

Final Program



International Academy of Astronautics 13th IAA Symposium on Small Satellites for Earth Observation *with contributions from the 4S symposium*

Given the international pandemic situation, we have decided to replace the physical get-together for the IAA Symposium on Small Satellites for Earth Observation by a virtual edition. This is with great regret, since our Symposium had been a place to meet for 25 years.

However, activities in the Earth observation sector continue. Latest developments and future trends still need to be shared amongst our community. We therefore hold the first virtual edition of our symposium with a focus on flight experience, new technologies and young scientists.

Conference Specials

- ✓ No registration fee!
- ✓ Keynote talks by distinctive speakers will kick-off each session.
- ✓ Evening events each day with additional program (starting 8 PM CEST).
- ✓ Two competitions to encourage young researchers' activities.

Date 2021 April 27-29, 9-11 AM & 3-5 PM CEST

Program

Day 1	Programmatics, Technology
Day 2	In-flight Experience, Technology
Day 3	Student & YP Competition

Contact iaa.symp@iaamail.org

Website [IAA SSEO](#)

Symposium Chairmen M. Hetscher (DLR) | K. Brieß (TU Berlin) | E. Gill (TU Delft)
Honorary Chair R. Sandau (IAA)
Symposium Coordinator M. von der Ohe (TU Berlin)

Session 1: 9:00-11:00 AM

Opening & Welcome Ceremony

Keynote: Sir Martin Sweeting (SSTL),
40-year anniversary of UoSAT-1

Xie Chengyin et al. (Spacety),
China's first small commercial SAR satellite-"Hisea-1" satellite and Typical applications

Josef Mittermayer et al. (German Aerospace Center),
A Novel MirrorSAR Concept for Augmenting the Next German Synthetic Aperture Radar Mission HRWS with Single-Pass Interferometry

Marco Grasso et al. (University of Naples Federico II),
An investigation on the feasibility of Formation-Flying SAR systems based on modular Plug-and-Play CubeSat

Helena Cruz et al. (Universidade de Lisboa),
Embedded Fault-Tolerant Architecture for On-Board Synthetic-Aperture Radar Backprojection

Session 2: 3:00-5:00 PM

Keynote: Amer Al Sayegh (MBRSC),
UAE Space Program – Past and Future

Bastiaan Lagaune et al. (OHB Sweden),
Arctic Weather Satellite, A microsatellite constellation for improved weather forecasting in Arctic and globally

Wim De Munter et al. (KU Leuven),
Affordable Quality Data from Space (AQUALIS)

Stefan Livens et al. (Vito),
Advancing hyperspectral CubeSat monitoring with the CSIMBA IOD mission

Andrew Haslehurst et al. (Surrey Satellite Technology Ltd),
DarkCarb: An Innovative Approach to Infrared Imaging

Murray Kerr et al. (DEIMOS Space S.L.U.),
EO-ALERT: A Novel Architecture for the Next Generation of Earth Observation Satellites Supporting Rapid Civil Alerts

Anita Bernie et al. (KISPE Space Systems Limited),
Charting The Growth Of The Open Source Space Ecosystem

Session 3: 9:00-11:00 AM

Keynote: Shinichi Nakasuka (University of Tokyo),

20-year history and future vision of micro/nano/pico-satellites in Japan

Maximilian Boettcher et al. (IRS Uni Stuttgart),

Single event upset observations on the "Flying Laptop" satellite mission and their effective containment through FDIR concepts

Jeroen Buursink et al. (Luxspace Sàrl),

IOC by telco: ESAIL platform commissioning

Jeroen Cappaert et al. (Spire Global UK Ltd.),

Preliminary results from Spire-ESA public-private partner-ship

Craig Underwood et al. (Surrey Space Centre),

Three Years of Spaceflight Results from the ALSAT-1N Thin Film Solar Cell (TFSC) Experiment

Hirobumi Saito et al. (JAXA, Institute of Space and Astronautical Science),

Demonstration of 3.3Gbps down link communication from small LEO satellite

Edgar Paolo Violan et al. (Tohoku University),

Development of an On-Demand Operating Procedure for Earth Observation Missions of the Diwata-2 Microsatellite

Session 4: 3:00-5:00 PM

Keynote: Adenilson Silva (INPE),

Remote sensing satellites developed by Brazil

Francesco Fragnito et al. (SAB Launch Services),

SSMS HEX Module for 46 CubeSats - Aggregation and Integration from EU to French Guiana

Swaraj Bandhu Mahato et al. (Imec),

Multispectral CCD-in-CMOS Time Delay Integration imager for high resolution Earth observation

Noah Schwartz et al. (UK Astronomy Technology Centre),

Active deployable primary mirrors on CubeSat

Giovanni Nicolai et al. (Italspazio),

ARAMIS - CubeSat ISL Project

Mohammed Amin Rabah et al. (Algerian Space Agency),

Novel design for Nano satellite 4x1 patch antenna array for S band Applications

Jaime Esper (NASA GSFC),

Dione: A Pathfinder Mission for Understanding the Ionosphere-Thermosphere Responses to Magnetospheric Forcing.

Followed by Panel Discussion at 8 PM CEST

Session 5: 9:00-11:00 AM

Keynote: Chantal Cappelletti (University of Nottingham),
Challenges and chances in educational space programs

Student Competition

Tony Erdmann et al. (TU Berlin),
Utilizing Small Satellites with Earth Observation Capabilities for Satellite Operations Education

Matias Rittatore et al. (Luleå University of Technology),
APTAS – The arctic student CubeSat

Julian Zecherle et al. (University of Applied Sciences Jena),
The Conceptual Optical Design for a Lightning Monitoring Nanosatellite

Alan Pitthan Couto et al. (Universidade Federal de Santa Maria),
Investigation of Flower Constellations of Small Satellites for the Brazilian Territory Coverage

Paloma Maestro Redondo et al. (Luleå University of Technology),
ASTER: Developing a High Performance Attitude Controlled Platform for Low-Cost Experiments

Session 6: 3:00-5:00 PM

Young Professional Competition

Kick-off talk by Enrico Stoll (TU Berlin)

Yaroslav Mashtakov et al. (KIAM),
Differential drag control for nanosatellite triangular formation flying

Cristobal Nieto-Peroy et al. (Luleå University of Technology),
A hardware-in-the-loop simulation testbed for validation of small satellite technologies

Duarte Galvao et al. (INESC-ID/IST),
ECSS-E-ST-50-15C Compliant CAN for Space Systems

Lucinda King et al. (Surrey Space Centre),
Optimising GNSS Reflectometry on Small Satellites for Sensing Land Parameters

Callum Middleton et al. (Surrey Space Centre),
Field Trials of CHAFF: CubeSat Hyperspectral Application For Farming

Evening Event: Symposium Awards and Social Online Event at 8 PM CEST