

## Three physicists are among Lawrence Award winners

The Energy Research and Development Administration has announced five winners of the annual Ernest Orlando Lawrence Memorial Awards. Among them are three scientists who work in physics-related fields—James W. Cronin, Kaye D. Lathrop and Edwin D. McClanahan. Each winner has received a \$5000 honorarium and a citation.

Cronin, University Professor of Physics at the University of Chicago, was cited for experimental contributions to particle physics, including research on weak interactions that culminated in the discovery of asymmetry under time reversal.

He attended the University of Chicago as a National Science Foundation fellow and received his doctorate in 1955. After a year as assistant physicist at Brookhaven National Laboratory, he joined the faculty of Princeton University, where he served as professor of physics, 1964–71. In 1971 he accepted his current position at the University of Chicago. Most recently Cronin has been investigating the interactions of elementary particles at very short distances.

Lathrop is associate division leader of Los Alamos Scientific Laboratory's Division of Nuclear Safeguards and Reactor Safety and Technology. He received a PhD in nuclear engineering from Cal Tech in 1962. Since this time he has spent most of his professional career at



CRONIN



LATHROP



McCLANAHAN

Los Alamos. Lathrop spent one year, 1967–68, at General Dynamics Corp working on reactor physics and also held a position as adjunct professor of physics at University of New Mexico, 1964–66.

Lathrop has contributed to nuclear technology through his development of computer codes that describe the movements and interactions of neutrons in a nuclear reactor—these codes are used today in conjunction with liquid-metal fast breeder reactors. Most recently, he has been applying computer methods to the reactor-technology problems of heat generation, heat transfer and fluid flow.

McClanahan is a staff scientist at Battelle's Pacific Northwest Laboratories in Richland, Washington. He studied chemistry at Rice University and joined

the staff of General Electric Co in 1952. In 1965 he began working for Battelle where he holds his current position.

McClanahan's major research has been in the area of material fabrication. He was instrumental in developing a process called "high-rate sputter deposition" that is employed in the fabrication of coating materials with industrial and nuclear-energy applications. In this process, the collision of high-energy particles dislodges atoms from the surface of metals or non-metals; the atoms are then vacuum deposited as a uniform film.

The other Lawrence Awards winners were A. Philip Bray (General Electric Co), a nuclear engineer, and Adolphus L. Lotts (Oak Ridge National Laboratory) who is also a nuclear engineer.

## Optical Society honors Ballard

Stanley S. Ballard, professor of physics at the University of Florida, has been given the 1977 Distinguished Service Award of the Optical Society of America. Presented only once before, the award was established to recognize noteworthy contributions to optics through administration, editorship or other service to the optical community.

Ballard earned his PhD at the University of California in 1934 and served on the faculties of the University of Hawaii, 1935–41, and Tufts University, 1946–54. He has been at the University of Florida since 1958. He was a member of the Board of Directors of the American Institute of Physics, 1962–65 and 1967–73,

was president of the Optical Society of America in 1963 and was president of the American Association of Physics Teachers, 1968–69. His major research interests have been in the properties of optical materials and in instrumentation for the visible and infrared spectral regions.

In the National Science Foundation Office of Science and Society, William A. Blanpied has become project manager, Ethical and Human Value Implications of Science and Technology Program.

Sidney Borowitz, Chancellor and Executive Vice President for Academic Affairs at New York University, has been named Executive Director of the New York Academy of Sciences.

At the International Business Machines Corp Thomas J. Watson Research Center, John A. Armstrong has been appointed director of the physical sciences department.

Irwin Ginsburgh, a member of Amoco Oil Co's exploratory and engineering research division, has been appointed senior research associate.

The department of physics at the University of Rhode Island, Kingston has announced the appointment of three new faculty members: Anthony C. Nunes (Institut Laue-Langevin) and Jill C. Bonner (Brookhaven National Laboratory) as associate professors and Louis S. Chou (National Chiao-Tung University, Taiwan) as assistant professor.



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## we hear that

The University of Nebraska, Lincoln has announced the following changes in the physics department: **Paul D. Burrow** (Yale University) has been appointed associate professor, and **Robert G. Fuller, Donald J. Burns** and **Robert G. Hardy** all have been promoted to the rank of full professor.

**Chuan F. Chen** professor of mechanical engineering at Rutgers University, has been appointed chairman of the department of mechanical, industrial and aerospace engineering.

**Marshall N. Rosenbluth**, professor of physics at The Institute for Advanced Study, Princeton, N.J., has been elected to a six-year appointment as Andrew D. White Professor-at-Large at Cornell University.

Formerly with the chemical-kinetics department of the Aerospace Corp (El Segundo, Calif.), **Steven N. Suchard** has joined ERDA's Division of Nuclear Research and Applications as program manager for laser isotope-separation studies at Los Alamos Scientific Laboratory.

**William L. Russell**, a geneticist in the Oak Ridge National Laboratory Biology Division, has been awarded the 1976 Enrico Fermi Award and \$25 000 by the Energy Research and Development Administration.

**Ralph R. Goodman**, formerly associate director for Research in Oceanography at the Naval Research Laboratory, is now serving as the technical director of the Naval Ocean Research and Development Activity, Bay St Louis, Miss.

The 1976 *Acta Metallurgica* Gold Medal, an international award that recognizes ability and leadership in materials research, has been presented to **Alan H. Cottrell**. Cottrell has been master of Jesus College, Cambridge University (England) since 1974.

## Correction

February, page 75—A sentence describing the David Richardson Medal of the Optical Society of America should have read, "... which recognizes contributions to applied optics."

## obituaries

### Jesse W. M. DuMond

Jesse W. M. DuMond, emeritus professor of physics at the California Institute of Technology, died 4 December 1976, at the age of 84. DuMond's association with Cal Tech spanned 64 years.

DuMond entered Throop College, Cal Tech's predecessor, in 1912 and received his BS degree in electrical engineering in 1916. He worked at General Electric under Charles P. Steinmetz, during which time he received his MS at Union College in 1919. He spent one year as a design draftsman with the Thomson-Houston Company in Paris, and one year with the US National Bureau of Standards before returning to Cal Tech for graduate work in 1921. That year he also took his first position at Cal Tech as a teaching fellow.

DuMond received his PhD in physics in 1929, his thesis being a study of the line shape of the shifted line in Compton scattering of x rays. He interpreted the broadening of the Compton line in terms of a Doppler shift resulting from the momentum distribution of the scattering electrons. DuMond thus provided the first direct experimental verification of the quantum mechanical momentum distribution of electrons in atoms. In order to obtain adequate luminosity, he developed the multicrystal spectrometer—50 individual crystals arrayed tangential to a focal circle so that each crystal



DuMOND

would reflect Bragg-diffracted x rays from a point source to a common focus. In the design of this instrument, as in the latter designs of his curved-crystal spectrometers, DuMond utilized a facility for geometrical conceptualization to produce ingenious solutions to the problem of construction and precision in instrument design.

DuMond thoroughly enjoyed this total involvement with the instrumentation of physics and he decried the growth of "big