

---

# Two- and Three-Dimensional Vision Systems for Inspection, Control, and Metrology II (OE112)

---

*Part of SPIE's International Symposium on Optics East*  
25-28 October 2004 • Pennsylvania Convention Center • Philadelphia, PA, USA

*Conference Chair:* **Kevin G. Harding**, GE Global Research Ctr.

*Program Committee:* **Peisen S. Huang**, Stony Brook Univ.; **Heinz Hügli**, Univ. de Neuchâtel (Switzerland); **Charles Joenathan**, Rose-Hulman Institute of Technology; **Spencer D. Luster**, Light Works; **John W. Miller**, Univ. of Michigan/Dearborn; **Karl A. Stetson**, Karl Stetson Associates, LLC; **Hans J. Tiziani**, Univ. Stuttgart (Germany); **Shizhuo Yin**, The Pennsylvania State Univ.; **Jianming Zheng**, GE China Technology Ctr. (China)

The field of two- and three-dimensional optical methods such as machine vision has grown to wide acceptance for many applications of inspection and measurements in industrial applications. The advances in machine vision have provided compact, smart camera systems, new cameras and lighting systems, and better ways of communicating with the outside world. The related field of electronic holography and shearography methods have provided the same level of computer interfaced data collection and analysis used to detect features to the complicated area of structural testing and dynamic characterization. Three dimensional methods have seen wide use in the electronics industry, but have also made advances in traditional manufacturing areas such as automotive and aerospace manufacturing. These methods are being used for defect inspection, precision measurements, and the detection of structural flaws. This conference is intended to address the areas of 2 and 3 dimensional methods of machine vision, including electronic optical NDT methods as they are applied to practical applications of industry.

Papers are sought in the following areas:

- machine vision methods, architectures and applications
- lighting methods and systems for inspection
- surface inspection methods
- special optical systems for inspection and measurements
- IR methods for flaw detection
- IR methods for dimensional measurements
- 3D machine vision methods and applications
- micro-scale measurement methods
- new methods and applications of electronic holography and speckle methods
- structured lighting methods and applications
- phase shifting methods applied to industrial inspection of non-optical parts.

Papers on unique applications of machine vision, 3D techniques and optical NDT are also sought:

- surface inspection applications
- on-line measurements
- web inspection applications
- on-machine tool measurements of shape and finish
- in-process vibration monitoring
- high resolution and high speed inspection applications.

**Abstract Due Date: 12 April 2004**  
**Manuscript Due Date: 27 September 2004**

## Submission of Abstracts for *Optics East Symposium*

Abstract Due Date: 12 April 2004

Manuscript Due Date: 27 September 2004

### **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.)

### **Instructions for Submitting Abstracts via Web**

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

<http://spie.org/events/oe>

**Submitting directly on the Web ensures that your abstract will be immediately accessible by the conference chair for review through MySPIE, SPIE's author/chair web site.**

Please note! When submitting your abstract you must provide contact information for all authors, summarize your paper, and identify the **contact author** who will receive correspondence about the submission and who must submit the manuscript and all revisions. Please have this information available before you begin the submission process.

First-time users of MySPIE can create a new account by clicking on the [create new account](#) link. You can simplify account creation by using your SPIE ID# which is found on SPIE membership cards or the label of any SPIE mailing.

If you do not have web access, you may E-MAIL each abstract separately to: [abstracts@spie.org](mailto:abstracts@spie.org) in [ASCII text \(not encoded\)](#) format. There will be a time delay for abstracts submitted via e-mail as they will not be immediately processed for chair review.

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

**SUBJECT: OE112, HARDING**

**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.
- Government and company clearance to present and publish should be final at the time of submittal. Authors are required to warrant to SPIE in advance of publication of the Proceedings that all necessary permissions and clearances have been obtained, and that submitting authors are authorized to transfer copyright of the paper to SPIE.

### **Review, Notification, Program Placement**

- To ensure a high-quality conference, all abstracts and Proceedings manuscripts will be reviewed by the Conference Chair/Editor for technical merit and suitability of content. Conference Chair/Editors may require manuscript revision before approving publication, and reserve the right to reject for presentation or publication any paper that does not meet content or presentation expectations. SPIE's decision on whether to accept a presentation or publish a manuscript is final.
- Applicants will be notified of abstract acceptance by mail no later than 2 August 2004. Early notification of acceptance will be placed on SPIE Web the week of 19 July 2004 at [spie.org/events/oe](http://spie.org/events/oe)
- 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**

- These conferences will result in full-manuscript Chairs/Editor-reviewed volumes published in the *Proceedings of SPIE*.
- Correctly formatted, ready-to-print manuscripts submitted in English are required for all accepted oral and poster presentations. Electronic submissions are recommended, and result in higher quality reproduction. Submission must be provided in PostScript created with a printer driver compatible with SPIE's online Electronic Manuscript Submission system. Instructions are included in the author kit and from the "Author Info" link at the conference website.
- Authors are required to transfer copyright of the manuscript to SPIE or to provide a suitable publication license.
- Papers published are indexed in leading scientific databases including INSPEC, Ei Compendex, Chemical Abstracts, International Aerospace Abstracts, Index to Scientific and Technical Proceedings and NASA Astrophysical Data System.
- **Late manuscripts may not be published in the conference Proceedings**, whether the conference volume will be published before or after the meeting. The objective of this policy is to better serve the conference participants as well as the technical community at large, by enabling timely publication of the Proceedings.
- **Papers not presented at the meeting will not be published in the conference Proceedings**, except in the case of exceptional circumstances at the discretion of SPIE and the Conference Chairs/Editors.