



## Remote Sensing of Clouds and the Atmosphere XXIX (RS104)

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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 as well as integration of monitoring methodologies.

### 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 AND SUSTAINABILITY

- 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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## 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

Abstract submissions due	3 April 2024
Registration opens	3 June 2024
Author notified and programme posts online	10 June 2024
Submission system opens for manuscripts and poster PDFs*	3 July 2024
Poster PDFs due for spie.org preview and publication	21 August 2024
Manuscripts due	28 August 2024
Advance upload deadline for oral presentation slides**	13 September 2024

\*Contact author or speaker must register prior to uploading

\*\*After this date slides must be uploaded onsite at Speaker Check-in

### What you will need to submit

- Title
- Author(s) information
- Speaker biography (1000-character max including spaces)
- Abstract for technical review (200-300 words; text only)
- Summary of abstract for display in the program (50-150 words; text only)
- Keywords used in search for your paper (optional)
- Check the individual conference call for papers for additional requirements (i.e., special abstract requirements or 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/rsi04call](http://www.spie.org/rsi04call)
- Choose one conference that most closely matches the topics of your abstract. You may submit more than one abstract, but submit each abstract only once
- Click the title of the conference to view the full description
- Sign in to the late submission system (now closed) 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

- All presenting authors, including keynote, invited, oral, and poster presenters, agree to the following conditions by submitting an abstract
- Register and pay the author registration fee
  - Oral presenters: recording and publication of your onsite presentation (slides synched with voice) for publication in the Proceedings of SPIE in the SPIE Digital Library
  - Poster presenters: submit a poster PDF by the advertised due dates for publication in the Proceedings of SPIE in the SPIE Digital Library; poster PDFs may also be published and viewable in the spie.org programme during and immediately after the event. Each poster must have a unique presenter; one person may not present more than one poster
  - Email messaging for the conference series
  - Submit a manuscript by the advertised due date for publication in the Proceedings of SPIE in the SPIE Digital Library
  - Obtain funding for registration fees, travel, and accommodations
  - 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
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- Final placement in an oral or poster session is subject to chair discretion

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### Contact information

For questions about your presentation, submitting an abstract, or the meeting, contact your [Conference Program Coordinator](#).

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