

human observers.

Both Smith and Pokorny received their doctorates in psychology from Columbia University in 1967 and then joined the University of Chicago faculty.

Thomas G. Giallorenzi, director of the optical sciences division at the Naval Research Laboratory, is the recipient of the 1990 John Tyndall Award, given jointly by OSA and the Lasers and Electro-Optics Society of the Institute of Electrical and Electronics Engineers for contributions to fiberoptic technology. Giallorenzi is recognized "for significant technical, management and professional contributions to the development and applications of fiber optics and optical fiber sensor technology." As head of the Naval Research Lab's guided-wave section, he initiated most of the Navy's early programs in integrated optics and fiber optics, and his research has led to the development of numerous fiberoptic devices.

Giallorenzi earned his PhD in applied physics from Cornell University in 1969. He joined the Naval Research Lab in 1970 and assumed his present position in 1978.

The late Stewart E. Miller received the Tyndall Award last year for his "foresight, dedication, technical contributions and pioneering leadership in building the broad foundations for today's fiberoptic telecommunications systems." Miller's work led to the placement of several optical waveguide functions on a single substrate, for which he coined the phrase "integrated optics."

Miller received his master's degree in electrical engineering from MIT in 1941. He joined Bell Labs in 1940 and was director of lightwave telecommunications research there from 1958 to 1983. He was a consultant with Bell Communications Research from 1983 until his death in March.

The R. W. Wood Prize recognizes an outstanding discovery or invention in optics. In 1990 the Wood Prize will be given to Rogers H. Stolen of Bell Labs in Holmdel, New Jersey, for "contributions to polarization control and nonlinear optics in fibers." Stolen's invention of polarization-preserving fibers based on anisotropic internal stress is considered by those in the field to be one of the most significant advances in nonlinear optics in fibers.

Stolen received his PhD in physics from the University of California, Berkeley, in 1965. He has been a member of the technical staff at Bell Labs since 1966.

Last year the Wood Prize went to Daniel R. Grischkowsky, a researcher at the IBM Thomas J. Watson Re-

search Center in Yorktown Heights, New York, for "his distinguished contributions to the field of optical pulse propagation," in particular, his use of optical fibers for generating ultrashort pulses of light. Grischkowsky's work in optical pulse compression led to a new generation of ultrashort-pulse laser instruments. He has also worked on coherent transient spectroscopy and optical pulse propagation in near-resonant vapors and optical fibers.

Grischkowsky received his PhD in physics from Columbia University in 1968. He joined IBM in 1969.

In 1989 Kenneth M. Baird, the former head of an optical physics research group at the National Research Council of Canada, was awarded the C. E. K. Mees Medal, given biennially to an individual who exemplifies the idea that optics transcends interdisciplinary and international boundaries. OSA cited Baird for "his contributions to standards research and optical metrology, particularly those measurements that led to a new definition of the international meter," and also for serving as president of OSA and of the International Commission for Optics. In the early 1970s Baird and his colleagues, in collaboration with researchers from the National Bureau of Standards, used electronic frequency techniques in the optical region to directly measure the frequency of visible light (see PHYSICS TODAY, January 1983, page 52).

Baird received his PhD in physics from Bristol University in England in 1953. He was with the National Research Council from 1943 to 1948 and 1950 to 1982.

At the 1990 Conference on Lasers and Electro-Optics, OSA will present the 1990 Charles Hard Townes Award to Herbert Walther of the Max Planck Institute for Quantum Optics (see page 61).

OBITUARIES

Willem Elenbaas

Willem Elenbaas died in February of last year in Eindhoven, the Netherlands, at the age of 82. His career in applied physics began at the University of Utrecht, where in 1930 he completed his thesis research on the intensities of the spectral lines of helium. Elenbaas retired in 1968 as head of the development department of the Philips Lighting Company.

Elenbaas's work included research in magnetism and the study of the physics of electrical-discharge light sources using both low-pressure-non-

equilibrium and high-pressure mercury discharges. His career was at the interface between science and technology. He was not only enormously productive in both but also effective in bringing the results of scientific research into practical application in commercial lamps.

His series of articles and book on the physics of high-pressure mercury-vapor discharge brought science to bear on the development of discharge lamps, which until then had been done empirically. *The High Pressure Mercury Vapour Discharge* (1951) not only served as a textbook for a generation of lamp-development engineers but also set the standard for later research into the complex physics of high-pressure sodium and metal-halide discharges. Elenbaas's name is also associated with the Elenbaas-Heller equation, used to calculate the radial temperature profile in an arc, assuming that the temperatures of the electrons are locally equal to the temperatures of the atoms, and that the arc is dissipating power both by radiation and by thermal conduction.

Since Elenbaas's retirement from Philips, the Dr. W. Elenbaas Award has been presented quadrennially in his name for outstanding research in the area of light and light sources. Above all, Elenbaas was a gentleman and a dedicated scientist. I was proud to have known him as a mentor and a friend, and I will miss him.

JOHN F. WAYMOUTH
Marblehead, Massachusetts

James M. Gordon

The physics community lost one of its most promising and vital young experimenters when James Michael Gordon, aged 31, died of cancer on 13 September 1988 in Minneapolis. Gordon was a creative condensed-matter physicist who had the rare ability to approach complicated problems in a clear and simple way.

Gordon was born in Minneapolis, attended Beloit College in Wisconsin, received an MS in applied solid-state physics from Yale University and in 1984 completed his doctoral thesis at Harvard University in experimental low-temperature physics. In January 1985, after spending three months at the Oersted Institute at the University of Copenhagen, he joined the condensed-matter physics group at the University of Minnesota, where he remained until his death.

Gordon was a productive experimenter with deep insight into the theory of electron transport in disordered metals and the related field of



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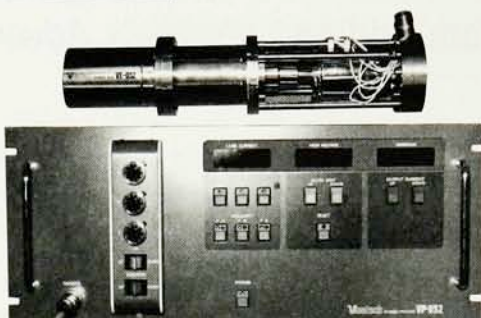
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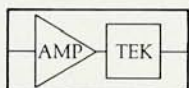


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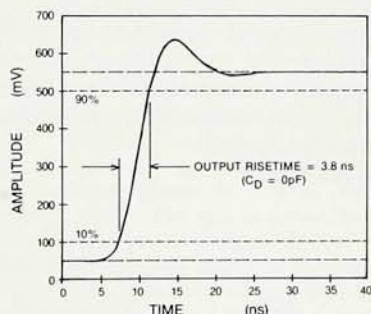
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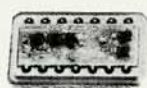
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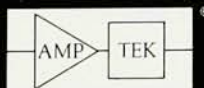
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superconductivity research. While working in Michael Tinkham's group at Harvard, he cut his teeth on detailed matters pertaining to localization, electronic interactions and superconducting fluctuations in disordered metal films. His early work in this area, done in collaboration with Tinkham and Christopher Lobb, provided excellent quantitative tests of the theory. His research on aluminum cylinders and wires produced one of the first confirmations in the West of the provocative normal-state magnetoconductance experiment of Yuri Vasilievich Sharvin and Dmitri Yur'evich Sharvin.

The main thrust of Gordon's work at Minnesota, which was carried out in collaboration with Allen Goldman, was the study of the superconducting properties of certain artificial wires and junctions prepared using electron-beam lithography. In work on Sierpinski gasket networks he demonstrated the fractal character of the superconducting-normal phase boundary and tested theories that were based on the Ginzburg-Landau model. He also determined the exponent (or so-called "fracton" dimension) for anomalous diffusion on the gasket. This last accomplishment was one of the first experimental tests of the paradigm of anomalous diffusion in any fractal object. His work on the magnetoresistance of Sierpinski gasket networks in their normal state ties the ideas of phase-breaking lengths, studied in the context of thin films and wires, into the study of fractal objects. Gordon also studied the crossover from fractal to homogeneous behavior in gasket arrays and attempted to observe "inhomogeneous" behavior in percolation arrays, which are fractal objects on certain length scales.

Gordon's life, although short, was full of eclectic interests and professional successes. He loved baseball, was a violinist and an avid moviegoer, and made his own beautiful and witty prints and collages. His untimely passing is a great loss for the whole physics community; it is clear that Gordon would have developed into a major contributor to his field.

ALLEN GOLDMAN
University of Minnesota
Minneapolis

HEINRICH JAEGER
Centre for Submicron Technology
Delft, the Netherlands

CHRISTOPHER LOBB
University of Maryland
College Park, Maryland

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