Call for Papers

Submit Abstracts by
13 April 2015
www.spie.org/sg15call

Monterey Conference Center and Monterey Marriott
Monterey, California, USA

Conference:
29 September–1 October 2015

Exhibition:
29–30 September 2015
Present your work in Monterey

SPIE Scanning Microscopies 2015, for advancing scanning microscopy technologies and applications.

Call for Papers.

**SPIE. SCANNING MICROSCOPIES**

**LOCATION**
Monterey Conference Center
and Monterey Marriott
Monterey, California, USA

**DATES**
Conferences: 29 September–1 October 2015
Exhibition: 29–30 September 2015

**Technologies**
- Optical, Particle Beam (ion and electron), and Scanned Probe
- Forensics
- Biological and Pharmaceutical
- Food Analysis: Microstructure, Identification, and Counterterrorism
- Environment, Health, and Safety
- Nanofabrication and Nanolithography
- Photomask Imaging, Metrology, and Characterization
- Nanomaterials
- Instrument Calibration, Evaluation, and Standards
- Industrial Semiconductor Applications
Plan to Participate.

On behalf of SPIE, Scanning Microscopies, and the Organizing Committee, we are pleased to announce the second Annual SPIE Scanning Microscopies Symposia to be held in Monterey, California. Previous SPIE Scanning Microscopies conferences were held in Baltimore, MD in conjunction with the SPIE DSS Symposium. The annual SPIE Scanning Microscopies continues to be the premier worldwide technical meeting devoted exclusively to the scanning microscopies. All researchers using any form of scanning microscope are encouraged to participate. Scanning Microscopies has also hosted a growing forensics microscopy following and as such the applications of the scanning microscopies to the forensics sciences are also emphasized.

The Scanning Microscopies 2015 meeting brings microscopists from all aspects of scanning microscopies (from scanned optics and probes to scanned particle beams) together in a single forum to discuss current research and new advancements in the field. Previous SCANNING meetings have had a large Forensics and Food Technology following. The various scanned microscopies are also key investigative and research tools in micro and nanotechnology.

In an effort to promote the scientific dissemination of graduate and undergraduate research findings, Scanning Microscopies is making a special call for graduate and undergraduate research abstracts. Contributions are accepted as either oral or poster presentations; with publication in the regular conference proceedings volume. All contributions resulting are welcome.

Submissions are encouraged from all areas of scanning microscopies; optical, particle beam (ion and electron), and scanned probe, especially those in new growth areas.

As the symposium chairs, we urge you to participate by submitting your abstracts, and to encourage your colleagues to do the same. We look forward to seeing you in Monterey next fall!

Michael T. Postek  
National Institute of Standards and Technology  
2015 Symposium Chair

S. Frank Platek  
U.S. Food and Drug Administration  
2015 Symposium Chair

Dale E. Newbury  
National Institute of Standards and Technology  
2015 Symposium Chair

Tim K. Maugel  
Univ. of Maryland, College Park  
2015 Symposium Chair

co-located with
SPIE Photomask Technology
www.spie.org/pm15call

Two conferences for one registration.
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Papers are encouraged from all areas of scanning microscopies; optical, particle beam (ion and electron), and scanned probe especially those in new growth areas. For example:
- nanotechnology imaging and characterization
- forensic microscopy and microanalysis
- nanofabrication and nanolithography with scanned probes
- scanning probe microscopies
- new electron, ion, and x-ray detector design
- backscattered electron detection and diffraction for imaging and characterization
- characterization of nanoparticles (preparation and microscopy)
- confocal and other optical microscopy techniques
- high-temperature and low-temperature microscopy
- nanomanipulation
- microscopy for environment, health, and safety
- instrument calibration, evaluation, and standards
- focused ion-beam microscopy and sample modification with beams of ions
- helium ion microscopy
- fast x-ray spectrometry/mapping with silicon drift detector (SDD) EDS
- food analysis: microstructure, identification, and counterterrorism
- industrial semiconductor and nanotechnology applications of scanning microscopies
- light microscopy techniques and methodology
- materials microscopy, characterization, and microanalysis
- microanalysis in SEM/EPMA/AEM
- microscopy and microanalysis in the biological sciences
- microscopy and microanalysis in the pharmaceutical sciences
- microscopy and microanalysis: theory, instrumentation, and techniques
- microscopy of chemical warfare agents
- microwave preparation technology
- Monte Carlo modeling for microscopy and microanalysis
- multidimensional microscopy
- semiconductor devices, materials, and process characterization
- scanning transmission electron microscopy (STEM)
- transmission electron microscopy (TEM)
- ultrahigh resolution scanning electron microscopy
- “in situ” manipulation and fabrication
- cathodoluminescence.

**Special Session Microscopy for STEM Educators**

The session Microscopy for STEM Educators was initiated in 2012 with great success. This will continue in 2015. Microscopy for STEM Educators is a general interest forum held with several notable invited speakers discussing their successful programs implementing microscopy in STEM education. In addition, a hands-on microscopy session is again planned with tabletop scanning electron microscopes and atomic force microscopes.
Award Presentation at 2014 SPIE Scanning Microscopies

The Professor Sir Charles Oatley Memorial Award was presented to

Dr. David C. Joy [B.A. (Cantab), M.A. (Cantab), D. Phil. (Oxon)]

Distinguished Professor of the University of Tennessee and Distinguished Scientist of the Oak Ridge National Laboratory

In recognition of his extraordinary contributions to scanning microscopy (electron and ion), including high-resolution SEM, low-voltage SEM, helium ion microscopy, electron-and ion-beam – specimen interactions, and SEM applications to semiconductor and magnetic materials. His tireless efforts to educate, inform, and inspire his students and colleagues have enormously advanced the field of microscopy.

Joint Session on Photomask Metrology Applications

Special joint sessions between the Scanning Microscopies conference and the Photomask Technology conference are being planned. Photomask Technology relies a great deal on scanning microscopies for metrology and inspection. Scanned particle and scanned probe microscopy are critical characterization tools necessary for developing a robust understanding of structure-property relationships for photomask fabrication and performance. This session will focus on the latest advances in scanning microscopy for photomask manufacturing.

Planned Workshops

• Particle beam and scanned probe/specimen interaction workshop
• Scanning microscopies in forensic science and homeland security.

Important Dates

Abstract Due Date: 13 April 2015
Acceptance Notices: 25 May 2015
Manuscript Due Date: 31 August 2015

STEM Teacher’s Session

Science Technology Engineering and Mathematics (STEM) Teacher’s Session

Robert Gordon, Hitachi-High Technologies America, Inc.; Michael T. Postek, National Institute of Standards and Technology

The future of our nation hinges on our ability to prepare our next generation to be innovators in science, technology, engineering and math (STEM). Excitement for STEM must begin in the earliest stages of our education process. Yet, today far too few of our students are prepared for the challenges ahead.

The special session “Microscopy for STEM Educators” is a general interest forum with several notable invited speakers discussing their successful programs implementing microscopy in STEM education to foster student interest and excitement. A hands-on session with a tabletop scanning electron microscope and atomic force microscope will be held at the end of the presentations. The attendees are encouraged to bring samples of interest and operate the instruments. STEM educators will receive a one-day reduced registration fee and will be able to also visit the exhibition.

All meeting attendees are invited to attend and participate. Educators attending this session only need to complete the Special Registration Form for STEM Educators. Although this session does provide formal MSDE CPD credit, a certificate of attendance for those wishing to apply for credit on their own can be provided.
ABSTRACT SUBMISSION

By submitting an abstract, I agree to the following conditions:

AN AUTHOR OR COAUTHOR (INCLUDING KEYNOTE, INVITED, ORAL, AND POSTER PRESENTERS) WILL:

• Register at the reduced author registration rate (current SPIE Members receive an additional discount on the registration fee).
• Attend the meeting.
• Make the presentation as scheduled in the program.
• Submit a full-length manuscript (6 pages minimum) for publication in the SPIE Digital Library and Proceedings of SPIE.
• 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.

Submit an abstract and summary online at: www.spie.org/sg15call
• Abstracts should contain enough detail to clearly convey the approach and the results of the research. Accepted abstracts will be published and made available at the meeting. Please submit a 500-word abstract for review.
• Please also submit a 300-word text summary suitable for early release. If accepted, this summary will be published prior to the meeting in the online or printed programs promoting the conference.
• Only original material should be submitted.
• Abstracts should contain enough detail to clearly convey the approach and the results of the research.
• 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 conference.
• Please do not submit the same, or similar, abstracts to multiple conferences.

REVIEW, NOTIFICATION, AND PROGRAMME PLACEMENT INFORMATION

• To ensure a high-quality conference, all submissions will be assessed by the Conference Chair/Editor for technical merit and suitability of content.
• Conference Chair/Editors reserve the right to reject for presentation any paper that does not meet content or presentation expectations.
• The contact author will receive notification of acceptance and presentation details by e-mail no later than: Please note date change—12 June 2015.
• Final placement in an oral or poster session is subject to the Chairs’ discretion.

PROCEEDINGS OF SPIE AND SPIE DIGITAL LIBRARY INFORMATION

• Manuscript instructions are available from the “For Authors/Presenters” link on the conference website.
• Conference Chair/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 Chair/Editors’ decisions on whether to allow publication of a manuscript is final.
• Authors must be authorized to transfer copyright of the manuscript to SPIE, or provide a suitable publication license.
• Only papers presented at the conference and received according to publication guidelines and timelines will be published in the conference Proceedings of SPIE and SPIE Digital Library.
• Published papers are indexed in leading scientific databases including Astrophysical Data System (ADS), Chemical Abstracts (relevant content), Compendex, CrossRef, Current Contents, DeepDyve, Google Scholar, Inspec, Portico, Scopus, SPIN, and Web of Science Conference Proceedings Citation Index, and are searchable in the SPIE Digital Library. Full manuscripts are available to SPIE Digital Library subscribers worldwide.

Find full information online: www.spie.org/sg15call
Full program and registration information will be online in June 2015.

Hotel
SPIE will arrange discounted rates at the Monterey Marriott, conveniently connected to the Conference Center. Housing will open for reservations in May 2015.

Exhibit
Learn more about exhibiting and sponsorships by visiting the “For Exhibitors” section of the website, or call SPIE Sales at +1 360 676 3290.
The paper you present will live far beyond the conference room

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29 SEPTEMBER–1 OCTOBER 2015

Be part of real-world applications of scanning microscopy.

SUBMIT YOUR ABSTRACT TODAY

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