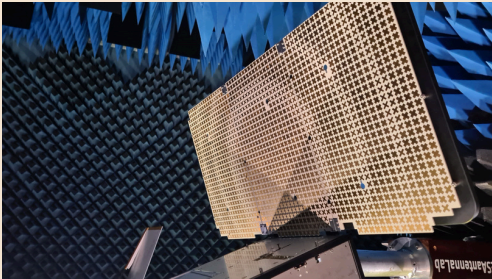


# Spaceborne Antennas for Earth Observations missions

## Abstract

Spaceborne antennas are essential for Earth Observation, supporting climate monitoring, disaster management, and resource mapping. Their design incorporates advanced materials and technologies to endure space conditions while ensuring optimal performance. Multi-purpose, all-weather, high-resolution satellite imaging demands onboard instruments that integrates advanced antennas. The growing volume of data to be downloaded necessitates as well higher gain and increased bandwidth to meet link budget requirements. The workshop will present the antennas development for two Earth Observation applications: RF instruments and a data downlink system.



## Speakers



**Raffaele Di Bari**, a Telecommunication Engineer, he has developed since 2012 satellite antennas at AIRBUS DS and Inmarsat. He is with ESA since April 2024.



Min Zhou is TICRA's CTO and manages the technology development in TICRA. Min began his career in TICRA in 2009 when he started his PhD that aimed at improving the design and analysis accuracy of printed reflectarrays. He used to be TICRA's Product Lead for Reflectarray & Periodic Structures (QUPES) and Uncertainty Quantification (UQ) from 2018-2024.



**Frank Wollenschläger** received his Dipl.-Ing. in electrical engineering from Ilmenau University of Technology, Germany, in 2008. From 2008 till 2019 he was a research assistant at the RF and Microwave Research Laboratory at Ilmenau University of Technology. His research focused on antenna design and characterization at 60 GHz and spherical nearfield antenna measurements for automotive antennas. He joined AIRBUS in 2019, where he works in the area of antenna design and verification for microwave instruments and manages the planar nearfield test facility in Friedrichshafen.

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## Speakers

**Céline Leclerc:** RF antenna engineer for CNES and ESA observation R&D projects. Relevant experience:

- Interferometric antennas for swath altimetry: SAOO (Swath Altimeter for Operational Oceanography), WiSA (Wide Swath Altimeter), MBSA (Multi Beams Swath Altimeter), implication in S3NG-T (Sentinel 3 New Generation - Topography);
- Rotating antennas: SKIM phase A (Surface Kinematics Multiscale monitoring), implication in WIVERN (WInd Velocity Radar Nephoscope).