



Remote Sensing of Clouds and the Atmosphere XXVII (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); **Uendra N. Singh**, NASA Langley Research Ctr. (United States)

Programme Committee: **Lucas Alados-Arboledas**, Univ. de Granada (Spain); **Aldo Amodeo**, Istituto di Metodologie per l'Analisi Ambientale (Italy); **Young Joon Kim**, Gwangju Institute of Science and Technology (Korea, Republic of)

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:

- lidar (elastic backscatter, Raman, DIAL, etc.) methods for aerosol, cloud and gas measurements
- advances in laser sources for lidar sensing of clouds, aerosols and gases from ground, airborne and space-borne platform
- radar profiling of cloud parameters
- remote sensing by FTIR, DOAS and other spectroscopic techniques
- satellite retrievals (infrared, microwave) targeting the upper troposphere and lower stratosphere (MIPAS, ACE-FTS, MLS, OMPS, etc.)
- 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.

CONTINUED NEXT PAGE →

Present your research at SPIE Sensors + Imaging

Below are abstract submission instructions, the accompanying submission agreement, conference presentation guidelines, and guidelines for publishing in the Proceedings of SPIE on the SPIE Digital Library. Submissions subject to chair approval.

Important dates

Abstracts due	9 March 2022
Author notified and program posts online	18 May 2022
Registration opens	July 2022
Submission system opens for manuscripts and poster videos/PDFs*	27 June 2022
Post-deadline abstracts due: Submit via conference listings	11 July 2022
Manuscripts due	10 August 2022
Poster videos/PDFs due for onsite preview	10 August 2022
Poster videos/PDFs due for onsite preview	10 August 2022

Contact author or speaker must register prior to uploading

What you will need to submit

- Title
- Author(s) information
- 250-word abstract for technical review
- 100-word summary for the program
- Keywords used in search for your paper (optional)
- Check the individual conference call for papers for additional requirements (for example, some conferences require two- to three-page extended summary for technical review, or have instructions for award competitions)

Note: Only original material should be submitted. Commercial papers, papers with no new research/development content, and papers with proprietary restrictions will not be accepted for presentation.

How to submit your abstract

- Visit the conference page: www.spie.org/rs104call
- You may submit more than one abstract but submit each abstract only once.
- Click the "Submit An Abstract" button on the conference page.
- Sign in to your SPIE account or create an account if you do not already have one.
- Follow the steps in the submission wizard until the submission process is completed.

Submission agreement

- Register and pay the author registration fee
- Oral presenters: recording and publication of your onsite presentation (slides synched with voice), or submit a presentation video to be published instead of the onsite recording, for publication in the Proceedings of SPIE on the SPIE Digital Library
- Poster presenters: submit a poster PDF and optional preview video by the advertised due date, for viewing during the event and publication in the Proceedings of SPIE on the SPIE Digital Library
- Submit a 4-page-minimum manuscript, by the advertised due date, for publication in the Proceedings of SPIE on the SPIE Digital Library
- Obtain funding for registration fees, travel, and accommodations, independent of SPIE, through their sponsoring organizations
- Ensure that all clearances, including government and company clearance, have been obtained to present and publish. If you are a DoD contractor in the USA, allow at least 60 days for clearance
- Attend the meeting.
- Present at the scheduled time.

Review and program placement

- To ensure a high-quality conference, all submissions will be assessed by the conference chair/editor for technical merit and suitability of content
- Conference chairs/editors reserve the right to reject for presentation any paper that does not meet content or presentation expectations
- Final placement in an oral or poster session is subject to chair discretion.

Publication of Proceedings in the SPIE Digital Library

Increase your professional visibility and publish in the world's largest collection of optics and photonics research. Your peers download over 4 million papers and presentations from the SPIE Digital Library each year.

- Only manuscripts, presentations, and posters presented at the conference and received according to publication guidelines and due dates will be published in the Proceedings of SPIE on the SPIE Digital Library
- Manuscripts, presentations, and posters will be officially published within 2-4 weeks after the event in the SPIE Digital Library
- Conference chairs/editors may require revision before approving publication and reserve the right to reject for publication any manuscript or presentation that does not meet acceptable standards for a scientific publication
- Conference chair/editor decision to accept or reject a manuscript, presentation, or poster for publication is final
- Authors must be authorized to transfer copyright of the manuscript to SPIE or provide a suitable publication license; Authors retain the right to prepare derivative publications based on the published paper
- SPIE retains rights to distribute and market the official SPIE recording of the presentation and/or submitted video/poster
- SPIE partners with relevant scientific databases and indexes to enable researchers to easily find papers published in the Proceedings of SPIE. The databases that abstract and index these papers include Astrophysical Data System (ADS), Ei Compendex, CrossRef, Google Scholar, Inspec, Scopus, and Web of Science
- More publication information available on the [SPIE Digital Library](http://www.spiedigitallibrary.org).



Karsten Schulz
2022 Remote Sensing Chair
Fraunhofer Institute of Optronics, System Technologies and Image Exploitation IOSB (Germany)



Lorenzo Bruzzone
2022 Remote Sensing Co-chair
Univ. degli Studi di Trento (Italy)



Karin Stein
2022 Security + Defence Chair
Fraunhofer Institute of Optronics, System Technologies and Image Exploitation IOSB (Germany)



Ric Schleijsen
2022 Security + Defence Co-chair
TNO Defence, Security and Safety (Netherlands)

SPIE. DIGITAL LIBRARY

SPIE WILL PUBLISH YOUR RESEARCH GLOBALLY

www.SPIEDigitalLibrary.org

Your work will live far beyond the conference room—all proceedings from this meeting will be published in the SPIE Digital Library. Promote yourself, your ideas, and your organization to millions of key researchers from around the world through this web-based repository of the latest technical information.

Contact information

QUESTIONS?

Contact the program coordinator listed in your spie.org account.

For questions about your presentation, submitting an abstract post-deadline, or the meeting, contact your Conference Program Coordinator.

For questions about your manuscript, contact your Proceedings Coordinator