

OPTICAL SOCIETY BESTOWS HONORS AT ANNUAL MEETING

At the 1993 annual meeting of the Optical Society of America, held in Toronto in October, a number of individuals were recognized for distinguished achievements in optics.

The Frederic Ives Medal, OSA's highest honor, was given to **Leonard Mandel**, a professor of physics at the University of Rochester. Mandel was cited by OSA for "his contributions to coherence theory and to the fundamental understanding of quantum mechanics."

Henry C. Kapteyn, an assistant professor of physics at Washington State University, received the Adolph Lomb Medal, which recognizes a noteworthy contribution to optics made before the age of 30. Kapteyn was recognized for "his work in ultrashort-pulse production, particularly the demonstration of the photon-pumped xuv laser and the production of ultrashort x-ray pulses from femtosecond laser-produced plasmas."

Hans A. Buchdahl, a professor of theoretical physics at Australian National University, won the C. E. K. Mees Medal. OSA cited Buchdahl for "contributions to physical and geometrical optics, their significance and their international import."

The William F. Meggers Award went to **Terry A. Miller**, Ohio Eminent Scholar Professor of Chemistry at Ohio State University. Miller was chosen for "the development of high-resolution spectroscopy of molecular ions and radicals and the insightful interpretation of the resulting spectra."

OSA presented the David Richardson Medal to **John H. Bruning** for "the development and implementation of phase-shifting interferometry and contributions to projection lithography." Bruning is president of GCA Tropol, located in Fairport, New York.

Two individuals shared the 1993



Leonard Mandel

R. W. Wood Prize: **Joseph E. Geusic**, head of the semiconductor laser department at AT&T Bell Laboratories in Murray Hill, New Jersey, and **Legrand G. Van Uitert**, who retired as a member of the technical staff at Bell Labs in 1989. The two were cited for their "discovery of the Nd:YAG laser and the demonstration of its usefulness as a practical solid-state laser source."

In recognition of "nearly a quarter-century of enthusiastic service and leadership in the scientific community as executive director of the Optical Society of America," **Jarus W. Quinn** received the Distinguished Service Award. Quinn served as OSA executive director from 1969 to 1993 (see PHYSICS TODAY, August, page 48).

The 1993 Allen Prize, which is given for graduate work in atmospheric remote sensing using electro-optical instrumentation, went to **Timothy J. Kane**. A research associate in the electro-optics department of the applied research laboratories at Pennsylvania State University, Kane was cited for "fundamental contributions to lidar studies of mesospheric iron and sporadic layering phenomena in the upper atmosphere." Two other awards presented at the OSA annual meeting were reported in the December issue of PHYS-

ICS TODAY (page 37): the Robert M. Burley Prize of the Joseph Fraunhofer Award, which went to Erwin G. Loewen, and the Esther Hoffman Beller Award, which went to Robert G. Greenler.

Several other individuals were recognized by OSA in 1993. The John Tyndall Award, cosponsored by OSA and the Lasers and Electro-Optics Society of IEEE, was given to **Yasuharu Suematsu**, president of the Tokyo Institute of Technology. Suematsu was cited for "contributions to wideband optical fiber communication through his dynamic single-mode lasers and semiconductor-based integrated optics."

The Charles Hard Townes Award was presented to **Claude N. Cohen-Tannoudji**, a professor of atomic and molecular physics at the Collège de France, in Paris. Cohen-Tannoudji was chosen for "his contributions to optical pumping and his development of the dressed-atom method for describing electromagnetic interactions with matter."

The Ellis R. Lippincott Award, jointly sponsored by OSA, the Coblenz Society and the Society for Applied Spectroscopy, went to **John F. Rabolt**, a research staff member at the IBM Almaden Research Center, in San Jose, California. Rabolt developed a number of new spectroscopic techniques—in particular, waveguide Raman spectroscopy and Fourier-transform Raman spectroscopy—for the study of thin films, polymer surfaces and Langmuir-Blodgett films.

AAPM PRESENTS COOLIDGE AWARD TO ORTON

Each year the American Association of Physicists in Medicine presents several awards at its annual meeting. At the 1993 annual meeting, in July, AAPM bestowed its highest honor, the William D. Coolidge Award, on **Colin G. Orton**. Orton is chief of the physics division of the Radiation Oncology Center at Harper-Grace

Hospitals in Detroit and a professor of radiation oncology and radiology at Wayne State University School of Medicine, also located in Detroit. AAPM cited him for the invention of the time-dose factor and for his role in "achieving a greater professional recognition for the medical physicist [in] the medical community."

The Sylvia Sorkin Greenfield Award, given to the authors of the best paper published in the AAPM journal *Medical Physics* in the preceding year, was presented to **John F. Schenck, Charles L. Dumoulin, Rowland W. Redington, Herbert Y. Kressel, Robin T. Elliot and Ian L. McDougall**. They coauthored the paper "Human Exposure to 4.0-Tesla Magnetic Fields in a Whole Body Scanner," which appeared in the March–April 1992 issue. Schenck, Dumoulin and Redington all work at the General Electric Corporate Research and Development Center in Schenectady, New York. Kressel is a professor in the department of radiology at the University of Pennsylvania Hospital, in Philadelphia. Elliot works at Oxford Magnet Technology in Oxfordshire, England. McDougall is employed by Oxford Instruments in Oxford, England.

The Farrington Daniels Award, presented to the authors of the best paper on radiation dosimetry published in *Medical Physics* in the preceding year, went to **Anders Ahnesjo, Mikael Saxner and Avo Trepp**. Their prizewinning paper, "A Pencil-Beam Model for Photon Dose Calculation," appeared in the March–April 1992 issue. Ahnesjo works in the department of radiation physics at the Karolinska Institute in Stockholm. Saxner and Trepp work for Helaz AB, in Uppsala, Sweden.

BEAN AND MINSTRELL RECEIVE AAPT HONORS

One of the highlights of the 1993 summer meeting of the American Association of Physics Teachers, held in Boise, Idaho, in August, was the presentation of two awards.

Charles P. Bean, Institute Professor of Science at Rensselaer Polytechnic Institute, in Troy, New York, was the recipient of the 1993 Klopsteg Memorial Lecture Award. "In addition to work in superconductivity and biophysics," the award citation said, Bean "has worked with undergraduate students in performing simple experiments to elucidate common phenomena such as osmosis,

capillary action, evaporation and the patterns of sunlight on rippled waters."

The Robert A. Millikan Lecturer Award was presented to **James Minstrell**, a teacher at Mercer Island High School on Mercer Island, Washington. AAPT cited Minstrell for "sincere devotion to the profession of teaching physics, for . . . many activities that have created a positive impression of physics and physics teaching for thousands of students and teachers, for . . . numerous articles that have helped many students and faculty better understand and better convey the thoughts of physics [and] for . . . service on many AAPT and physics community committees."

IN BRIEF

Alan G. Marshall has joined Florida State University, in Tallahassee, as a professor of chemistry and director of the ion cyclotron resonance program at the National High Magnetic Field Laboratory.

The 1993 State Award of the Russian Federation in Science and Technology—formerly the Lenin Prize—was presented on 8 June to five members of the Russian Academy of Sciences: **Viktor-Andrei Borovik-Romanov, Yuriy M. Bunkov, Vladimir V. Dmitriev and Yuriy M. Mukharskiy** of the Kapitza Institute for Physical Problems, in Moscow, and **Igor Fomin** of the Landau Institute for Theoretical Physics, also in Moscow. The recipients are being honored for their experimental and theoretical studies of spin supercurrents in the B phase of superfluid ^3He .

OBITUARIES

Donald Kerst

Donald William Kerst, E. M. Terry Professor Emeritus at the University of Wisconsin, Madison, died of a brain tumor in Madison, Wisconsin on 19 August 1993 at the age of 81.

Kerst made important contributions to the design of particle accelerators, to nuclear physics, to medical physics and to plasma physics. In addition to his scientific and technical contributions, his deep understanding, his know-how and his enthusiasm were a source of education and inspiration both to his students and his colleagues. He was an effective mentor who worked hard and expected his students to do likewise—and they did. Many of the leading



Donald Kerst

scientists over the past 40 years in the fields of accelerator physics, nuclear physics, medical physics and plasma physics received their degrees under Kerst's direction.

Kerst was born on 1 November 1911 in Galena, Illinois, and was educated at the University of Wisconsin, where he received a BA degree in 1934 and a PhD in 1937, both in physics. His thesis research involved the development and application of a 2.3-MeV electrostatic generator for a seminal experiment on the scattering of protons by protons. After receiving his degrees and spending one year working on x-ray tubes and machines at the General Electric X-Ray Corporation in Chicago, Kerst found himself challenged by high-energy electron and x-ray research, which required energies not yet available. In 1938 he accepted an instructorship at the University of Illinois, Urbana–Champaign, where the prescient chairman of the department of physics, F. Wheeler Loomis, encouraged him to develop his ideas for a new type of electron accelerator that Kerst later named the "betatron."

Among the investigators who attempted to accelerate electrons by magnetic induction, none was successful until Kerst produced 2.3-MeV electrons in a betatron at the University of Illinois on 15 July 1940. That tabletop machine is now at the Smithsonian Institution in Washington, DC. His success was due to a very careful theoretical analysis of the orbit dynamics in circular accelerators, including a study of the requirements for injection; a preliminary analysis of all conceivable effects relevant to the operation of the machine, in particular, electrostatic charge buildup on the vacuum chamber; and a careful and detailed