

Acquisition, Tracking, and Pointing XIX (OR51)

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Acquisition, tracking, and pointing are essential functions for positioning active and passive sensors relative to targets of interest. Subsets of these functions include gimbal mechanisms, active and passive sensors, gimbal control systems, sensor stabilization, real-time imaging, real-time signal processing, target tracking, wavefront correction, sensor fusion, and other related sensor and control tasks. This conference is devoted to current technology relevant to the design, analysis, modeling, integration, and testing of acquisition, tracking, and pointing systems and their related subsystems and components. This conference provides an ongoing exchange of applications and technology for engineers and managers working in this multidisciplinary field.

Papers are solicited for the following areas:

System-Level Applications

- electro-optical acquisition, tracking, and pointing systems
- radar acquisition, tracking, and pointing systems
- target acquisition and fire control systems
- missile guidance systems
- astronomical pointing systems
- reconnaissance systems
- range-finding systems
- range instrumentation systems
- real-time test and evaluation techniques
- training simulators for tracking systems
- system level analytical models and simulations
- papers of a tutorial nature by recognized experts on acquisition, tracking, and pointing systems.

Control Systems and Components

- electro-mechanical gimbal systems
- stabilization systems
- stabilized mirror assemblies
- gimbal friction models
- fast steering mirrors
- stabilization sensors
- auto-alignment systems
- electronic-beam steering techniques
- magnetic suspension bearings and drives
- control system designs and simulation models
- flexible gimbal structures and control systems
- structural dynamic models.

Image and Signal Processing for Target Tracking Applications

- target acquisition algorithms
- target tracking algorithms
- hardware/software designs for target trackers
- multiple target tracking algorithms
- clutter rejection algorithms
- real-time image and signal processing hardware designs
- high-frame image processors
- image processing analytical models and simulation methods
- multisensor target tracking systems
- track-before-declare techniques
- multipath mitigation techniques
- sensor fusion techniques
- sensor alignment techniques.

Abstract Due Date: 13 September 2004
Manuscript Due Date: 28 February 2005



Submission of Abstracts for *Defense and Security Symposium*

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IMPORTANT!

Submissions imply the intent of at least one author to register, attend the symposium, present the paper (either orally or in poster format), and submit a full-length manuscript for publication in the conference Proceedings.

All authors (including invited or solicited speakers), program committee members, and session chairs are responsible for registering and paying the reduced author, session chair, program committee registration fee. (Current SPIE Members receive a discount on the registration fee.)

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You are **STRONGLY ENCOURAGED** to submit abstracts using the "submit an abstract" link at:

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IMPORTANT! To ensure proper processing of your abstract, the SUBJECT line must include only:

SUBJECT: OR51, MASTEN, STOCKUM

Your abstract submission must include all of the following:

1. **PAPER TITLE**
2. **AUTHORS** (principal author first) For each author:
 - First (given) Name (initials not acceptable)
 - Last (family) Name
 - Affiliation
 - Mailing Address
 - Telephone Number
 - Fax Number
 - Email Address
3. **PRESENTATION PREFERENCE** "Oral Presentation" or "Poster Presentation."
4. **PRINCIPAL AUTHOR'S BIOGRAPHY** Approximately 50 words.
5. **ABSTRACT TEXT** Approximately 250 words.
6. **KEYWORDS** Maximum of five keywords.

Conditions of Acceptance

- Authors are expected to secure funding for registration fees, travel, and accommodations, independent of SPIE, through their sponsoring organizations before submitting abstracts.
- Only original material should be submitted.
- Commercial papers, papers with no new research/development content, and papers where supporting data or a technical description cannot be given for proprietary reasons will not be accepted for presentation in this symposium.
- Abstracts should contain enough detail to clearly convey the approach and the results of the research.
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- Applicants will be notified of abstract acceptance by mail no later than 3 January 2005. Early notification of acceptance will be placed on SPIE Web the week of 20 December 2004 at <http://spie.org/events/dss>
- Final placement in an oral or poster session is subject to the Chairs' discretion. Instructions for oral and poster presentations will be included in your author kit. All oral and poster presentations are included in the *Proceedings of SPIE*, and require presentation at the meeting and submission of a manuscript.

Proceedings of SPIE

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