Discussion	
Breakout Session – 3 (18 Nov., 1545 – 1700 Hrs)		
1545 - 1600	**Short Presentations – 05mins each (03 Nos)**	
	Potential of Multi-frequency SAR applications in Himalayan cryosphere	Sushil Kumar Singh, SAC
	Near Real Time Sea Ice Advisory for Safe Ship Routing During Antarctic Expeditions	D. Ram Rajak, SAC
	Prospective cryosphere applications of NASA-ISRO SAR	Shridhar D. Jawak, NCAOR
1600 – 1700	Discussion	

ATMOSPHERE, OCEAN & COASTS (Co-Chairs: Dr. Raj Kumar, SAC & Dr. Benjamin M Holt, JPL) (New Auditorium – Conference Room)		
Breakout Session – 1 (18 Nov., 1130 – 1300 Hrs)		
1130 - 1145	**Short Presentations – 05mins each (03 Nos)**	
	Internal waves in Bay of Bengal by SAR observations	Meka Rajasekhar, SDSC, ISRO
	Ocean response of L-band airborne SAR	SK Sasmal, NRSC
	Monitoring of marine oil spill from SAR images: Automatic detection and classification of oil spills	Ratheesh Ramakrishnan, SAC
1145 – 1300	Discussion	
Breakout Session – 2 (18 Nov., 1400 – 1530 Hrs)		
1400 - 1430	SAR applications of Ocean internal waves	KVSR Prasad, Andhra Univ.
1430 – 1440	**Short Presentations – 05mins each (02 Nos)**	
	Possible use of NISAR observations for tropical cyclone studies	CM Kistawal, SAC
	Retrieval of ocean parameters from NISAR	RM Gairola, SAC
1440 – 1530	Discussion	
Breakout Session – 3 (18 Nov., 1545 – 1700 Hrs)		
1545 - 1555	**Short Presentations – 05mins each (02 Nos)**	
	NISAR coastal watch applications and demonstration	OPN Calla, ICRS
	Mud flat/mud bank monitoring using advanced Radar imaging	R. Sarangi, SAC
1555 – 1700	Discussion	