CEOS-WGCV - SAR Subgroup

The Committee on Earth Observation Satellites

Working Group on Calibration and Validation

Synthetic Aperture Radar Subgroup

SAR CAL & VAL WORKSHOP 2025

SFU's Harbour Centre, Downtown Vancouver, Canada
27 to 30 October, 2025

WORKSHOP PROGRAM

Canadian Space Agency | Agence spatiale canadienne

MDA SPACE

esa

SARlab

SFU SIMON FRASER UNIVERSITY

Welcome to the CEOS SAR Cal/Val Workshop at SFU Harbour Centre!

Dear Participants,

The organizing committee is delighted to welcome you to the CEOS SAR Calibration and Validation Workshop 2025, hosted by Simon Fraser University at its Harbour Centre located in the heart of downtown Vancouver.

Nestled between the Pacific Ocean and the coastal mountains, Vancouver offers a truly spectacular setting for our gathering, where SAR research and innovation meet natural beauty.

Over the course of the workshop, we look forward to engaging discussions, insightful presentations, and hands-on exchanges that will advance our shared goals in SAR calibration, validation, and applications. Whether you are reconnecting with colleagues or joining us for the first time, we hope you will find both inspiration and community here.

Welcome once again to Vancouver and to SFU Harbour Centre – where great minds and great ideas meet!

Warm regards,

The CEOS SAR 2025 Organizing Committee

CEOS-WGCV - SAR Subgroup

The Committee on Earth Observation Satellites

Working Group on Calibration and Validation

Synthetic Aperture Radar Subgroup

The Program at a Glance

Monday (October 27, 2025)
Workshop Registration + Coffee
Opening Remarks
Session 1.1 – Calibration of Running Missions
Lunch Break
Session 1.2 – Calibration of Running Missions
Coffee Break
Session 1.3 – Calibration of Running Missions
Discussion
Visit to Vancouver Lookout + Light Meal

Tuesday (October 28, 2025)
Welcome + Coffee
Session 2 – Calibration/ Validation Targets and Sites
Coffee Break
Session 3 – Polarimetry
Lunch Break
Session 4 – InSAR/ InSAR Altimetry Calibration and Validation
Coffee Break
Session 4 – InSAR/ InSAR Altimetry Calibration and Validation Cont'd
Discussion

Wednesday (October 29, 2025)
Welcome + Coffee
Session 5 – Calibration Methodology and Techniques / Future Missions
Coffee Break
Session 5 – Calibration Methodology and Techniques / Future Missions Cont'd
Lunch Break
Session 6 – Processing Algorithms
Coffee Break + Travel to SFU
Visit To Trottier Observatory / Marriane & Gibson Art Museum / SARlab SFU
Dinner (unhosted) – SFU Dining Commons

Thursday (October 30, 2025)
Welcome + Coffee
Session 7 – SARCalNet
Coffee Break
Session 8 – Calibration for Geophysical Apps & RFI
Lunch Break
Session 9 – Analysis Ready Data Products
Coffee Break
Session Summaries and Recommendations
Closing Remarks

Getting to the Venue

Address: SFU Harbour Center, 515 West Hastings St, Vancouver, BC

From Vancouver International Airport (YVR)

Take the Canada Line SkyTrain (toward Waterfront Station).
Get off at Waterfront Station
SFU Harbour Centre is about a 2-3 minutes walk

From Downtown Hotels

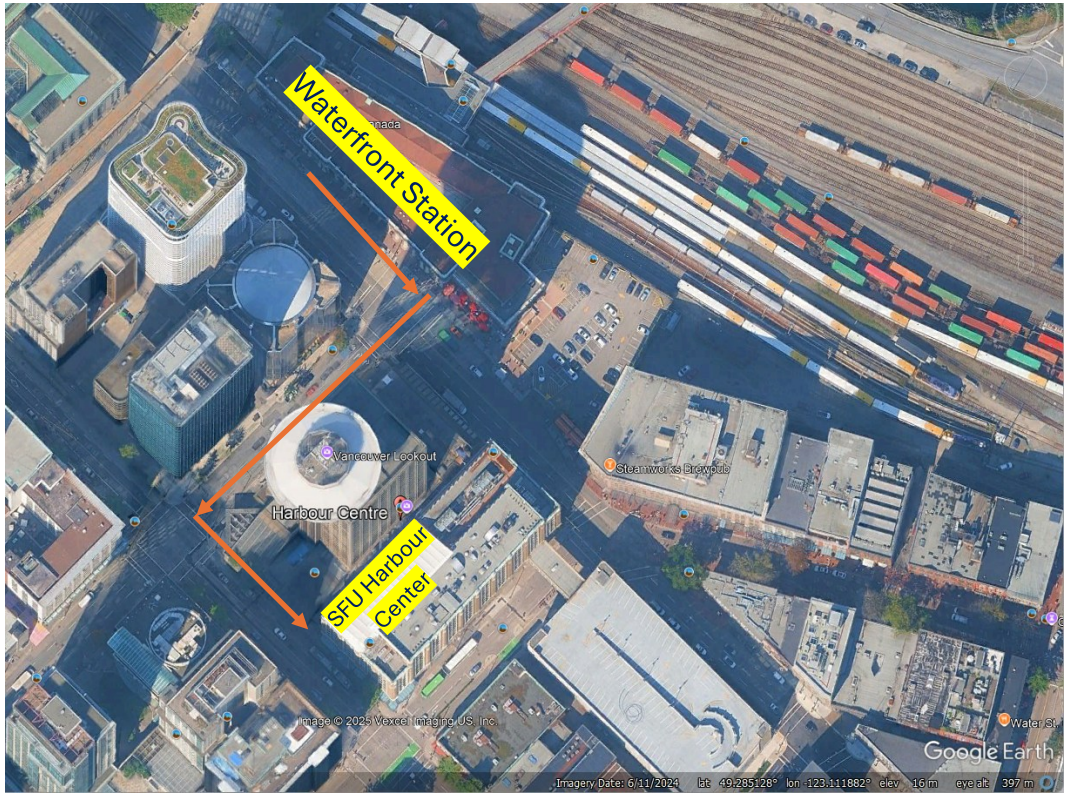
SFU Harbour Centre is within walking distance of Waterfront, Burrard, or Granville SkyTrain stations (5–10 minutes).

By Transit

SkyTrain to Waterfront Station
SeaBus to Waterfront Station from North Vancouver
Many buses stop on Hastings at Granville Streets stop. Check https://tripplanning.translink.ca/ for the best route.

Public Transport Fare Details

In case of public transport, one could either purchase Compass Card, or use personal contactless credit card / debit card for travelling on public transport. Please review the details at the following website (Pricing and Fare Zones | TransLink)



Uber / Lyft is also available throughout Vancouver area as an alternate medium of transport.

Parking Options For those who are commuting by own car, there are multiple public parking sites around the Harbour Center

Visit to SFU (Trottier Observatory, Gibson Art Museum and SFU SARlab) and Un-hosted Dinner at SFU Dining Commons

Option 1 – Rapid Bus R5: (Estimated Time 55-60 mins)
Take the R5 Rapid Bus eastbound from downtown Vancouver (Hastings St) across the street from the SFU Harbour Center entrance and get off at the last stop at SFU Transit Exchange. The bus is generally crowded at peak timings. Please refer to the following Google Maps route for further details: **Google Maps Route (R5 Bus)**

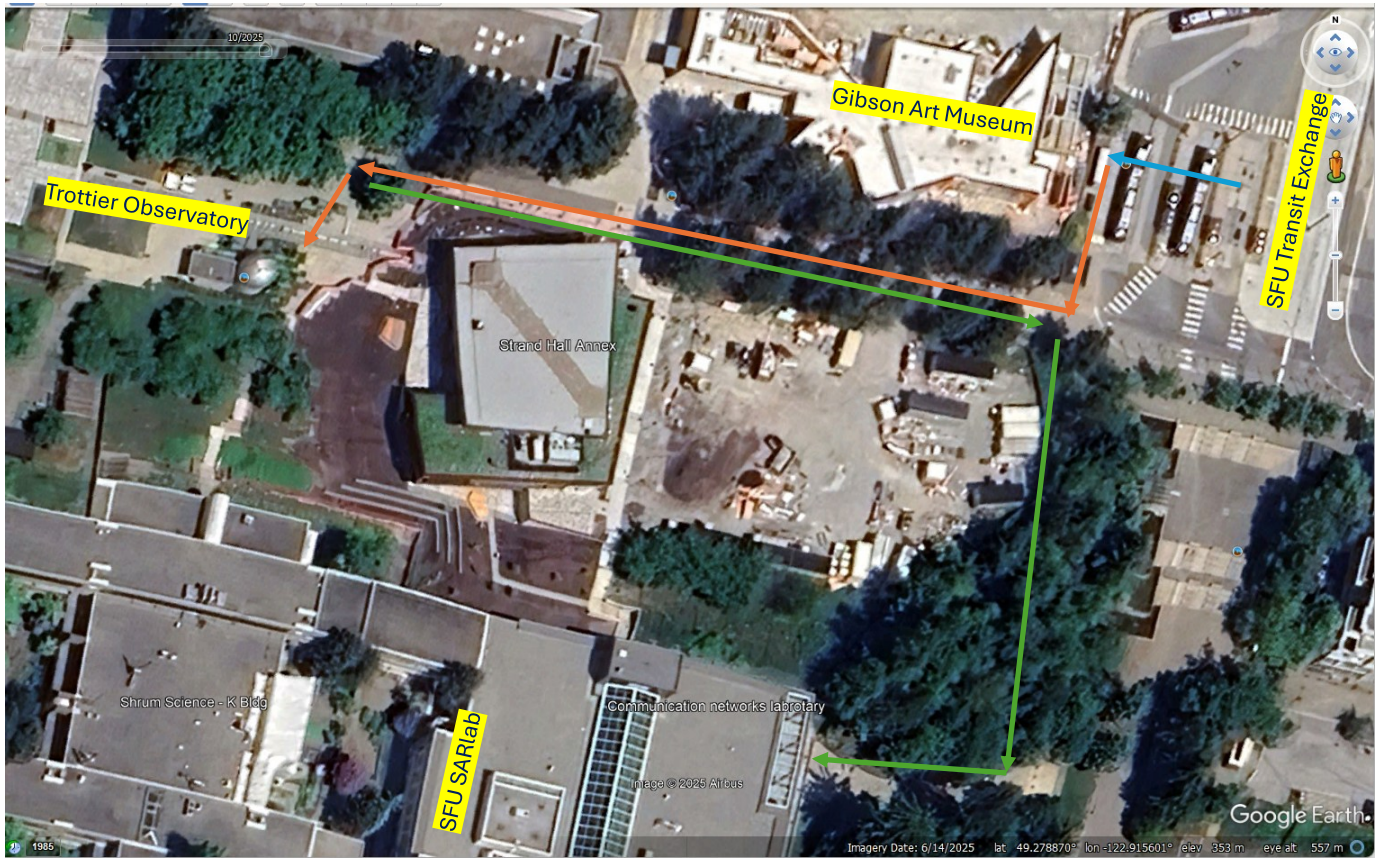
Option 2 – SkyTrain + Bus (recommended): (Estimated Time 60-65 mins)
1. Walk to Waterfront Station
2. Take the SkyTrain Expo Line toward Commercial-Broadway Station
3. Switch to Millennium Line towards Production Way–University or continue with Expo Line till Production Way (please budget 10-15 minutes extra for this option)

4. Get off at Production Way–University Station.
5. Take Bus # 145 to SFU from Production Way–University up to the SFU Transit Exchange.

Please refer to the following Google Map route for further details **Google Map Route- SkyTrain + Bus**

Gather Outside the Gibson Art Museum entrance when you reach the destination!

The following map illustrates the entrance to the Art Museum, the Trottier Observatory and SFU SARlab.



Trottier Observatory

Trottier Observatory is a state-of-the-art facility featuring a high-end telescope and integrated camera system for astronomical observation. A guided tour to the observatory will be held from 4-5 pm in batches of 10-15 participants. Learn more about the observatory at Trottier Observatory & Courtyard - Faculty of Science - Simon Fraser University

Gibson Art Museum

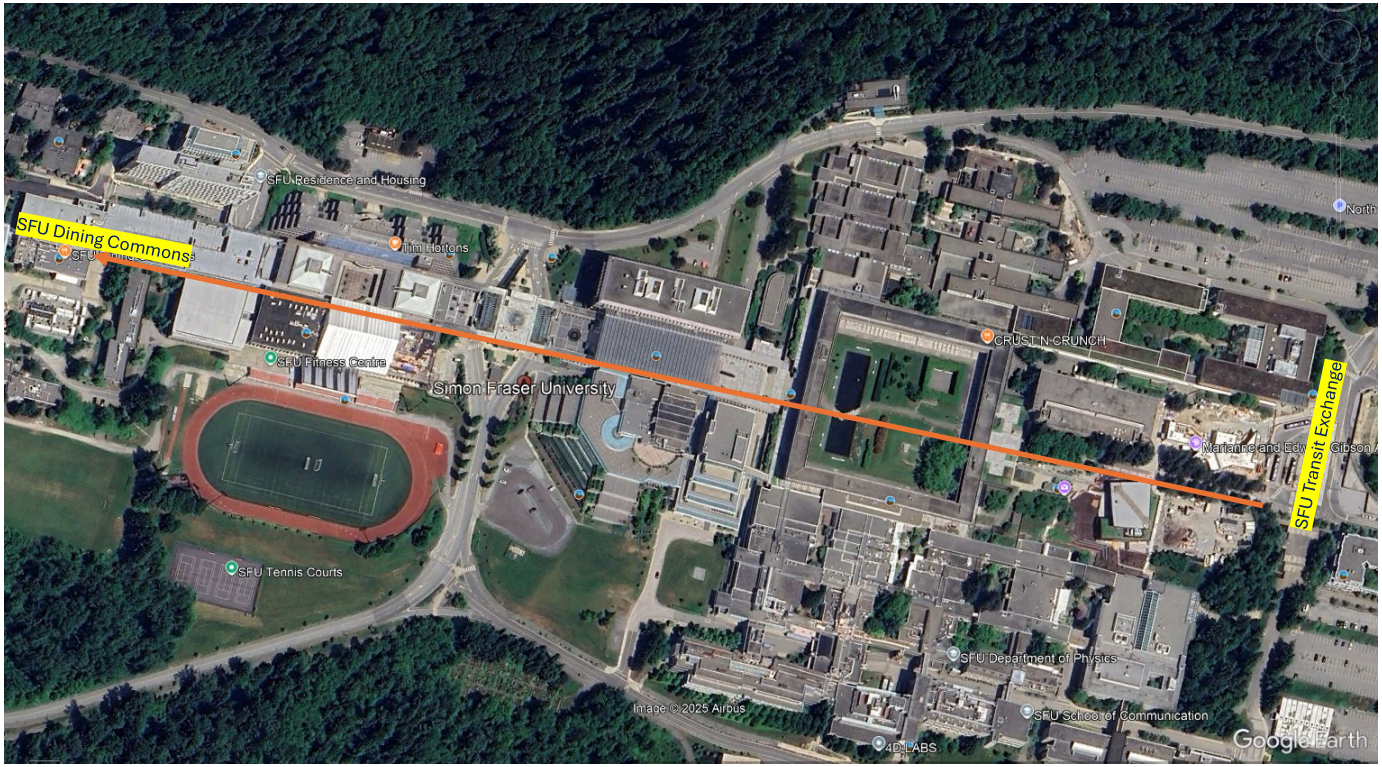
Gibson Art Museum is research based visual art museum open till 5 pm (free admission). You are welcome to checkout the museum while others visit the Trottier Observatory at the same time. Learn more about the ongoing exhibitions at the Museum at Gibson Art Museum

Visit to SFU SARlab

Museum and Observatory visits will be followed by a visit to the SFU SARlab and Sierra Wireless Lab from 5:00 - 6:00 pm.

Dinner at SFU Dining Commons (Un-hosted)

SFU Dining Commons is located at SFU Burnaby Campus which offers Buffet Style student dining option at reasonable rates. SFU Dining Commons is around 10 mins walking distance from the SFU Transit Exchange as per the direction shown on the following map:



Rates for dinner and dinner menu can be checked out here Food - Simon Fraser University & Dine On Campus || What's On The Menu? respectively.

Detailed Workshop Plan

CEOS SAR CAL & VAL WORKSHOP 2025 – PROGRAM (DAY 1)

Time	Activity	Speakers	Organization
8:30 - 9:30	Registration + Coffee		
9:30 - 10:10	Opening Remarks	Organizing Committee	
10:10-10:20	Presentations upload for the session		
10:20-12:00	Session 1.1 – Calibration of Running Missions – Chairs*: Patrick Klenk (DLR), Alan Thompson (ICEYE)		
10:20-10:40	RADARSAT-2 Image Quality and Calibration Update	Dan Williams	MDA Space
10:40-11:00	Sentinel-1C In-Orbit Commissioning Results	Dirk Geudtner	ESA
11:00-11:20	Comprehensive Results of DLR's Independent System Calibration of Sentinel-1C with an Outlook for Sentinel-1D	Patrick Klenk	DLR
11:20-11:40	An overview of Sentinel-1 instruments Status, L1 product performance and evolutions	Antonio Valentino	ESA
11:40-12:00	ALOS-4 Initial Calibration and Validation Results and Current Status	Takeshi Motohka	JAXA
12:00-13:00	Lunch Break + Presentations upload for the session		
13:00-14:20	Session 1.2 – Calibration of Running Missions – Chairs*: Dirk Geudtner (ESA), Dan Williams (MDA Space)		
13:00-13:20	NISAR L-Band Preliminary Image Calibration Results	Brian Hawkins	JPL
13:20-13:40	BIOMASS In-Orbit Commissioning: Main Tasks and Preliminary Results Overview	Antonio Leanza	ESA
13:40-14:00	Preliminary Results from the On-Going Biomass In-Orbit Commissioning	Andrea Recchia	ARESYS
14:00-14:20	Preliminary findings on BIOMASS SAR performance during In-Orbit Commissioning	Clement Albinet	ESA
14:20-14:40	Coffee Break + Presentations upload for the session		
14:40-15:40	Session 1.3 – Calibration of Running Missions – Chairs*: Takeshi Motohka (JAXA), Stephane Cote (CSA)		
14:40-15:00	Calibration of PAZ SAR System and health overview	Juan Manuel Cuerda Muñoz	INTA
15:00-15:20	Maintaining Calibration across the ICEYE Constellation	Alan Thompson	ICEYE
15:20-15:40	DLR's Long Term System Performance Monitoring for various SAR Missions	Jakob Giez	DLR
15:40-17:00	Discussions		
17:00-17:20	Appetizers		
17:00-19:00	Visit to Vancouver Lookout + Pizza		
19:00-19:30	Coffee + Cookies		

* Awaiting confirmation from session chairs

CEOS SAR CAL & VAL WORKSHOP 2025 – PROGRAM (DAY 2)

Time	Activity	Speakers	Organization
09:00-09:20	Welcome + Coffee + Presentations upload for the session		
09:20-11:00	Session 2 – Calibration/ Validation Targets and Sites – Chairs*: Brian Hawkins (JPL), Stephane Cote (CSA)		
09:20-09:40	Australian Corner Reflectors for Global SAR Satellite Calibration	Medhavy Thankappan	Geoscience Australia
09:40-10:00	Top Hat target design for SAR ground control points on Heard Island	Matt Garthwaite	CSIRO
10:00-10:20	VerQuin Antarctic NISAR Trihedral Corner Reflector	Christian Walls	Verquin Geodetic
10:20-10:40	A look back at more than 10 years of DLR's automated calibration site operation and a presentation of the latest developments regarding DLR's reference targets	Anna Maria Buchner	DLR
10:40-11:00	A Retro-Directive GB Calibration Target for Bi-Static EO Radars	Beatrice Mai	AERSYS
11:00-11:10	Coffee Break		
11:10-13:40	Session 3 – Polarimetry – Chairs*: Jens Reimann (DLR), Ron Caves (MDA Space)		
11:10-11:30	Correction for the Effect of Faraday Rotation on ALOS-2 PALSAR-2 Dual-polarization Backscatter Intensity from Forest and Point Targets	Haruya Hirano	RESTEC
11:30-11:50	End-to-end Polarimetric Calibration of BIOMASS under Faraday Rotation using Distributed Natural Scatterers	Jun Su Kim	DLR
11:50-13:00	Lunch Break + Presentations upload for the session		
13:00-13:20	BIOMASS In-Orbit-Commissioning Phase Results: Polarimetric Stability Assessment using Distributed Natural Scatterers	Jun Su Kim	DLR
13:20-13:40	Assessment and Calibration of RCM Compact-Hybrid Modes	Ridha Touzi	CCRS
13:40-15:00	Session 4 – InSAR/ InSAR Altimetry Calibration and Validation – Chairs*: Bernhard Rabus (SFU), Dirk Geudtner (ESA)		
13:40-14:00	Calibration and Verification of InSAR and Time-Series InSAR Analyses Combining ALOS-2/4 Data	Yutaro Shigemitsu	JAXA
14:00-14:20	Capella InSAR Status and Validation Plans	Craig Stringham	Capella Space
14:20-14:40	Validation of the OPERA DISP product at a landfill site in Canberra, Australia	Matt Garthwaite	CSIRO
14:40-15:00	Validation of SWOT Water Surface Elevation with low-cost GNSS sensors	Matt Garthwaite	CSIRO
15:00-15:20	Coffee Break + Setup for Poster Session		
15:20-16:00 (Poster Session)	Thermal Denoising for the Korean Water Resources Satellite	Jeong-Won Park	KOPRI
	3D InSAR Time Series Utilizing Capella Space Mid-Inclination Orbits	Kristof Bognar	3VG
	SARlab Experimental Airborne SAR & Optical System	Usman Iqbal Ahmed	SFU
16:00-17:00	Discussions		

* Awaiting confirmation from session chairs

CEOS SAR CAL & VAL WORKSHOP 2025 – PROGRAM (DAY 3)

Time	Activity	Speakers	Organization
09:00-09:20	Welcome + Coffee + Presentations Upload for Session		
09:20-11:50	Session 5 – Calibration Methodology and Techniques / Future Missions – Chairs*: Juan Manuel Cuerda Muñoz (INTA), Jun Su Kim (DLR)		
09:20-09:40	MDA CHORUS Mission Overview and Calibration Plan	Ron Caves	MDA Space
09:40-10:00	Assessment of third-party SAR missions in the framework of the new Earthnet Data Assessment Project (EDAP+): methods and tools	Andrea Recchia	ARESYS
10:00-10:20	State-of-the-art SAR Calibration using Active Reference Targets	Jens Reimann	DLR
10:20-10:40	A Novel In-Orbit Approach for Spaceborne SAR Absolute Radiometric Calibration Using a Small Calibration Satellite (Online)	Tian Qiu	BUAA
10:40-10:50	Coffee Break		
10:50-11:10	Sentinel-1 Temperature Compensation Emulation: S-1C Results and S-1D Commissioning Preparation	Beatrice Mai	AERSYS
11:10-11:30	Strategic Framework for Calibration and Validation of ISRO's Airborne P-Band SAR	Samvram Sahu	ISRO
11:30-11:50	ASF's Contributions to NISAR Data Access and NISAR's Calibration Activities	Franz Meyer	UAF
11:50-13:00	Lunch Break + Presentations Upload for Session		
13:00-14:40	Session 6 – Processing Algorithms – Chairs*: Ridha Touzi (NRCan), Andrea Recchia (ARESYS)		
13:00-13:20	A First Look at the NISAR Geocoded Polarimetric Covariance (GCOV) Product	Gustavo H. X. Shiroma	JPL
13:20-13:40	Kalman Filtering for Time Series Reconstruction of SAR Backscatter Images	Amit Kapadia	Quadrature Earth
13:40-14:00	An Open-Source and GPU SAR processor for ERS-1/2 and ENVISAT	Clement Albinet	ESA
14:00-14:20	Characterization of SAR Geolocation Accuracy over Ocean using High-Confidence Vessel-AIS Associations	Samvram Sahu	ISRO
14:20-14:40	Retrieval of Ship Radial Velocities Using AIS Track and Doppler Centroid Anomaly Methods from RADARSAT-2 SAR Data	Usman Iqbal Ahmed	SFU
14:40-16:00	Coffee Break + Travel to SFU Burnaby Campus		
16:00-18:00	Visit To Trottier Observatory / Marriane & Gibson Art Museum / SARlab SFU		
18:00-18:20	Walk to Dinner Venue		
18:20-20:30	Dinner (unhosted) – SFU Dining Commons		

* Awaiting confirmation from session chairs

CEOS SAR CAL & VAL WORKSHOP 2025 – PROGRAM (DAY 4)

Time	Activity	Speakers	Organization
09:00-09:20	Welcome/Coffee + Presentations Upload for Session		
09:20-10:50	Session 7 – SARCalNet – Chairs*: Bruce Chapman (JPL), Ake Rosenqvist (JAXA/SoloEO)		
09:20-09:40	A SAR analysis environment on the CEOS Analytics Laboratory	Jonathan Hodge	Adolfo Ibáñez University
09:40-10:00	Harmonizing SAR Calibration Targets: INTA's role in SARCalNet	Nuria Casal Vázquez	INTA
10:00-10:20	The development of the SARCalNet database and website	Antonio Valentino	ESA
10:20-10:50	SARCALNet Demonstration (Online)	Muriel Pinheiro	ESA
10:50-11:00	Coffee Break + Presentations upload for the session		
11:00-12:20	Session 8 – Calibration for Geophysical Apps & RFI – Chairs*: Medhavy Thankappan (Geoscience Australia), Franz Meyer (ASF)		
11:00-11:20	A Wetland Mask for Improved Radiometric Performance Assessment of SAR Data	Ake Rosenqvist	JAXA/SoloEO
11:20-11:40	Validating the NISAR Level-3 Permafrost Requirement	Franz Meyer	UAF
11:40-12:00	An overview of Sentinel-1 L2 product performance and evolutions	Antonio Valentino	ESA
12:00-12:20	Capella and Radio Frequency Interference	Craig Stringham	Capella Space
12:20-13:30	Lunch Break + Presentations upload for the Session		
13:30-14:50	Session 9 – Analysis Ready Data Products – Chairs*: Matt Garthwaite (CSIRO), Clement Albinet (ESA)		
13:30-13:50	Geometric Accuracy Assessment of EOS-04 Tile based Full INDIA Mosaic Analysis Ready Data (ARD) Product	Samvram Sahu	ISRO
13:50-14:10	Evaluation and Production of Geoscience Australia's Sentinel-1 SAR Analysis Ready Data for the Australian and Antarctic Regions	Medhavy Thankappan	Geoscience Australia
14:10-14:30	CEOS Analysis-Ready Data for SAR – Status update 2025	Ake Rosenqvist	JAXA/SoloEO
14:30-14:50	The Future Evolution of CEOS-ARD	Medhavy Thankappan	Geoscience Australia
14:50-15:10	Coffee Break		
15:10-16:30	Session Summaries and Recommendations	Session Chairs	
16:30-16:50	Closing Remarks	Organizing Committee	

* Awaiting confirmation from session chairs

Wi-Fi Access at the Conference

Wi-Fi will be available for all the CEOS SAR CAL & VAL Conference participants by connecting to the '**SFU-SECURE**' Wi-Fi network with the following credentials:

Username: LW6579

Password: HCwifi2025