



ISARRA Conference

Draft Program

DAY 1

Wednesday, 29th of October 2025

All times are in EEST (Eastern Europe Standard Time)

08:30 – 09:00 Registration

09:00 Opening Session

Welcome & Introduction to the Conference

Workshop introduction and opening

Jean Sciare
The Cyprus Institute

The ACTRIS Research Infrastructure supporting UAV observations

TBC
ACTRIS-ERIC

09:40 – Atmospheric dynamic and meteorology: session 1 (Chair: tbc)

SAMURAI - Recent developments and application of drone-based sonic anemometry

Joachim Reuder
Geophysical Institute, University of Bergen, Norway

3D wind measurements with avionic data of quadcopter UAS - wind tunnel calibration and field validation

Johannes Kistner German Aerospace Center (DLR), Germany

Ultra-light sensors for measuring Lagrangian Dispersion in the Atmospheric Boundary Layer

Florencia Falkinoff
Max Planck Institute for Dynamics and Self-Organization, Germany

10:45 -11:15

Coffee Break

11:15 - Advances in Airframe & sensors (Chair: TBC)

Meteodrone Deployment at Scale: Lessons and Outlook

Brad Guay
Meteomatics, Switzerland

Long endurance solar-UAV for atmospheric measurements

Graham Spelman
Limosaero Limited, UK

Highly-Automated "Metsprite Dock 3" System for High-Reliability Vertical Profiling

Nicholas Castledine
Menapia, UK

Towards FIKI-Capable Small UAS: Development and Validation of a Passive Robust Airspeed Sensor

Konrad Bärfuss
Technische Universität Braunschweig, Germany

12:45-14:15

Lunch

14:15 – UAS Field campaigns: session 1 (Aerosols) (Chair: Tbc)

Unmanned Aerial Vehicles and Remote Sensing for satellite calibration and validation	Franco Marengo The Cyprus Institute, Cyprus
Aerosol profiling using uncrewed aerial systems in the Subarctic in spring 2025	Anna Voss Technische Universität Braunschweig, Germany
Can UAV-based and lidar synergistic observations improve mineral dust quantification?	Alkistis Papetta The Cyprus Institute, Cyprus
UAV observations reveal new insights into dust particle morphology and orientation	Kenneth M. Tschorn The Cyprus Institute, Cyprus
Vertical profiling of aerosol properties in the lower PBL in coastal environment of Hel Peninsula, Poland.	Aleksander Pietruczuk Institute of Geophysics PAS, Poland

16:00-16:30

Coffee Break

16:30 – Atmospheric dynamic and meteorology: session 2 (Chair: tbc)

Developing, testing and transitioning multiple uncrewed aircraft systems and swarm-capable dropsondes to routinely sample the high wind hurricane boundary layer	Joseph J Cione National Oceanic and Atmospheric Administration, USA
2025 Hurricane Season - S0 UAS Mission Overview and Results	Jack Elston Black Swift Technologies, USA
Investigating of air-sea coupling on diurnal time scale with UAS measurements	Michał Ciuryło University of Warsaw, Poland

18:00 – Poster session and reception (Chair: Tbc)

Airborne measurement of GHG emissions from wetland vegetation	Gillian Simpson Uppsala University, Sweden
Quantifying methane emissions from UK Landfills Using Unmanned Aerial Vehicles	Maria Tsvilidou University of Manchester, UK
UAVs and ground-based lidar for the validation of EarthCARE Dust	Zuhir Bona The Cyprus Institute, Cyprus
UAS based cloud observations during the #CHOPIN campaign in Autumn 2024	Anna Voss Technische Universität Braunschweig, Germany
Challenges in the Deployment of Optical Particle Counters on Uncrewed Aircraft Systems for In-Situ Aerosol Measurements	Kjell zum Berge University Tübingen, Germany
Enhancing High Resolution Atmospheric Profiling Using UAS: Deployment and Validation of the PARASITE Sensor Package	Martin Schön University of Tübingen, Germany
Towards sensible heat flux measurements with multicopter UAS and fast-response fine-wire temperature sensors	Norman Wildmann German Aerospace Center (DLR e.V.), Germany
Implementation of an Autonomous Glider with Weather Balloon Data Collection	Kerrick Ray Oklahoma State University

End of DAY 1

DAY 2

Thursday, 30th of October 2025

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09:30 – UAS Field campaigns: session 2 (Methane) (Chair: Tbc)

Quantifying methane emissions from geological seeps in the Mackenzie River Delta using UAVs	Abdullah Bolek Max Planck Institute for Biogeochemistry, Germany
CH ₄ flux quantification in Dutch biodigesters: Preliminary results from UAV-Based plume measurements	Dylan Geissbühler Utrecht University, Netherlands
A dual-platform approach for quantifying methane emissions at site level	Roubina Papaconstantinou The Cyprus Institute, Cyprus
Quantifying emissions from coal mine ventilation shaft using Unmanned Aerial Vehicles	Pawel Jagoda AGH University of Krakow, Poland

11:00-11:30 Coffee Break

11:30 – Atmospheric dynamic and meteorology: session 3 (Chair: tbc)

HOTSPOT — UAS measurements of turbulence in mountain valleys to improve numerical weather model parameterizations	Moritz Kippenberger Eberhard Karls Universität Tübingen, Germany
Using multirotor UAS fleets to gather high resolution observations in complex flows	Francesca Lappin DLR, Germany
Horizontal wind and turbulence measurements in the marine boundary layer	Stanisław Król Institute of Geophysics, Polish Academy of Sciences, Poland

12:30-14:00 Lunch

14:00 – UAS Field campaigns: session 3 (Aerosols, Clouds, Trace Gases) (Chair: Tbc)

Introduction of 4DCloud project	David Brus Finnish Meteorological Institute, Finland
Making fog visible: How Meteodrones improve forecast accuracy	Melanie Kobras Meteomatics AG, Switzerland
First Results from the AFN Measurements during the VENUSIAN Mission	Justin Fisher Droplet Measurement Technologies, UK
Advancing UAV-Based Monitoring of Stack Emission of Air Pollutants	Maria Kezoudi The Cyprus Institute, Cyprus
Direct measurements in volcanic plumes using balloon-borne multi-gas and particles sensor systems. The Vulcano Island and Etna 2025 field campaigns	Stefano Corradini INGV, Italy

15:45 -16:15 Coffee Break

16:15-18:00 – Open discussion

19:30

Conference dinner – Militzis restaurant

End of DAY 2

DAY 3

Friday, 31st of October 2025

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09:30 – UAS Research Infrastructure and Regulatory framework (Chair: Tbc)

What NWS Area Forecast Discussions Reveal About the Potential Value of UAS Profiles

Christopher Fiebrich
University of Oklahoma, USA

SCALES: A tale of an unlikely flight campaign's inception, implementation, and everything in-between.

Victoria Natalie
Oklahoma Aerospace Institute for
Research and Education, USA

CARGO-ACT – towards a global interoperability for aerosol, cloud and trace gas research infrastructures

Mikhail Paramonov
ACTRIS-ERIC, Finland

10:30-11:00

Coffee Break

11:00-12:00 - ISARRA Society Logistics Discussion

12:00-13:00 - Lunch

13:30

Excursion to Cyprus Institute drone lab & airfield (flights demo)

19:00

**Return to hotel
End of Conference**