

Multiphoton Microscopy in the Biomedical Sciences II (BO23)

Part of SPIE's International Symposium on
BiOS 2002

19–25 January 2002 • San Jose Convention Center • San Jose, California USA

Conference Chairs: **Ammasi Periasamy**, Univ. of Virginia; **Peter T. So**, Massachusetts Institute of Technology

Program Committee: **Guy C. Cox**, Univ. of Sydney (Australia); **Alberto Diaspro**, Univ. degli Studi di Genoa (Italy); **Andrew J. Dixon**, Bio-Rad Microscopy Labs. Inc. (UK); **Scott E. Fraser**, California Institute of Technology; **Hans C. Gerritsen**, Univ. Utrecht (Netherlands); **Stefan W. Hell**, Max-Planck Institute for Biophysical Chemistry (Germany); **Brian Herman**, Univ. of Texas Health Science Ctr.; **Satoshi Kawata**, Osaka Univ. (Japan); **Arnd Krueger**, Spectra-Physics Lasers Inc.; **Joseph R. Lakowicz**, Univ. of Maryland School of Medicine/Baltimore; **Steven McDonald**, Coherent Photonics Group; **Simon Watkins**, Univ. of Pittsburgh; **Georg Weiss**, Carl Zeiss, Inc. (Germany); **David L. Wokosin**, Univ. of Strathclyde (UK); **Warren R. Zipfel**, Cornell Univ.

Modern biology research on molecular, cellular, and organism levels requires the precise measurement of cellular or subcellular activity in two- or three-dimensions. Many available fluorescence microscope techniques are yielding limited in vivo information about the organizations and dynamics of complex cellular and tissue structures. The multiphoton (two- or more photon) excitation fluorescence imaging microscopy system will provide a unique, state-of-the-art, minimally invasive imaging system for thick tissue (deeper) and cellular imaging, and can effectively utilize UV absorption fluorophores. This multidisciplinary conference will be a forum for scientists from various fields of research, including both commercial and academic sectors, to discuss the system development and advantages of multiphoton microscopy in the various field of biomedical sciences.

Topics include:

- multiphoton microscopy (MP) theory and system development
- MP in wide-field and laser scanning confocal microscopy
- infrared lasers for MP system (femtosecond Vs picosecond Vs CW)
- deep tissue and cellular imaging
- calcium, pH imaging
- MP in developmental and neurobiology
- MP in tissue engineering

- fluorescence resonance energy transfer imaging (MP-FRET)
- fluorescence lifetime imaging (frequency and time domain) (MP-FLIM)
- fluorescence recovery after photobleaching (MP-FRAP)
- fluorescence correlation spectroscopy (MP-FCS)
- MP in photodynamic therapy (MP-PDT) and clinical imaging
- MP inducing localized chemical reactions such as probe uncaging
- photo-thermal, -chemical and -mechanical effects of IR radiation
- laser safety.

Students Poster Session Competition: Students are welcome to participate in the poster session competition of the conference on **Multiphoton Microscopy in the Biomedical Sciences**. There is a cash award for the winner(s). The participants should follow the rules and regulations of the SPIE organization for submission of their abstract and manuscript. They should also mention that their submission is for the "Students Poster Session Competition (SPSC-MP)."

Abstract Due Date: 25 June 2001
Manuscript Due Date: 17 December 2001
Final Summary Due Date: 19 November 2001

Abstract Due Date: **25 June 2001**

Manuscript Due Date: **17 December 2001**

Final Summary Due Date: **19 November 2001**

Submissions imply the intent of at least one author to register, attend the symposium, and present the paper (either orally or in poster format).

Your abstract must include all of the following:

1. **SUBMIT TO:** BO23, PERIASAMY/SO
2. **SUBMIT EACH ABSTRACT TO ONE CONFERENCE**
ONLY Multiphoton Microscopy in the Biomedical Sciences II (BO23)
3. **ABSTRACT TITLE**
4. **AUTHOR LISTING** (principal author first)
For all authors: First (given) name (initials not acceptable), Last (family) name, Affiliation, Mailing address, Telephone, Fax, and Email address.
5. **PRESENTATION**
Indicate your preference for "Oral Presentation" or "Poster Presentation." Final placement is subject to chairs' discretion.
6. **ABSTRACT TEXT**
Approximately 250 words.
7. **KEYWORDS**
List a maximum of five keywords.
8. **BRIEF BIOGRAPHY** (principal/presenting author)
Approximately 50 words.

Instructions for Submitting Abstracts

All authors are STRONGLY ENCOURAGED to submit their abstracts by the due date using the Web form located at URL:

 www.spie.org/info/pw/

Using this method of submission ensures that your abstract will be immediately accessible to the conference chair for review. Using other methods of submission (listed below) will delay the processing of your abstract.

- or E-MAIL each abstract separately to: abstracts@spie.org in ASCII text (not encoded) format. IMPORTANT: to ensure receipt and proper processing of your abstract, the Subject line must include only the following:
SUBJECT: BO23, PERIASAMY/SO
- or MAIL your abstract to:
BIOS 2002
SPIE, P.O. Box 10, Bellingham, WA 98227-0010 USA
Shipping Address: 1000 20th St., Bellingham, WA 98225 USA
- or FAX one copy to SPIE at 360/647-1445 (send each abstract separately).

Publishing Policy

Manuscript due dates must be strictly observed. Whether the conference volume will be published before or after the meeting, late manuscripts run the risk of not being published in the *Proceedings of SPIE*. The objective of this policy is to better serve the conference participants and the technical community at large. Your cooperation is appreciated by all.

Final Summary

Accepted authors will receive instructions for submission of the 200-word Final Summary in their author kit. The Final Summaries will be published and available at the meeting.

Oral or Poster Presentation

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 a manuscript.

Proceedings of SPIE

These conferences will result in full-manuscript editor-reviewed volumes published in the *Proceedings of SPIE* that can be ordered through the Advance Technical Program. Camera-ready manuscripts are required of all accepted applicants and must be submitted in English by 17 December 2001. Copyright to the manuscript is expected to be released for publication in the *Proceedings of SPIE*. **Note: If an author does not attend the meeting and make a presentation, the chair may choose not to publish the author's manuscript in the conference volume.** Papers published are indexed in leading scientific databases including INSPEC, Compendex Plus, Physics Abstracts, Chemical Abstracts, International Aerospace Abstracts, and Index to Scientific and Technical Proceedings.

Participant Registration Fee

Authors and coauthors are accorded a reduced symposium registration fee. Participants who attend the symposium and pay the full Author registration fee may also apply for a six-month, nonvoting membership in SPIE if never before a member (membership includes *OE Magazine* and choice of SPIE's Journals). This offer does not apply to student Authors. Details are available at the on-site registration desk or by contacting SPIE Member Services at membership@spie.org; or call 360/676-3290.

Conditions of Acceptance

- Authors are expected to secure registration fees and travel and accommodation funding, independent of SPIE, through their sponsoring organizations before submitting abstracts.
- Only original material should be submitted.
- Commercial papers, descriptions of papers with no 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.
- Applicants will be notified of acceptance by mail no later than 29 October 2001. Early notification of acceptance will be placed on the SPIE Web site the week of 24 September 2001 at www.spie.org/info/pw/

Paper Review

To ensure a high-quality conference, all abstracts and *Proceedings of SPIE* papers will be reviewed by the Conference Chairs for technical merit and content.