OSA
Optical Society of America

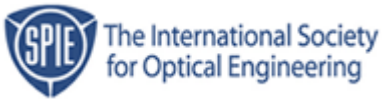
OISE

Optics in the Southeast

Technical Conference and Tabletop Exhibit

November 12 - 13, 2003
Orlando, Florida
Photonic Devices, Optical Materials, Micro and Nano Optics

UNIVERSITY OF CENTRAL FLORIDA
SCHOOL OF OPTICS
CREOL • FPCE



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About OISE

Optics in the Southeast

November 12 - 13, 2003

The School of Optics/CREOL at the University of Central Florida in Orlando will host the 2003 meeting of Optics in the Southeast (OISE) on Wednesday, November 12, and Thursday November 13, 2003. School Director Eric Van Stryland, and faculty member Eric Johnson, are host co-chairs for the meeting.

Optics in the Southeast showcases optics research, programs and other initiatives occurring within universities, companies, laboratories and organizations located in the Southeast Region. The meeting provides a forum wherein optics researchers and industry experts alike can present their latest research. Presentations describing new optics programs, initiatives and directions are encouraged. Presentations by students are welcome.

Descriptions of Technical Conferences

SE01 Nonlinear Optics and Ultrafast Phenomena

Co-organizers:
David J. Hagan
UCF School of Optics/CREOL

Stephen E. Ralph
School of Electrical and Computer Engineering
Georgia Institute of Technology

Craig W. Siders
UCF School of Optics/CREOL

This session is devoted to nonlinear light-matter interactions at all power levels and ultrashort pulse generation, ultrafast measurement techniques and ultrafast phenomena. Both fundamental science and application-oriented submissions are encouraged.

Topics of interest include:

- Optical harmonic and parametric generation
- Nonlinear refraction, absorption and photorefractive effect

- Optical nonlinearities in nanostructured materials
- Optical switching, routing and solitons
- Generation and characterization of ultrashort pulses
- Ultrafast light-matter interactions and spectroscopy
- Laser produced plasmas and X-rays

SE02 Optical Science and Materials

Co-organizers:

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The field of optical sciences continues to move forward rapidly, as new optical materials are developed and refined. Optical materials research draws on expertise from a variety of disciplines and size regimes from molecular and nano- scale design and self assembly, to optical scale patterning, and even macroscale processing. The integration of optics and electronics presents many new challenges for optical materials researchers. This symposium brings together materials scientists, physicists, chemists and optical engineers to discuss recent advances and challenges in the broad field of optical science and materials.

Papers are solicited in areas that can include, but are not limited to:

- Advances in optical patterning methods: including self-assembly, holography, lithography, CVD / MBE, and Scanning Probe methods (SPM)
- Organic / inorganic-organic hybrid optical materials: OLED's, conjugated polymers, fullerenes, photoresists, novel photorefractive/thermochromic/electrochromic materials
- Photonic crystals
- Inorganic crystalline and amorphous materials, Sol-gels,

specialty optical fibers
- Materials for passive and active optical devices: thin-films, waveguides, photovoltaics, LEDs, lasers, nonlinear optics
- Quantum dots and nanoparticles
- Optoelectronics: materials issues involving integration of optics with electronics

SE03 Photonics, Communications, and Devices

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This conference session is devoted to photonic device technologies, subsystems, network architectures and management for optical communications and networking.

Topics of interest include:

- Passive and active components for optical transport systems

- Novel technologies and modulation formats for point-to-point optical transmission
- Components for optical networking such as wavelength converters and optical cross connects
- Wavelength-routed optical networks
- Optical flow-, burst- and packet-switched networks
- Fiber-radio systems for wireless networks

SE04 Optics Education

Organizer:
Terrill Mayes
Physics and Optical Science Dept.
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The past decade has seen tremendous growth in optical science and technology throughout the Southeast, fueled primarily by expansion within the industrial sector. The demand for skilled optics professionals is driving colleges and universities to develop appropriate optics education programs and establish optics research centers that are increasingly supported by local and state government.

This conference seeks to address innovative optics issues relating to:

- University Optics Programs
- Optics Research Centers
- Optics in Industry and Government

Co-organizers:
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SE05 Micro and Nano-Optics

Organizers:
Eric G. Johnson - School of Optics/CREOL
Thomas Suleski - Digital Optics Corporation

This conference session focuses on the design, fabrication and integration of micro and nano-optic components such as diffractive optics, micro-refractive optics, guided wave optics and integration of such devices.

The topics for this session are as follows:

- Design methods for modeling micro and nano-structures
- Fabrication methods for micro and nano-structures, i.e. lithography, direct write, holography, and transfer etching processes
- Heterogeneous integration of devices
- Applications

SE06 Biophotonics

Organizer:
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The emerging field of Biophotonics encompasses the use of advanced optical technologies for investigations in basic biological science, as well as in minimally invasive diagnostic and therapeutic clinical applications. This session will bring together scientists, engineers and clinical researchers from a variety of disciplines who are engaged in the applications of optical sciences and photonics technologies to problems in biomedical science. The scope of this session will range from basic research and instrumentation engineering to clinical studies, with the common thread of ultimate application or immediate relevance to problems in biology, medicine or clinical health care.

Papers are solicited in areas that can include, but are not limited to:

- Photon Migration and Diffuse-Light Imaging
- Confocal, Multiphoton, and Nonlinear Microscopic Imaging
- Optical Coherence Tomography and Coherence Techniques

- Diagnostic Optical Spectroscopy
- Photodynamic Therapy and New Optical Reporters
- Therapeutic Laser Applications and Laser-Tissue Interactions
- Novel Optical Instrumentation for Biomedical Applications

Conference Agenda

Wednesday November 12, 2003

Time	Code	Event	Location
7:30am-5:00pm		On-site Registration	
8:30am-10:00am	SE 04	Optics Education	Key West C
	SE 01-A	Non-Linear Optics/Ultrafast Phenomena I	Key West D
	SE 03-A	Fibre-Based Photonic Signal Processing	Garden Key
10:00am-10:30am		Break - Refreshments	
10:30am-12:00pm	SE 02-A	Elastic and Inelastic Scattering Materials	Key West C
	SE 01-B	Non-Linear Optics/Ultrafast Phenomena II	Key West D
	SE 03-B	Photonic Devices	Garden Key
12:00pm-1:30pm		Box Lunch and EXHIBITS	Key West AB
1:30pm-3:00pm	SE 02-B	Optical Imaging	Key West C
	SE 01-C	Non-Linear Optics/Ultrafast Phenomena III	Key West D
	SE 03-C	Photonic Sub-Systems	Garden Key
3:00pm-3:15pm		Break - Refreshments	
3:15pm-5:00pm	PSE 01	Poster Session I and EXHIBITS	Key West AB
5:00pm-7:00pm		TOUR School of Optics:CREOL & FPCE	CREOL Bldg
7:00pm-9:00pm		Dinner and Keynote Presentation	Key West CD

Thursday November 13, 2003

Time	Code	Event	Location
8:00am-12:00pm		On-site Registration	
8:30am-10:00am	SE 02-C	Inorganic and Hybrid Materials	Key West C
	SE 05-A	Micro-Optics I	Key West D
	SE 03-D	Photonic Systems	Garden Key
10:00am-10:30am		Refreshments - EXHIBITS	Key West AB
10:30am-11:30am	PSE 02	Poster Session II	Key West AB
11:30am-12:30pm		Box Lunch and EXHIBITS	Key West AB
12:30pm-2:00pm	SE 02-D	Polymers and Organic Materials	Key West C
	SE 05-B	Nano-Optics	Key West D
	SE 06-A	Biophotonics I	Garden Key
2:00pm-2:30pm		Refreshments - EXHIBITS	Key West AB
2:30pm-4:00pm	SE 02-E	Multiphoton Materials	Key West C
	SE 05-C	Micro-Optics II	Key West D
	SE 06-B	Biophotonics II	Garden Key