



Infrared Remote Sensing and Instrumentation XXXII (OP421)

Conference Chairs: **Marija Strojnik**, Centro de Investigaciones en Óptica, A.C. (Mexico); **Jörn Helbert**, Deutsches Zentrum für Luft- und Raumfahrt e.V. (Germany)

Program Committee: **Gabriele E. Arnold**, Deutsches Zentrum für Luft- und Raumfahrt e.V. (Germany); **Guillermo García-Torales**, Univ. de Guadalajara (Mexico); **Sarath D. Gunapala**, Jet Propulsion Lab. (United States); **Sven Höfling**, Julius-Maximilians-Univ. Würzburg (Germany)

A great deal of knowledge about the Earth's environment and about space (including outer space) has recently been acquired using infrared remote sensing and astronomical techniques. In this conference we plan to bring together scientists and engineers involved with the design, engineering, and data analysis of existing and future infrared remote sensing instruments, including scientific returns obtained from remotely collected data.

Areas of interest include:

- scientific objectives for future missions
- scientific results for those missions that have flown
- instrument design requirements to meet mission objectives and the resultant design and implementation experiences
- sensor technology challenges in meeting instrument requirements
- instrument and sensor integration challenges and experiences
- planned and required enabling technologies.

Papers are solicited on the following and related topics:

REMOTE SENSING FUNDAMENTALS

- radiometry and energy throughput
- imaging
- fundamental limits to IR imaging, including detector quantum noise and background limit
- stray light considerations, including analysis, signal-to-noise, and instrument performance limitations
- instrument calibration, comparison of predicted and measured results
- space environment and radiation effects
- calibration and testing
- data analysis
- standards and characterization of components and materials
- IR/electro-optical system modeling and simulations
- non-contact and non-invasive technique.

INSTRUMENT OBSERVATIONAL FACILITIES

- Planck Observatory
- James Webb Space Telescope.

INSTRUMENTS AND THEIR SCIENTIFIC RETURNS

- bolometers
- spectrometers
- imaging cameras
- photometers (multiband)
- radiometers
- imaging and nonimaging interferometers

- microcameras
- interferometers.

REMOTE SENSING

- Earth resource mapping
- atmosphere and weather prediction
- space exploration
- exploration of planets and comets within our solar system
- generation of light noise and ground temperature increase in urban and populated environments
- remote diagnostics and monitoring in human-unfriendly and disaster environments (nuclear power plants, earthquake, tsunami and mines)
- contamination of natural sources of sweet water and their reclamation
- monitoring of forests, their diseases, fuel accumulation and fire occurrences
- monitoring of volcanic activities
- natural and human-made fires and their propagation
- remote monitoring of humans and animals in quarantine and controlled access environment
- remote calibration
- Moon reconnaissance
- compact satellites
- satellite security and monitoring.

ENABLING TECHNOLOGIES

- sensor design
- cold read-out electronics
- data processing
- infrared materials.

INFRARED TELESCOPES FOR EARTH REMOTE SENSING, FOCAL PLANE TECHNOLOGY, AND DETECTION SCHEMES

- near-IR detectors
- IR detectors
- mid-IR detectors and sources
- far-IR detectors
- sub-mm detectors
- focal plane layout and architecture.

Present your research at SPIE Optics + Photonics

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	7 February 2024
Registration opens	April 2024
Authors notified and program posts online	29 April 2024
Submission system opens for manuscripts and poster PDFs*	17 June 2024
Poster PDFs due for spie.org preview and publication	24 July 2024
Manuscripts due	31 July 2024
Advance upload deadline for oral presentation slides**	16 August 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. extended abstract PDF upload for review 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/op421call
- 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

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 program during and immediately after the event. Each poster must have a unique presenter; one person may not present more than one poster per session
- 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
- 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

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Contact information

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