

SPIE. REMOTE SENSING

13-16 September 2021

IFEMA
Madrid, Spain

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31 March 2021

Remote Sensing of Clouds and the Atmosphere XXVI (RS104)

Conference Chairs: **Adolfo Comerón**, Univ. Politècnica de Catalunya (Spain); **Evgueni I. Kassianov**, Pacific Northwest National Lab. (United States); **Klaus Schäfer**, Atmospheric Physics Consulting (Germany)

Conference Co-Chairs: **Richard H. Picard**, ARCON Corp. (United States); **Konradin Weber**, Fachhochschule Düsseldorf (Germany); **Upendra N. Singh**, NASA Langley Research Ctr. (United States)

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This conference focuses on methods, underlying technologies, and applications of remote sensing of clouds and Earth and planetary atmospheres, including the following topics:

REMOTE SENSING, INCLUDING PROFILING, OF CLOUDS, ATMOSPHERIC AEROSOLS, TRACE GASES AND METEOROLOGICAL PARAMETERS

- cloud detection, profiling and characterization
- cloud modelling
- cloud screening
- gas measurements and retrieval from ground, air and space
- aerosol detection, measurements and retrieval from ground, air and space
- assimilation of remote sensing data of clouds, aerosols and trace gases into meteorological, transport, and air-quality models
- remote sensing of constituents, dynamical and electrical structure, and wave motions of the upper atmosphere
- studies of middle and upper atmosphere variability and climatology
- hyperspectral data processing
- deep learning, machine learning, handling and processing big data.

RADIATIVE TRANSFER

- Earth radiation budget
- 3D radiative transfer and approximation methods
- retrieval methods, profiling, and data assimilation
- atmospheric correction
- non-LTE radiative effects and radiative transfer codes
- non-LTE retrieval methods.

LIDAR, RADAR, AND OTHER ACTIVE AND PASSIVE (MICROWAVE, INFRARED, VISIBLE AND ULTRAVIOLET) ATMOSPHERIC MEASUREMENT TECHNIQUES AND TECHNOLOGIES

- remote sensing by FTIR, DOAS and other spectroscopic techniques
- lidar (elastic backscatter, Raman, DIAL, etc.) methods for aerosol, cloud and gas measurements
- radar profiling of cloud parameters
- satellite retrievals (infrared, microwave) targeting the upper troposphere and lower stratosphere (MIPAS, ACE-FTS, MLS, OMPS, etc.)
- advances in laser sources for lidar sensing of clouds, aerosols and gases from ground, airborne and space-borne platform
- advances in detectors for remote sensing systems of clouds and the atmosphere
- advances in retrieval methods
- synergy between different types of instruments
- calibration/validation of satellite retrievals of atmospheric variables
- low-cost sensor networking and interplay with mobile devices (including unmanned aerial vehicles), trace compound retrieval and remote sensing from ground, air and space, food and water security, predicting and monitoring natural disasters (wildfire, landslides, floods, etc.), search and rescue.

APPLICATIONS

- weather forecast and climate trends
- air pollution monitoring, forecast and modelling, including data and information fusion
- measurement of industrial, agricultural, biomass, and volcanic emissions and transport, including determination of emission source strengths
- environmental, disaster, and fire monitoring
- improvement of agri-food production systems
- applications of small satellites (microsats, nanosats, cubesats) to remote sensing of the atmosphere.
- studies of ice sheets (Cryosat, ICESat, IceBridge, GRACE, IceCube, etc.) and snow cover dynamics.

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Abstract Submission

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Follow these instructions to develop a successful abstract and accompanying manuscript for the conference and for publication in the Proceedings of SPIE in the SPIE Digital Library.

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A completed electronic submission should include the following:

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- Author(s) information
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- Present as scheduled.
- Publish a 6- to 20-page manuscript in Proceedings of SPIE in the SPIE Digital Library.
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- Ensure that you obtain a visa in time, if you need to do so. Visa Application Information and Invitation Requests.

Important dates

Abstracts Submission Deadline	31 March 2021
Acceptance Notification Sent to Contact Author	24 May 2021
Manuscripts Due	16 August 2021

Review and programme placement

- To ensure a high-quality conference, all submissions will be assessed by the Conference Chair/Editor for technical merit and suitability of content.
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