

POLINSAR 2015 Programme

Day 1, Monday 26 January 2015

D1S1 - Opening Sesssion

Chairs: Yves-Louis Desnos, ESA / Maurice Borgeaud, ESA

09:30 -	09:40	Opening Welcome	Maurice Borgeaud, ESA-ESRIN, Italy
09:40 -	10:00	SEOM Programme Overview - POLINSAR Achievements and Status	Yves-Louis Desnos, ESA,-ESRIN, Italy
10:00 -	10:20	PoISAR-AP: Exploitation of Fully Polarimetric Data for Application Demonstration - Final Results entinel-2 for Science WS Objectives	Irena Hajnsek, ETH Zurich, Switzerland
10:20-	10:50	Coffee Break	

D1S2 - SAR Missions

Chairs: Alberto Moreira, DLR / Masanobu Shimada, JAXA

10:50 -	11:10	Sentinel-1 Mission	Pierre Potin ESA-ESRIN, Italy
11:10 -	11:30	ALOS PALSAR-2 Mission	Masanobu Shimada, JAXA, Japan
11:30 -	11:50	RCM Mission	Stephane Chalifoux, CSA, Canada
11:50 -	12:10	SAOCOM Mission	Malcolm Davidson ESA-ESTEC, Netherlands
12:10 -	12:30	Tandem-L/ALOS-Next: Monitoring the Earth's Dynamics with PolinSAR	Alberto Moreira, DLR, Germany
12:30 -	14:00	Lunch	

D1S3 - Methods and Theoretical Modelling (A)

Chairs: Carlos López-Martínez, Universitat Politècnica de Catalunya / Elise Colin-Koeniguer., ONERA

14:00 - 14:20	PolSARproSim+: The enhanced coherent, polarimetric simulator for studying forest polarimetry and interferometry	Razi Ahmed, JPL, US
14:20 - 14:40	Solving the integral of quadratic forms of covariance matrices for applications in polarimetric radar imagery	Armando Marino, ETH Zurich, Switzerland
14:40 - 15:00	Comparative Analysis of Temporal Decorrelation at P and L bands over Tropical forests: EM Simulations and Results from Tower based Experiments	Ludovic Villard, CESBIO, France
15:00 - 15:20	Imaging a Wide Swath with Full Polarimetry	Michelangelo Villano, DLR, Germany
15:20 - 15:40	The impact of system limitations on PolSAR data physical modeling: the TerraSAR-X case	Eduardo Makhoul, Universitat Politècnica de Catalunya, Spain
15:40 - 16:00	Can higher-order statistics add information in model-based polarimetric decompositions?	Torbjorn Eltoft, University of Tromsø, Norway
16:00 - 16:30	Coffee Break	

D1S4 - Methods and Theoretical Modelling (B)

Chairs: Carlos López-Martínez, Universitat Politècnica de Catalunya / Elise Colin-Koeniguer., ONERA

16:30 - 16:50	Spectral Method For Bright Scatterers Resolution Enhancement	Flora Weissgerber, Telecom Paristech, France
16:50 - 17:10	Precipitating cloud effects on the radar polarimetric signature at Ka band	Saverio Mori, University "La Sapienza" Rome, Italy
17:10 - 17:30	Investigation of Variations in the Equivalent Number of Looks for Polarimetric channels	Hu Dingsheng, University of Tromsø, Norway
17:30 - 17:50	A Heterogeneity Index and Its Application to Parameter Estimation of Multilook PolSAR Clutter	Zhang Hong Institute of Remote Sensing and Digital Earth, China
17:50 - 18:30	Round Table Discussion	
18:30 - 19:30	ICE-BREAKER	

Day 2, Tuesday 27 January 2015

D2S1 - Applications of SAR Polarimetry on Land and Agriculture

Chairs: Irena Hajnsek, DLR / Kaupo Voormansik, Tartu Observatory

09:00 - 09:20	The role of polarimetry in a dynamical approach for agricultural crop monitoring	Fernando Vicente-Guijalba, University of Alicante, Spain
09:20 - 09:40	Polarimetric L-band ALOS for accurate assesement of fire damages in boreal peatlands	Ridha Touzi, Canada Centre for Remote Sensing, Canada
09:40 - 10:00	The performance of Sentinel-1 for mapping built-up areas	Kaupo Voormansik, Tartu Observatory, Estonia
10:00 - 10:20	Potentials of Bistatic Polarimetric SAR for Subsurface Imaging in Arid Regions	Philippe Paillou, University of Bordeaux, France
10:20 - 10:40	Four-Step OVoG Inversion for the Retrieval of Agricultural Crop Structure by Means of Multi-Baseline Polarimetric SAR Interferometry	Manuele Pichierri, ETH Zurich, Switzerland
10:40 - 11:10	Coffee Break	
11:10 - 11:30	Polarimetry-based land cover classification with Sentinel-1 data	Xavier Banqué, Altamira Information, Spain
11:30 - 11:50	Automated feature extraction by combining polarimetric SAR and object-based image analysis for monitoring of natural resource exploitation	Simon Plank, DLR, Germany
11:50 - 12:10	Round Table Discussion	

D2S2 - Applications of SAR Polarimetry on Soil Moisture

Chairs: Ridha Touzi, CCRS / Marco Lavallo, JPL/Caltec

12:10 - 12:30	Estimation of Soil Moisture under Vegetation Cover at Multiple Frequencies	Thomas Jagdhuber, DLR, Germany
12:30 - 12:50	Soil Moisture Change Under Vegetation: PolInSAR modeling, simulation and observations	Marco Lavallo, JPL/Caltec, US
12:50 - 13:10	Exploitation of Radarsat-2 dual and quad-pol images and modelled compact polarimetry parameters for surface soil moisture estimation in mountain areas.	Felix Greifeneder, EURAC, Italy
13:10 - 14:40	Lunch	
14:40 - 15:00	Exploring the validity range of the polarimetric two-scale two-component model for soil moisture retrieval by using AGRISAR data	Antonio Iodice, Universita' degli Studi di Napoli Federico II, Italy
15:00 - 15:20	Interferometric phase based soil moisture change detection using dual pol SAR data	Yin Qiang, Chinese Academy of Sciences, China
15:20 - 15:40	Time Series Analysis of Hybrid Polarimetric RISAT-1 Data for Soil Moisture Estimation	Ponnurangam Gramini Ganesan, Indian Institute of Technology Bombay, India
15:40 - 16:00	Round Table Discussion	
16:00 - 16:30	Coffee Break	

D2S3 - Applications of SAR Polarimetry on Ocean

Chair: Maurizio Migliaccio, Università degli Studi di Napoli Parthenope

16:30 - 16:50	On the capability of compact polarimetry SAR architectures to observe oil slicks at sea	Andrea Buono, Università degli Studi di Napoli Parthenope, Italy
16:50 - 17:10	Analysis and optimization of target scattered wave polarization signature for enhanced ship detection using Radarsat-2	Ridha Touzi, Canada Centre for Remote Sensing, Canada
17:10 - 17:30	A ship detection experiment: The case of South Africa	Rafael L. Paes, INPE, Brasil
17:30 - 17:50	Ships and Maritime targets observation campaigns using available C- and X-band SAR satellites	Velotto Domenico, DLR, Germany
17:50 - 18:10	Round Table Discussion	

Day 3, Wednesday 28 January 2015

D3S1 - SAR Polarimetry

Chairs: Eric Pottier, University of Rennes 1 / Wolfgang-Martin Boerner, University of Illinois

09:00 - 09:20	A new light on misclassification results on the SOMA district in San Francisco, due to the difficulty to predict entropy	Elise Colin-Koeniguer, Onera, France
09:20 - 09:40	A Physical Explanation of Texture for Polarimetric SAR data	Deng, Xinpeng RSLab, Spain
09:40 - 10:00	Classification Comparisons Between Compact Polarimetric and Quad-pol SAR Imagery	Boularbah Souissi, University of Science and Technology, Algeria
10:00 - 10:20	Evaluation of multilook effect in ICA based ICTD	Pralon Figueroa & Guimaraes Leandro Grenoble INP, France
10:20 - 10:40	Change detection in a time series of polarimetric SAR images	Henning Skriver, Technical University of Denmark, Denmark
10:40 - 11:00	Round Table Discussion	
11:00 - 11:30	Coffee Break	

D3S2 - SAR Polarimetric Interferometry and Tomography

Chairs: Stefano Tebaldini, POLIMI / Matteo Pardini, DLR

11:30 - 11:50	TanDEM-X Pol-InSAR Inversion for Mangroves of East Africa	SeungKuk Lee, NASA, US
11:50 - 12:10	On the Characterisation of Scattering Mechanisms Occurring in Agricultural Vegetation by Means of Polarimetric SAR Tomography	Hannah Joerg, DLR, Germany
12:10 - 12:30	Forest height estimation using Space-borne PolInSAR dataset over Tropical forests of India	Unmesh Govind Khati, Indian Institute of Remote Sensing, India
12:30 - 12:50	Above Ground Biomass estimation from SAR vertical reflectivity profiles	Astor Toraño Caicoya, DLR, Germany
12:50 - 13:10	Vegetation height estimation performance with respect to RVoG model deviations for full and compact polarimetry	Antoine Roueff, Ecole Centrale Marseille, France
13:10 - 14:40	Lunch	
14:40 - 15:00	DIFF-TOMO Opportunities for long wavelength satellite systems	Federico Viviani, University of Pisa, Italy
15:00 - 15:20	Exploring Vegetation Profiles from TanDEM-X Phase, Lidar, and Field Measurements in Tropical Forests	Robert Treuhaft, JPL, US
15:20 - 15:40	Round Table Discussion	

D3S3 - Applications of SAR Polarimetry on Cryosphere - Sea Ice and Snow

Chairs: Armando Marino, ETH Zurich / Torbjorn Eltoft, University of Tromsø

15:40 - 16:00	Extraction of late summer sea ice properties from polarimetric SAR features in C- and X- band	Ane Fors, University of Tromsø, Norway
16:00 - 16:20	Radar Interferometric and Polarimetric Possibilities for Determining Sea Ice Thickness	Scott Hensley, JPL, US
16:20 - 16:50	Coffee Break	
16:50 - 17:10	Retrieval of sea ice salinity with fully polarimetric SAR	Jacob Grahn, University of Tromsø, Norway
17:10 - 17:30	Automated sea ice classification based on dual polarimetric TerraSAR-X data	Rudolf Andreas Ressel, DLR, Germany
17:30 - 17:50	Polarimetric and Interferometric Methods to determine Snow Depth, SWE, and the Depth of Fresh Snow	Silvan Leinss, ETH Zurich, Switzerland
17:50 - 18:10	Dual-Pol X-Band Pol-InSAR Time Series of a Greenland Outlet Glacier	Georg Fischer, DLR, Germany
18:10 - 18:30	What can polarimetric SAR data tell us about snow accumulation on polar ice sheets?	Stefanie Linow, Alfred-Wegener-Institut, Germany
18:30 - 18:50	Round Table Discussion	

Day 4, Thursday 29 January 2015

Joint Sessions POLinSAR-BIOMASS 2015

D4S1 - The Biomass Mission

Chair: Thuy Le Toan, CESBIO

09:00 - 09:20	Facing the scientific challenges of the BIOMASS mission	Shaun Quegan, University of Sheffield, UK
09:20 - 09:40	The Biomass mission, status of the satellite system	Marco Arcioni, ESA-ESTEC, Netherlands
09:40 - 10:00	On the Separation of Dynamic Scattering and Ionospheric Effects in SAR Data	Kim, Jun Su DLR, Germany
10:00 - 10:20	Assessment Of Tropical Forest Biomass: A Challenging Objective For The Biomass Mission	Thuy Le Toan, ESA-ESTEC, France
10:20 - 10:40	On the Correlation Between Biomass and the P-band, Polarimetric HH-VV Phase Difference, and Its Potential for Biomass and Tree Number Density Estimation from SAR	Maciej Jerzy Soja, Chalmers University of Technology, Sweden
10:40 - 11:10	Coffee Break	

D4S2 - P-band PolSAR and PolInSAR for Forest Information Retrieval

Chairs: Konstantinos Papathanassiou, DLR / Lars Ulander, Swedish Defence Research Agency

11:10 - 11:30	On Combining BIOMASS with Contemporary Sensors	Mark L. Williams, Horizon Geoscience Consulting, Australia
11:30 - 11:50	A Polarimetric model of topographic effects on P-band forest backscatter	Erik Blomberg, Chalmers University of Technology, Sweden
11:50 - 12:10	First Results From The Ecosar P-Band Digital Beamforming Single Pass InSAR	Lola Fatoyinbo, NASA, US
12:10 - 12:30	Impact of temporal decorrelation on tree height and biomass estimation at P-band: PolInSAR experiments with the P-band RMoG model	Marco Lavallo, JPL/Caltech, US
12:30 - 12:50	PolInSAR Height Retrieval Method based on Electromagnetic Forward Meta-Model initiated with TomoSAR Estimates: Applications on TropiSAR Data and Prospects for Biomass mission	Ludovic Villard, CESBIO, France
12:50 - 13:10	A Comparison of P- and L-Band 3-D PolInSAR Forest Structure Estimates: A Study Case in Traunstein (Germany)	Matteo Pardini, DLR, Germany
13:10 - 14:40	Lunch	

D4S3 - P-band Tomography

Chairs: Laurent Ferro-Famil, University of Rennes 1 / Othmar Frey, ETH Zurich

14:40 - 15:00	SAR Tomography imaging of a tropical forest at P- and L-band	Ho Tong Minh, Dinh CESBIO, France
15:00 - 15:20	Airborne Holographic SAR Tomography at L- and P-band	Octavio Ponce, DLR, Germany
15:20 - 15:40	Tropical forest BIOMASS retrieval using P-band POLTOMSAR data	Bassam El Hajj Chehade, University of Rennes 1, France
15:40 - 16:00	Forest Structure Information Retrieval from Polarimetric Tomographic SAR Data	Marivi Tello, DLR, Germany
16:00 - 16:30	Coffee Break	

D4S4 - Biomass Beyond Forests

Chairs: Philippe Paillou, University of Bordeaux / Jorgen Dall, Technical University of Denmark

16:30 - 16:50	The BIOMASS Mission: Secondary Objectives	Philippe Paillou, University of Bordeaux, France
16:50 - 17:10	A Comparison of L- and P-band PolSAR Observations of a Sub-polar Ice-cap	Giuseppe Parrella, DLR, Germany
17:10 - 17:30	The effect of dielectric changes on ice velocities measured with polarimetric DInSAR	Jorgen Dall, Technical University of Denmark, Denmark
17:30 - 18:10	Round Table Discussion	
18:10 - 19:40	JOINT POSTER SESSION	

Day 5, Friday 30 January 2015

D5S1 - Airborne and Coampaigns

Chair: Scott Hensley, JPL

09:00 - 09:20	Mapping and validating forested landscapes in 3D using radar interferometry over the Laurentides super site	Marc Simard, JPL, US
09:20 - 09:40	Airborne Campaigns for Forest Information Extraction from InSAR and PolSAR Data	Erxue Chen, Research Institute of Forest Resources Information Technique, China
09:40 - 10:00	Assessment of TangoSat and Biomass tomographic modes for the characterization of boreal forests using airborne SAR measurements	Laurent Ferro-Famil, University of Rennes 1, France
10:00 - 10:20	A Comparison of UAVSAR and PolSARproSim+ Simulated Data for Multiple Vegetation Types	Scott Hensley, JPL, US
10:20 - 10:40	ALOS2-INDONESIA REDD+ EXPERIMENT (AIREX): Soil pool carbon application	Mahmud Arifin Raimadoya, Bogor Agricultural University, Indonesia
10:40 - 11:10	Coffee Break	

Session Summaries

Chairs: Yves-Louis Desnos, ESA / Klaus Scipal, ESA

11:10 - 11:20	Methods and Theoretical Modelling
11:20 - 11:30	SAR Missions & Airborne Campaigns
11:30 - 11:40	SAR Polarimetry, POLinSAR and Tomography
11:40 - 11:50	Applications of SAR Polarimetry on Land & Soil Moisture
11:50 - 12:00	Applications of SAR Polarimetry on Ocean
12:00 - 12:10	Applications of SAR Polarimetry on Cryosphere