CLEO/IQEC Assembles in the City by the Bay

SAN FRANCISCO CONVENTION & VISITORS BUREAU

The 2004 Conference on Lasers and Electro-Optics (CLEO) and the International Quantum Electronics Conference (IQEC) will run concurrently from Sunday, 16 May, through Friday, 21 May, at the Moscone Center West in San Francisco.

An opportunity to explore new research areas and a showcase for emerging technologies, this annual conference continues its tradition of combining the latest advances in electro-optics research with an applications-oriented exhibit show. New technical sessions in electro-optics and laser science being introduced this year will include displays and solid-state lighting devices, optical metrology, and high-field physics. Among the highlights of several special joint CLEO/IQEC symposia are sessions on energetic ultrafast laser-driven radiation sources and nonlinear photonics in optical lattices.

On the CLEO side, representative topics include laser applications and optical instrumentation systems; solid-state lasers; semiconductor lasers and LEDs; applications of nonlinear optics; holography, wavemixing, photorefractives, storage, and wavefront correction; optical materials fabrication and characterization; high-field lasers and physics and fusion technologies; ultrafast optics, optoelectronics, and applications; optical components; interconnects and processing; medical and biological applications; fiber and guided-wave lasers, amplifiers, and sensors; lightwave communications and networks; and active optical sensing.

IQEC sessions will explore cold atoms, coherent atoms, and atom optics; quantum optics; fundamental optics in periodic and random media; ultrafast dynamics; nonlinear optics; and nano-optics.

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A new event collocated with this year's CLEO/IQEC meeting will be the Photonic Applications Systems and Technologies (PhAST) conference. This inaugural conference, which kicks off with a keynote session on Monday at 7:30 PM, will run for three full days from Tuesday through Thursday. The addition of this conference will provide a forum for the latest innovations and trends in photonics systems, applications, and technologies. Focus areas will include lasers in manufacturing, photonics in homeland and national security, biophotonics instrumentation, photonics in nanotechnology, and commercialization in semiconductor photonics. The PhAST conference will include technical sessions, invited speakers, panel discussions, keynote speakers, one-on-one Q&As, demonstrations, and networking events, including lunch with industry experts.

The CLEO/IQEC awards and plenary session will take place on Wednesday from 8:00 to 10:45 AM in the level 2 ballroom; the Optical Society of America (OSA) will present its Charles Hard Townes Award at that session. The honoree this year is **Erich P. Ippen**, Elihu Thomson Professor of Electrical Engineering and Professor of Physics at MIT. He is being recognized for his "many outstanding, pioneering, and sustained contributions to ultrafast science and technology, and fundamental nonlinear optics."

The Institute for Electrical and Electronic Engineers' Lasers and Electro-Optics Society (IEEE/LEOS) will also give the Quantum Electronics Award, but the recipient had not been announced by press time.

The three plenary speakers will focus on the history of the maser, optics and photonics in bioscience, and

Sessions With Invited Speakers

CLEO

Laser applications and optical instrumentation systems. *DeFreez, Herman, Schaffer, Xu.*
Solid-state lasers. *Denman, Kueck, Moulton, Sibbett.*
Semiconductor lasers and LEDs. *Abare, Arai, Donnelly, Gmachl, Slivken, Takeya.*
Applications of nonlinear optics. *Gapontsev, Gross, Midorikawa, Russell, Taira.*
Holography, wavemixing, photorefractives, storage, and wavefront correction. *Babbitt, Buse, Wilson.*
Optical materials, fabrication, and characterization. *Michler, Rogers, Sotomayor Torres, Winick.*
High-field lasers and physics and fusion technologies. *Chambaret, Payne.*
Ultrafast optics, optoelectronics, and applications. *Drescher, Georges, Tunnermann, Limpert, Nolte, Zellmer, Schiller, Taylor, Trebino.*
Optical components: Interconnects and processing. *Campbell, Madson, Williamson.*
Medical and biological applications. *Fitzmaurice, Mertz, Richards-Kortum, Utzinger.*
Fiber and guided-wave lasers, amplifiers, and sensors. *Durkin, Eriksrud, van Eijkelenborg.*
Lightwave communications and networks. *Hemenway, Nelson, Kogelnik, Winzer, Nissov, Cai, Pilipetskii, Liu, Cai, Foursa, Davidson, Stubkjaer, Williams.*
Active optical sensing. *Von Drasek, Jeffries, Yoshihito Hirano, Wolf.*
Optical metrology. *Hain, Jones, Katori, Zhao.*
Displays and solid-state lighting devices. *Crawford, Taira.*

IQEC

Cold atoms, coherent atoms, and atom optics. *Grimm, Schmidt-Kaler, Yabuzaki.*
Quantum optics. *Cirac, Grangier, Peng.*
Fundamental optics in periodic and random media. *Genack, Shalaev, Vos.*
Ultrafast dynamics. *Lanzani, Lienau, Roussignol, Vallee.*
Nonlinear optics. *Tokura, Underwood, Welch, Zyss.*
Nano-optics. *Goldberg, Kapon, Louis, Matsuda, Wrachtrup.*
High-field physics. *Krausz, Krushelnick, Ta Phuoc.*
Spin photonics: Light-spin interactions in semiconductors, metals, and quantum dots. *Bayer, Bigot, Kono, Pellegrini, Piermarocchi, Sipe, Wang.*
Single-photon sources, detectors, and applications. *Barnes, Boumeester, Haroche, Kuhn, Kwiat, Shields, Sobolewski, Weinfurter, Wong, Yamamoto.*

Joint Symposium

Awards and plenary session. *Siegman, Baer, Hänsch.*
Energetic ultrafast laser-driven radiation sources. *Cowan, Murnane, von der Linde.*
Nonlinear photonics in optical lattices. *Christodoulides, Yanik, Fan, Lederer, Levenson, Kivshar, Russell, Scherer, Segev, Vuckovic.*
50 years of quantum electronics. *Townes, Bloembergen, Ramsey, Popov, Manenkov, Shimoda.*

PhAST

Photonics in nanotechnology. *Brueck, Farrar, Yen, Levenson.*
Commercialization in semiconductor-based photonics. *Ettenberg, Fish, Merritt, Stickley, Tatum.*
Biophotonics instrumentation. *Gray, Benaron, Contag, Owicki, Robinson, Taylor, Tearney.*
Lasers in manufacturing. *Marabella.*
Photonics in homeland and national security. *Simonis.*

optical metrology. Anthony Siegman, McMurtry Professor of Engineering Emeritus at Stanford University, will mark the semicentennial anniversary of the maser when he speaks on "Masers and Lasers: Looking Back Over 50 Years." Thomas Baer, chairman, president, and CEO of Arcturus Bioscience Inc in Mountain View, California, will present an overview, along with specific findings, on "Resolving the Molecular Puzzle of Cancer Using Laser Microdissection and Microgenomics." Theodor Hänsch, executive director of the Max Planck Institute for Quantum Optics in Garching, Germany, will explore recent developments in his talk entitled "From Ultra Precise Spectroscopy to Attosecond Physics."

Attendees who want a more substantial introduction to a particular topic can enroll in one of more than 30 short courses that will be offered Sunday through Tuesday in full- and half-day sessions. Taught by topic experts, the courses will cross a range of subjects including tunable lasers, laser remote sensing, nanophotonics, and packaging.

In addition to the technical sessions, several tutorials are also planned as part of the week-long program. Poster sessions will be held Tuesday through Thursday from 1:00 to 2:30 PM.

The exhibit, featuring the latest in laser and electro-optic instrumentation, components, devices, and other products and services for the laboratory, will take place from 10:00 AM to 5:00 PM on Tuesday and Wednesday and from 10:00 AM to 4:00 PM on Thursday on levels 1 and 2 of the exhibit hall. Always highlights at the show are hands-on demonstrations of a selected number of exhibitors' products.

OSA, IEEE/LEOS, and the division of laser science of the American Physical Society are cosponsors of CLEO/IQEC and PhAST.

Judith Barker ■