Sensor technologies are undergoing revolutionary advances. Increases in spatial, spectral, and temporal resolution, and in breadth of spectral coverage, render feasible sensors that function with unprecedented performance. Advances in computational power allow unparalleled exploitation of information collected by multicolor sensors, hyperspectral imagers, and multisensors. Existing applications are significantly enhanced and completely new application areas are arising. This has generated a renewed demand for measuring, modeling, and simulating target and background signatures and synthesizing multisensor contrast attributes to a depth of detail not seen before.

Sensor suites (multi-sensor platforms) are becoming prevalent. The methods used for design, modeling, analysis, and testing are generic to all imaging systems and apply to all sensors within a suite. Papers (listed in the following areas) are solicited for both non-thermal (UV, visible, low light level TV, NIR, SWIR, and mm) as well as thermal imaging systems (MWIR and LWIR).

The potential for smart sensing, robotic platforms, and communication networks has inspired both commercial and military users to look at families of affordable, interactive sensors to enhance situational awareness including surveillance, targeting, seekers, and damage assessment. Platforms for consideration are unmanned ground and air vehicles, munitions, and unattended ground sensors.

Topics include
- smart sensor design
- sensor suites (including sensor interactions)
- sensor suite analysis metrics
- testing metrics.
The sensor suite may contain laser range finders and laser designators. Future applications on unmanned ground and air vehicles will place more importance on integration, alignment, testing and field support of multi-sensor platforms.

Topics include
- multi-sensor boresight
- laser range finder and designator testing
- low light level TV testing
- development of test metrics for integrated systems
- sensor fusion metrics

Imaging system optimization requires knowledge of the target signatures, and atmospheric propagation effects.

Topics include
- target and background measurements and characterization
- characterization of backgrounds in other than moderate climates, including the urban environment
- improvements in and validation of target & background models including clutter
- advances in scene simulation/representation models and related technologies.
- camouflage, concealment & deception (CC&D)
- target acquisition in benign and cluttered scenes
- broad band atmospheric phenomena (absorption, scattering, and path radiance)
- atmospheric turbulence effects on target acquisition
- comparison of measure and predicted atmospheric transmission

Scene simulation and hardware-in-the-loop (HWIL) focusses on smart weapon testing.

Topics include
- Facilities, Testbed Examples/Techniques
- development/feasibility of low-cost PC scene generators
- real-time modeling and rendering of synthetic targets/backgrounds/countermeasures
- image projection, signal injection, sensor bypass modelling
- LADAR hyperspectral, semi-active laser, image generation and presentation for real-time HWIL.
- multiple bands/views, high spatial/frame rates, dynamic objects such as clouds, plumes, and explosions

**AWARDS**

Each year, this conference grants 2 awards. The “best presentation” is selected by the conference committee. The second is selected by the community. It is the most downloaded paper in the 3 months following the conference. As such, it represents the “hottest” topic of the year. Awardees will receive a SPIE citation and published in the conference proceedings.
Present your research at SPIE Defense + Commercial Sensing

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

<table>
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<tr>
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<tr>
<td>Abstract submission deadline</td>
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*Authors 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 2- to 3-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/SI203call](http://www.spie.org/SI203call)
- 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: Submit a presentation video by the advertised due date, or agree to the presentation capture of your presentation on site, for online conference viewing during the event and 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 online conference 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 online conference viewing during the event and 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

- SPIE will publish all presentations for viewing during the conference, as well as permanently archive all presentations in the conference proceedings on the SPIE Digital Library.
- SPIE retains rights to distribute and market the official SPIE recording of the presentation, presentation video, and/or poster.
- Most SPIE conferences follow an onsite publication model, meaning that manuscripts received by the advertised due date will be published for online viewing during the event, as well as archived in the SPIE Digital Library.
- A select few of SPIE conferences may elect to follow a Post-Meeting model of publication in order to conduct a more thorough review of manuscripts. In this model, manuscripts will be published 2-4 weeks after the event in the SPIE Digital Library, and may not be published for online viewing during the event.
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- Conference Chairs/Editors may require manuscript revision before approving publication and reserve the right to reject for publication any paper that does not meet acceptable standards for a scientific publication.
- Conference Chairs/Editors decisions on whether to allow publication of a manuscript are final.
- Only papers, presentations, and posters presented at the conference and received according to publication guidelines and due dates will be published in the conference Proceedings of SPIE on the SPIE Digital Library.
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- More publication information available on the [SPIE Digital Library](http://www.SPIEDigitalLibrary.org).

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