Program

18–20 Nov 2026

9th INTERNATIONAL WORKSHOP ON RETRIEVAL OF BIO- & GEO- PHYSICAL PARAMETERS FROM SAR DATA FOR LAND APPLICATIONS

Universitat Politecnica de Catalunya , Aula Master
Barcelona

Table of contents

1 Wednesday 18 Nov

Welcome 1
Forest - Modelling and Retrieval I 1
Coffee Break 1
Forest - Modelling and Retrieval II 1
Lunch Break 2
Forest - Tomography I 2
Coffee Break 2
Forest - Tomography II 3
Round Table 3
Poster Session 3
Ice Break 3

4 Thursday 19 Nov

Soil and Hydrology I 4
Coffee Break 4
Soil and Hydrology II 4
Lunch Break 5
General Land Applications I 5
Coffee Break 5
General Land Applications II 5
Round Table 6

7 Friday 20 Nov

Agriculture 7
Coffee Break 7
Ice and Snow I 7
Round Table 8

Wednesday 18 November

09:00

Welcome

Session | **Conveners:**
Francesca Ticconi (ESA), Carlos López-Martínez (Universitat Politècnica de Catalunya), Francesco Torres Torres (Dean of UPC)

Description

welcome

09:30

09:30

Forest - Modelling and Retrieval I

Session

09:30–09:50

Forest Height Estimation From BIOMASS Data: Actual Status, Challenges, Potential and Ways Forward

Speaker
Roman Guliaev (German Aerospace Center (DLR))

09:50–10:10

Monitoring the progress of afforestation projects with C- and L-band SAR backscatter

Speaker
Oliver Cartus (GAMMA Remote Sensing)

10:10–10:30

Physics-Informed Forest Aboveground Biomass Retrieval Using WCM and IWCM with Sentinel-1 and NISAR Data

Speaker
Wenyu Yang (University of Napoli Parthenope)

10:30–10:50

Ground topography effects in biomass estimation from P-band Biomass data

Speaker
Lars Ulander (Chalmers University of Technology)

10:50

10:50

Coffee Break

Break

11:10

11:10

Forest - Modelling and Retrieval II

Session

11:10–11:30

Paving the Way for Uncertainty-Aware Forestry Products Using TanDEM-X and AI

Speaker
Daniel Carcereri (German Aerospace Center (DLR))

11:30–11:50

New Polarimetric Change Detectors: Application to Tropical Forest Monitoring Using BIOMASS SAR Data

Speaker
ayoub hamza

11:50–12:10

Observation of Ground Surface and Dihedral Scattering Signatures from BIOMASS Pol-InSAR Data: From Local Dynamics to Large-Scale Mapping

Speaker
Noelia Romero-Puig (German Aerospace Center (DLR) / Hisdesat)

12:10–12:30

Forest Height Estimation Based on Sentinel-1 Interferometric Coherence and Meteorological Data

Speaker
Marc Herrera-Giménez

12:30

12:30

Lunch Break

Break

14:00

14:00

Forest - Tomography I

Session

14:00–14:20

3D Forest Structure Mapping Using BIOMASS Tomography: Challenges, Potentials and Ways Forward

Speaker
Matteo Pardini (German Aerospace Center (DLR))

14:20–14:40

Identification and measurements of individual trees with tower-based L-band 3D radar tomography in a boreal forest

Speaker
Theresa Leistner (Department of Environmental and Energy Sciences, Chalmers University of Technology, Gothenburg, Sweden)

14:40–15:00

Parametric 3-D imaging of forests using an improved PolTomoSAR approach and BIOMASS data

Speaker
Laurent Ferro Famil (ISAE-SUPAERO & CESBIO)

15:00

15:00

Coffee Break

Break

15:20

15:20

Forest - Tomography II

Session

15:20–15:40

Model-free and high-resolution 3D imaging of forests using moment-based SAR tomography

Speaker

Laurent Ferro-Famil (ISAE-SUAPERO & CESBIO, University of Toulouse, France)

15:40–16:00

Single-Baseline P-band PolInSAR Tomography with the Two-Layer Model: Application to ESA BIOMASS Data

Speaker

Alberto Alonso-Gonzalez (Universitat Politecnica de Catalunya (UPC))

16:00–16:20

Multi-Source Fusion for Near-Real-Time Forest Loss Monitoring Using Sentinel-1 and Sentinel-2 Time Series with an Unsupervised Bayesian Method

Speaker

Marta Bottani (CESBIO (Université de Toulouse))

16:20

16:20

Round Table

Session

17:00

17:00

Poster Session

Session

18:00

18:00

Ice Break

Break

19:00

Thursday 19 November

09:30

Soil and Hydrology I

Session

09:30–09:50

Ground--Latent Interferometric Model for Soil Moisture Anomaly Retrieval

Speaker
Giovanni Costa (RIDE Lab - Politecnico di Milano)

09:50–10:10

High-resolution surface soil moisture retrieval: A hybrid machine learning framework integrating change detection and downscaling for precision water management

Speaker
zihao wang (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC))

10:10–10:30

Assessing mire breathing patterns across Mecklenburg Vorpommern, Germany using a Sentinel-1 SBAS approach

Speaker
Luc Pienkoß (Deutschland/ Universität Rostock)

10:30–10:50

Deep Learning-Based Soil Moisture Retrieval from Short Sentinel-1 Time Series

Speaker
Jose Luis Bueso

10:50

10:50

Coffee Break

Break

11:10

11:10

Soil and Hydrology II

Session

11:10–11:30

Large-Scale Soil Moisture Retrieval in Complex Terrain: A Physics-Informed Deep Learning Approach

Speaker
Chiara Telli

11:30–11:50

Using Quad-Pol ALOS PolSAR for Monitoring Wetland Dynamics

Speaker
Sebastiano Pignato (University Of Stirling)

11:50–12:10

Did the 2026 summer drought leave a SAR signature? Backscatter and polarimetric response of the Brasschaat ICOS forest compared to 2025

Speaker
Paulina Swiatek (TU Delft)

12:10–12:30
High Resolution mapping of Soil Moisture and Vegetation Biomass in the framework of ESA SMEM project

Speaker
Giuliano Ramat (IFAC CNR)

12:30

12:30
Lunch Break
Break

14:00

14:00
General Land Applications I
Session

14:00–14:20 **BIOMASS overview**

Speaker
Bjorn Rommen

14:20–14:40 **BIOMASS P-band coherence investigation**

Speaker
Urs Wegmüller (Gamma Remote Sensing AG)

14:40–15:00
Looking Through the Forest: Interferometric SAR Notching at P-Band for Below-Canopy Mapping with BIOMASS

Speaker
Youssra EL BENNIOUI (ISAE-SUPAERO)

15:00–15:20
Diverging post-fire SAR-derived trends of ground deformation and backscatter across permafrost gradients

Speaker
Barbara Widhalm (b.geos)

15:20

15:20
Coffee Break
Break

15:40

15:40
General Land Applications II
Session

15:40–16:00
Digital Terrain Model Retrieval from BIOMASS P-Band Tomographic Data: Processing and Validation

Speaker
NAOMI PETRUSHEVSKY

16:00–16:20
Quad-Polarimetric SAR Reconstruction from Reduced-Polarimetric Observations under L- & P band dataset

Speaker
Jiachen Li (Universitat Politecnica de Catalunya)

16:20–16:40

Estimation of the Polarimetric Orientation Angle in Dense Tropical Forest using BIOMASS Data

Speaker
Titouan Tyack (CESBIO)

16:40–17:00

Mapping inundation dynamics in forested wetlands by PALSAR-2 ScanSAR

Speaker
Jessica Rosenqvist (solo Earth Observation)

17:00

17:00

Round Table

Session

17:40

Friday 20 November

09:00

Agriculture
Session

09:00–09:20
ASSESSMENT OF FULLY POLARIMETRIC BIOMASS DATA FOR SOIL MOISTURE RETRIEVAL
Speaker
Irena Hajnsek (German Aerospace Center / ETH Zurich)

09:20–09:40
Retrieval of Vegetation Water Content from C- and L-band SAR data: Methodology and Initial Assessment
Speaker
Sofia Rossi (Consiglio Nazionale delle Ricerche (CNR) – Istituto per il Rilevamento Elettromagnetico dell'Ambiente (IREA), Bari, Italy)

09:40–10:00
Towards physically informed Sentinel-1 above-ground biomass retrievals over Alpine permanent meadows
Speaker
Giulia Graldi (Eurac Research)

10:00–10:20
HydroDrone: a UAV-InSAR Campaign for Short-Term Temporal Decorrelation - Processing and Preliminary Results
Speaker
Pietro Grassi (Politecnico di Milano)

10:20

10:20

Coffee Break
Break

10:40

10:40

Ice and Snow I
Session

10:40–11:00
Addressing Radar Penetration and Calibration Challenges for Accurate Glacier Elevation Change Monitoring with Current and Future InSAR Missions
Speaker
Alexandre Becker Campos (German Aerospace Center (DLR))

11:00–11:20
Super-Resolution Snowpack Tomography from X-Band UAV SAR Using Covariance-Based Compressive Sensing
Speaker
Luca Mantuano (Politecnico di Milano)

11:20–11:40

Closure Phase for Assessing Scattering-Structure Changes in Long-Wavelength SAR Observations

Speaker

Hossein Aghababaei (ITC, university of Twente.)

11:40–12:00

Retrieving Glacier Elevation Change and Geodetic Mass Balance from TanDEM-X InSAR Time Series

Speaker

Isabel Pieruschka (ETH Zürich)

12:00–12:20

Subsurface Deformation Signatures in the Antarctic Ice Sheet from BIOMASS P-Band Polarimetry

Speaker

Sara-Patricia Schlenk (Microwaves and Radar Institute, German Aerospace Center (DLR); Institute of Microwaves and Photonics, Friedrich-Alexander University (FAU) Erlangen-Nuremberg)

12:20

12:20

Round Table

Session

13:30