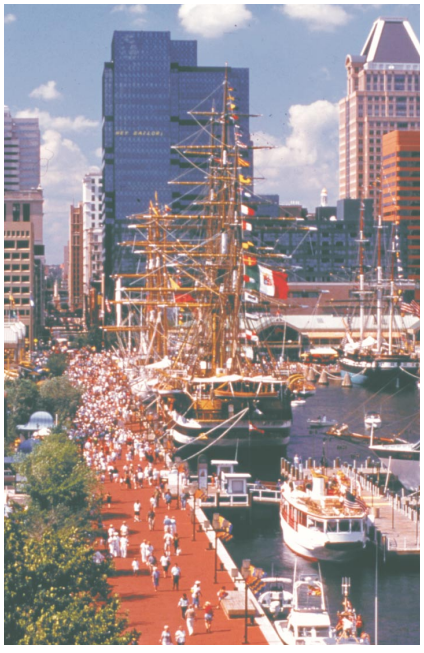
CLEO/QELS Convenes in Baltimore

The latest advances in research and applications in a broad range of optoelectronics and laser science disciplines will be featured at the 21st Conference on Lasers and Electro-Optics (CLEO) and the 10th Quantum Electronics and Laser Science Conference (QELS), which run concurrently 6–11 May at the Baltimore Convention Center in Maryland.



Ten parallel sessions will be held over five days during the conferences. More than 1100 papers will be presented, including plenary papers, invited papers, tutorials, and contributed papers, some of which will appear in three poster sessions. The invited papers are listed in the accompanying table.

The CLEO sessions have been divided into12 categories: laser applications and optical instrumentation systems; solid-state lasers; semiconductor lasers; applications of nonlinear optics; holography, wavemixing, photorefractives, and storage; optical materials fabrication and characterization; high-field lasers and physics and fusion technology; ultrafast optics, optoelectronics, and applications; optical components, interconnects, and processing; medical and biological applications; fiber lasers, amplifiers, and sensors; and lightwave communications and networks.

The QELS meeting is divided into six categories: atom cooling and atom optics; quantum optics; fundamental optics in periodic and random media; ultrafast dynamics; nonlinear optics; and nano-optics.

In addition to the separate sessions at each meeting, joint symposia will also be held. Because they allow the exchange of ideas among researchers involved in basic science and those whose work is application oriented, the combined symposia are often a highlight of the conference. Photonic crystals and fibers and also fundamental ultrafast interaction are two of the topics that will be covered in this year's combined sessions.

A joint CLEO/QELS plenary and award session will be held on Wednesday beginning at 8:00 AM in the fourth-floor ballroom at the convention center. The Optical Society of America (OSA) will present its 2001 Charles Hard Townes Award to **A. David Buckingham** for his "many distinguished theoretical and experimental contributions to electro-optics and magneto-optics, including the invention and application of a direct method for measuring molecular electric quadruple moments." Buckingham is a professor in the chemistry department at the University of Cambridge in the UK. Also at this session, the Lasers and Electro-Optics Society of the Institute of Electrical and Electronics Engineers (IEEE/LEOS) will give its 2001 Quantum Electronics Award to **Linn Mollenauer** for his "seminal contributions to the generation, understanding and systems applications of optical solitons." Mollenauer is a distinguished member of the technical staff at Bell Laboratories, Lucent Technologies, in Holmdel, New Jersey.

Three talks are also scheduled for the joint plenary and award session. Amhed Zewail, winner of the 1999 Nobel Prize in Chemistry, will discuss "Femtoscience at the New Millennium." Zewail is the Linus Pauling Chair Professor of Chemistry and Professor of Physics at Caltech. "Driving the DWDM [dense wavelength division multiplexing] Revolution: The Role of Optical Components" will be the topic of Jozef Straus's plenary talk. Straus is CEO and cochairman of JDS Uniphase in Ottawa, Ontario, Canada. Donald Eigler, a physicist and IBM fellow at IBM's Almaden Research Center in San Jose, California, will speak about "Quantum Mirages—Electron Optics on the Surface of a Solid."

A special memorial symposium on high-peak-power laser technology will take place on Monday from 1:30 to 5:30 PM, in honor of the late Howard Powell, founder of the laser science and technology program at Lawrence Livermore National Laboratory. Powell, who was recognized internationally for his contributions as a laser scientist, died suddenly of a heart attack while in Washington, DC, on laboratory business last November.

The Lasers and Electro-Optics Applications Program (LEAP), which focuses on business and applied aspects of the fiber optics and photonics industries, remains a popular and growing segment of the meeting. Optical networking, intellectual property, next-generation systems, and business trends are some of the topics that will be explored. Some of these sessions will take place in the LEAP pavilion in the exhibit hall.

Short courses begin on Sunday with photonics basics for engineers and technicians, which includes a new hands-on workshop using equipment found in photonics labs. Conference attendees will be able to choose from a total of 43 short courses with new offerings in MEMS (microelectromechanical systems) technology; laser-beam characterization, analysis, and modification; open-path laser communications; optoelectronic component packaging; industry sales and marketing strategies; and device reliability.

An extensive technical exhibit, fea-

turing the latest in laser and optoelectronics equipment, software, tools, books, systems, and services, will be held on Tuesday from 9:45 AM to 5:00 PM, Wednesday from 10:30 AM to 5:00 PM, and Thursday from 9:30 AM to 5:00 PM. A special exhibits-only period is scheduled for Wednesday morning to allow all conference participants an

Sessions with Invited Speakers

Monday, 7 May

morning

Ultrafast lasers I. *Galvanauskas*.
Ultrafast x rays. *Rocca*.
Nano-optics of quantum dots. *Nesbit*.
Symposium on photonic crystals and fibers I. *Noda*.
Ultrafast lasers II. *Morgner*.
Symposium on photonic crystals and fibers II. *Pendry, Turberfield, Scherer*.
Optical interconnects and switching. *Lemoff, Marazzi*.
Atomic coherence. *Bigelow*.
High-power semiconductor lasers. *Erbert*.

afternoon

Photonic analog-to-digital conversion. *Juodawlkis*.
Howard Powell memorial symposium on high-peak-power laser technology I. *Le Blanc*.
Novel linear optics. *Korn*.
Few-particle states in quantum dots. *Hohenester*.
EIT and quantum state engineering. *Lukin*.
Symposium on photonic crystals and fibers III. *Eggleton*.
Symposium on photonic crystals and fibers IV. *Broderick, Fajardo*.
Terahertz radiation and nonlinear effects in semiconductors. *Lee*.
Cavity QED. *Imamoglu*.
Microstructured polymeric components. *Ouderkirk*.
UV-visible lasers. *Tojyo*.
Novel nano-optic techniques. *Flück*.

Tuesday, 8 May

morning

Terahertz technologies: Sources, detectors, and imaging. *Kono*.
Particle acceleration and relativistic interaction. *Leemans, Korn*.
Novel lasers and sensors. *Cai*.
$\chi^{(3)}$ nonlinear optics I. *van Driel*.
Quantum dots and nano-optics. *Grober, Hell*.
Long wavelength VCSELS. *Klem, Lott*.
Cavity nano-optics. *Chang*.
Two-photon interference. *Braunstein*.
Raman amplifiers and lasers. *Kidorf*.

afternoon

Nanoscale and low-dimensional optical materials. *Downey*.
Atom optics. *Shimizu*.
Optical coherence tomography. *Rollins*.
Joint session on fundamental ultrafast interaction. *Freeman, Minoshima, Kobayashi, Lindenberg*.
Cold atom de Broglie wave dynamics. *Raizen*.
Nitride quantum wells and nanostructures. *Riechert*.

Wednesday, 9 May

morning

Awards and plenary session. *Zewail, Straus, Eigler*.

opportunity to view the exhibits.

The meetings are being cosponsored by OSA and IEEE/LEOS, in cooperation with the quantum electronics and optics division of the European Physical Society, the Japanese Quantum Electronics Joint Group, and the division of laser science of the American Physical Society.

afternoon
Fiber lasers. *Wadsworth*.
Yb lasers. *Brunner*.
Lasers and cavities with active elements. *Roosen*.
Nonlinear phenomena in periodic media. *Stegeman*.
Symposium on quantum information science I. *Wagner*.
Phonons. *Dexheimer*.
Symposium on quantum information science II. *Blatt, Steel, Hägele*.
Nanostructures and devices. *Fainman*.
Spectroscopic approaches for biomedical diagnostic. *Cubeddu*.
Ultrafast dynamics II. *Leitenstorfer*.

Thursday, 10 May

morning
Visible and ultraviolet lasers. *Wallenstein*.
Optical parametric generation and amplification. *Kawase*.
Polymers. *Frolov*.
Precision spectroscopy. *Oates*.
Symposium on quantum information science III. *Kumar*.
Pulsed OPOs. *Südmeyer*.
Symposium on quantum information science IV. *Gisin, Polzik*.
Coherent semiconductor nonlinear optics. *Bolton, Mücke*.

afternoon
High fields and plasmas. *Umstadter*.
Lidar systems. *Gardner*.
High capacity systems technology. *Srivastava*.
Quantum sources and teleportation. *Walmsley, Kuhn*.
Spatial solitons and pattern formation I. *Christodoulides*.
Collisional and molecular dynamics in BECs. *Heinzen, Gerton*.
Photorefractive holography and wave mixing. *Odoulov*.
Quantum information. *Mabuchi*.
Intraband and interband effects. *Fromer*.
Collective excitations in Bose–Einstein condensate. *Cornell, Clark*.
OTDM. *Takara*.
Laser-based gas and chemical sensing. *Tittel*.

Friday, 11 May

morning
Novel laser materials. *Güdel*.
New techniques in optical trapping. *Grimm, Meschede*.
Femtosecond generation and propagation. *Ivanov*.
Quantum wells and superlattices. *Leo*.
Advances in cooling and trapping. *Vuletic*.
Polarization mode dispersion. *Lima Jr*.
$\chi^{(2)}$ processes and applications. *Belabas*.
Laser micromachining II. *Marjoribanks*.
Disorder effects. *Polson*.
Nonlinear frequency conversion. *De Silvestri*. ■