

CLEO to be held in Baltimore

To mark the 25th anniversary of the laser, there will be talks by pioneers in the field and inventors of specific devices, and a special exhibit of early lasers prepared by the Smithsonian Institution.

The Optical Society of America and the Lasers and Electro-Optics Society of IEEE, in cooperation with the Quantum Electronics Division of the European Physical Society, will sponsor the Fifth Conference on Lasers and Electro-Optics, 21–24 May, at the Baltimore Convention Center in Baltimore, Maryland. The technical program will include 76 invited papers on basic research, device development, systems engineering and industrial applications of lasers and electro-optics. In

addition, poster sessions will be held on Wednesday and Thursday, 22–23 May, and a post-deadline session featuring recent developments will take place on Thursday evening.

The 25th anniversary of the demonstration of the first laser will be commemorated by three special events: Nobel laureates N. G. Basov, Nicolaas Bloembergen, Willis E. Lamb, A. M. Prokhorov, Arthur L. Schawlow and Charles H. Townes will each give talks on the development of the laser at the

plenary session on Tuesday morning. A special symposium on Wednesday, 22 May, will feature talks by the inventors of specific types of lasers—W. R. Bennett Jr on the helium–neon laser, R. N. Hall on the semiconductor laser, C. Kumar N. Patel on the carbon dioxide laser, W. B. Bridges on the argon-ion laser and F. P. Schäfer on the dye laser. In addition, an exhibit prepared by the Smithsonian Institution, of early laser devices, will be on display throughout the conference.

Invited papers

TUESDAY

afternoon

- Novel laser microscopy: *T. J. Mannuccia*
Progress in 1500-nm coherent optical fiber systems: *R. Wyatt, T. G. Hodgkinson, D. J. Malyon, D. W. Smith*
Progress toward commercial laser separation of hydrogen isotopes by multiphoton dissociation at Ontario Hydro: *J. A. O'Neill, K. B. Woodall, J. R. Robins, F. E. Bartoszek, H. D. Morrison*
Applications of femtosecond optics: *E. P. Ippen, J. G. Fujimoto*
Current trends in imaging diagnostics for gaseous flows: *R. K. Hanson*
Near quantum-limited operation of a GaAlAs laser heterodyne communication system: *G. L. Abbas, S. B. Alexander, R. S. Bondurant, V. W. S. Chan, J. M. Elder, L. L. Jeromin, J. E. Kaufmann, S. D. Lowney, D. v. L. Marquis, F. G. Walther, D. Welford, S. T. K. Yee*
Powders and thin films produced from laser-heated reactants: *J. S. Haggerty*
Diode-pumped Nd-YAG lasers: *G. M. Bender*
Quantum-confined Stark effect and applications to self-electro-optic effect devices: *D. A. B. Miller*
Two-step saturated fluorescence spectroscopy and imaging of atomic hydrogen in flames: *J. E. M. Goldsmith*
Vibrational energy survival probability in molecular beam scattering NO($v=1$)/LiF(100): *J. Misewich, H. Zacharias, M. M. T. Loy*

WEDNESDAY

morning

- Reduction of beam aberrations with stimulated Raman scattering: *R. S. F. Chang, J. Reintjes, R. H. Lehmberg, M. Daignan, G. Calame*
Optical data-storage technology review: *A. E. Bell*
Optical data-storage activities—A review: *D. Chen*
Experimental demonstration of soliton propagation in long fibers—Loss compensated by Raman gain: *L. F. Mollenauer, R. H. Stolen*
Future directions of photoradiation therapy: *M. W. Berns*

- Science, technology, and the industrialization of laser-driven processes: *J. I. Davis, J. A. Paisner*
Laser diodes for audio disk players: *T. Inoguchi, S. Yano, T. Hijikata, T. Wada*
Coherent nonlinear spectroscopy of nonequilibrium states in atoms, molecules, and solids: *S. A. Akhmanov*
New medical uses of lasers: *T. F. Deutsch, A. R. Oseroff*
Beam cleanup and low-distortion amplification in efficient high-gain Raman amplifiers: *H. Komine, W. H. Long Jr, E. A. Stappaerts, S. J. Brosnan*
Opto-electronic devices for high-speed lightwave communications: *T. Li*
Laser diagnostics for chemical vapor deposition: *W. G. Breiland, M. E. Coltrin, P. Ho*
Picosecond-pulse-shape manipulation: *J. P. Heritage, A. M. Weiner, R. N. Thurston*
Future developments in laser applications for the eye: *C. A. Puliafito*
Comparative study of the photochemistry of the cutting (etching) of a synthetic polymer and bovine cornea by excimer laser radiation: *R. Srinivasan, B. Braren, D. Seeger*

afternoon

- Coherent Raman effects from individual liquid droplets at morphology-dependent resonances: *J. B. Snow, S.-X. Qian, R. K. Chang*
Laser-induced damage to thin films and graded-index surfaces: *W. H. Lowdermilk*
Wayne Lo—The man and his accomplishments: *F. E. Jamerson*
Output characteristics of lead-salt diode laser—Review of recent results: *C. Freed*
Future directions in Pb-salt tunable lasers: *A. Mantz*
Picosecond electron probe for direct investigation of lattice temperature and structural phase: *G. Mourou, S. Williamson*
High-speed cell and chromosome analysis through laser interrogation: *P. N. Dean*

Seven short courses will be offered at the meeting: industrial and engineering laser applications; fundamentals of lasers; laser safety—biological effects, hazards and classifications; fiber-optic sensors; femtosecond pulse generation and measurement; diode lasers; and optical bistability.

Awards ceremony

The awards ceremony will take place on Wednesday, 22 May. The Optical Society of America will present the Charles Hard Townes Award to S. E. Harris, professor of electrical engineering at Stanford University, for his "contributions to the development of techniques for the generation of extreme ultraviolet and soft x-ray radiation." Harris invented the method of harmonic generation in metal vapors and gases in the mid-1970s; it has since become the standard technique for generating coherent light in the 800–2000 Å range. In the early 1980s, he invented the tunable anti-Stokes xuv radiation source and subsequently at-

tained the highest resolution spectra ever achieved in the 500-Å-region. Harris became a professor of electrical engineering and applied physics at Stanford University in 1963, after receiving his PhD from that institution.

IEEE will present the 1985 Jack A. Morton Award to William Streifer and Robert D. Burnham (Xerox Palo Alto Research Center) and to Donald R. Scifres (Spectra Diode Labs). The IEEE Lasers and Electro-Optics Society will announce the winner of its Quantum Electronics Award, and Emmett Leith of the University of Michigan, who is this year's R. V. Pole Memorial Lecturer, will speak on the evolution of holography.

Other services

Some 220 manufacturers, distributors, publishers and societies will participate in a technical exhibit of laser, electro-optical, optical and fiber-optical equipment and services. The exhibition will be open on Tuesday from 12 noon to 6 pm; on Wednesday from 9:45



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am to 6 pm; and on Thursday from 9:45 am to 5 pm. The meeting will also maintain a staffed press room in room 313 of the Baltimore Convention Center, which will be open from 8 am to 5 pm, Monday through Thursday, and from 8 am to noon on Friday. An employment center will also be maintained throughout the conference. MM

Photobleaching methods in cell biology: *K. A. Jacobson*
The evolution of holography: *E. N. Leith*

Thursday

morning

Demonstration of a soft x-ray laser: *M. J. Eckart, M. D. Rosen, D. L. Matthews, P. Hagelstein, N. M. Ceglio, H. Medeck, B. McGowan, J. Terebes, E. M. Campbell*

Materials for nonlinear optics: *P. Günter*

Passive mode locking and short-pulse formation in semiconductor diode lasers: *P. W. Smith, Y. Silberberg*

Gigabits-per-second LEDs for high-speed optical communications: *H. Nomura, K. Minemura, B. Hiroaki*

New ir laser dyes: *K. H. Drexhage, W. Kaiser*

Livermore's isotope-separation program atomic-vapor laser—Laser technology and demonstration facilities: *E. I. Moses*

Solids for high average power: *J. L. Emmett*

Los Alamos krypton fluoride laser program: *R. J. Jensen*

Broadly tunable optical parametric oscillator using the urea crystal: *C. L. Tang, K. Cheng, M. J. Rosker, S. Strobel*

afternoon

Amplified phase conjugation and self-induced oscillations with photorefractive $\text{Bi}_{12}\text{SiO}_{20}$ crystals: *H. Rajbenbach, P. Refregier, J. P. Huignard, L. Solymar*

Gas-source molecular-beam epitaxy: *M. B. Panish, H. Temkin*

Metal-organic chemical vapor deposition: *J. J. Coleman*

Fabrication and transmission characteristics of low-loss mid-ir optical fibers: *T. Manabe, S. Takahashi*

Performance characteristics of a large-aperture x-ray per-ionized discharge laser in XeCl: *L. F. Champagne, A. J. Dudas, B. J. Feldman*

Omega—A 24-beam uv irradiation facility: *M. C. Richardson, et al.*

Demonstration of real-time adaptive optics using a liquid-crystal light valve as an integrated wavefront-error sensor/spatial-phase

modulator: *D. M. Pepper, R. C. Lind, T. R. O'Meara, W. P. Brown, U. Efron, L. D. Hess*

Vapor-levitation epitaxy: *H. M. Cox, S. G. Hummel, V. G. Kermidas*

Harmonic capabilities of the Nova Laser Fusion Facility: *D. R. Speck, R. O. Godwin, W. W. Simmons*

Critical behavior of laser beams during self-diffraction in electro-optic crystals: *N. Kukhtarev, B. Pavlic, T. Sements*

Metal-organic chemical-vapor deposition growth of GaInAsP/InP double heterostructure lasers emitting at 1.3 μm grown on GaAs substrate: *M. Razeghi, R. Blondeau, K. Kazmierski, M. Krakowski, J. Nagle, C. Weisbuch, J. P. Duchemin*

Friday

morning

Laser-plasma LINAC: *R. B. Palmer*

NASA plans for spaceborne LIDAR—The earth-observing system: *R. L. Curran, S. G. Tilford*

Laser-plasma sources for x-ray lithography: *D. J. Nagel*

Perspectives on laser-processing technology for microelectronics: *R. Reif*

Coherent radiation in an optical klystron: *J. M. Ortega*

Results of performance testing of a 100-W frequency-stable pulsed CO_2 laser Doppler radar transceiver: *T. R. Lawrence, F. F. Hall Jr, S. E. Moody*

Laser processing in silicon on insulator technologies: *V. T. Nguyen, SOI Group*

Robust optical-measurement techniques for industrial-process control: *R. Dewar*

High-power gas lasers on electronic transitions of atoms: *V. Danilychev*

Laser-remote sensing of methane in a working coal mine: *R. K. DeFreez, R. A. Elliott, W. D. Egan, R. T. Boos*

Spatial-array logic and optical-digital computing: *Y. Ichioka, J. Tanida*

High-performance optical matrix processors: *R. A. Athale*

Stable lasers—Progress and applications: *J. L. Hall, D. Hills, C. Salomon, M. Rayman*