

Laughlin wins Coolidge Award

John S. Laughlin has been chosen to receive the William D. Coolidge Award for Distinguished Contributions to Medical Physics. Presentation of the award was scheduled for the July Kansas City meeting of the American Association of Physicists in Medicine. Laughlin is chairman of the department of medical physics at the Memorial Sloan-Kettering Cancer Center and professor of biophysics at the Sloan-Kettering Division of the Cornell University Graduate School of Medical Science. He was selected for the award for his application of physics to the use of radiation for treatment and diagnosis in medicine. The award was first presented in 1972 to William D. Coolidge, designer of the Coolidge x-ray tube.

Directing his research to the therapeutic application of high energy x rays and electrons, Laughlin has developed procedures for tumor localization and treatment planning, and quantitative scanning methods used in metabolic studies. He has devised practical radiation measurement and protection techniques for medical use.

Laughlin received his PhD in physics in 1947 from the University of Illinois.



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He was president of the AAPM during 1964-65 and of the International Organization of Medical Physics during 1969-72. He has been a consultant to the Atomic Bomb Casualty Commission and a member of many committees on radiation, including the National Council of Radiation Protection and Measurements.

IOP presents awards to six scientists

Scientists from four countries received awards from the Council of the Institute of Physics at the IOP annual dinner in London. Rudolf L. Mössbauer (Institut Max von Laue-Paul Langevin) received the Guthrie Medal and Prize for contributions to the study of condensed matter. The Rutherford Medal and Prize went to Albert E. Litherland (University of Toronto) for his work in nuclear spectroscopy—specifically, angular correlation analysis. The Glazebrook Medal and Prize was awarded to B. J. Mason (UK Meteorological Office) for contributions to numerical methods of weather forecasting by computer.

P. G. H. Sandars (Oxford University) received the Charles Vernon Boys Prize, particularly for elucidation of the problems of the electron and proton electric-dipole moments. The

Maxwell Medal and Prize went to Samuel F. Edwards (University of Cambridge) for his application of functional integration to a variety of problems in statistical mechanics. And finally, Walter Greiner (University of Frankfurt) received the Max Born Medal and Prize for his work on atomic nuclei.

Hewish and Nozieres receive Holweck Medals

In this centennial year for both the French Physical Society and the Institute of Physics, two 1974 Holweck Medals and Prizes were awarded—to Antony Hewish of the University of Cambridge and to Philippe Nozieres of the Institut Max von Laue-Paul Langevin. The Holweck Prize in other years has gone alternately to a British and a French physicist.

Hewish was cited for both experi-

mental and interpretive contributions to radioastronomy. Nozieres has worked in the field of *N*-body problems in the physics of solids.

Joseph Wampler of the Lick Observatory, University of Santa Cruz, has been appointed the first director of the Anglo-Australian Telescope. S. C. B. Gascoign, a member of the astronomy department at Australian National University, has accepted the position of commissioning astronomer, in which capacity he will be responsible for bringing the telescope to a state of readiness, and Lloyd Robinson, also of the University of Santa Cruz, will take up duties on the scientific staff of the telescope in September. The telescope, located at the Siding Spring Observatory of the Australian National University near Coonabarabran, New South Wales, is being erected for the Australian Department of Science and the United Kingdom Science Research Council as agents for the two governments. It is expected to be in operation by January 1975.

Nicholaas Bloembergen, Gordon McKay Professor of Applied Physics at Harvard University, has been elected to the board of directors of Itek Corporation, and has also been named chairman of Itek's Science Advisory Board.

M. Lea Rudee, formerly professor of materials science and Master of Wiess College at Rice University, will be provost of the new Fourth College and professor of applied physics at the University of California, San Diego.

The department of physics and astronomy at the University of Kansas has announced the promotions of Thomas P. Armstrong and Wesley P. Unruh to professor, and of Douglas W. McKay to associate professor.

Matthew D. Miller has become a member of the technical staff in the Materials Research Laboratory of RCA Laboratories in Princeton, New Jersey.

The National Bureau of Standards announced the appointment of James F. Schooley as chief of its Temperature

Section. As a member of the NBS Cryogenic Physics Section from 1960 to 1973, he has been researching nuclear orientation, superconductivity and thermometry.

Raymond K. Sheline, professor of chemistry and physics at Florida State University in Tallahassee, has been elected a foreign member of the Royal Danish Academy of Sciences and Letters.

IBM Corporation announced that **Harold Fleisher**, **Otto G. Folberth** and **Dean Eastman** have been named IBM Fellows for their contributions to the field of computer science.

Newly elected members of the National Academy of Sciences include **Eugene Braunwald**, Harvard Medical School; **Solomon J. Buchsbaum**, Bell Labs; **Ivar Giaever**, General Electric Company; **Roy W. Gould**, California Institute of Technology; **Kenneth I. Greisen**, Cornell University; **Ali Javan**, Massachusetts Institute of Technology; **Norman M. Kroll**, University of California, San

Diego; **Frank J. Low**, University of Arizona; **C. Roger Lynds**, Kitt Peak National Observatory; **Jeremiah P. Ostriker**, Princeton University; **C. K. N. Patel**, Bell Labs; **Irwin I. Shapiro**, Massachusetts Institute of Technology; **Robert G. Shulman**, Bell Labs; **Bert L. Vallee**, Harvard Medical School; **Kenneth M. Watson**, University of California, Berkeley.

Clive L. Dym, formerly associate professor of civil engineering at Carnegie Mellon University, is now a senior engineering scientist with Bolt Beranek and Newman Inc in Waltham, Mass.

William van Altena, formerly an associate professor of astronomy at the University of Chicago and director of the Yerkes Observatory, has been appointed professor of astronomy at Yale University.

Maurice T. Raiford has left the chairmanship of the physics department at Guilford College, Greensboro, North Carolina, to become a consultant at Battelle Columbus Laboratories, Dur-

ham Office, and is currently at the Quantum Physics Group, US Army Missile Command, Redstone Arsenal, Alabama. The new department chairman at Guilford College is **Rexford E. Adelberger**, formerly of the State University of New York at Geneseo.

Effective August 1974, **Thomas Wolfram**, director of physics and chemistry at the Rockwell International Science Center, will become chairman of the department of physics at the University of Missouri, Columbia.

Thomas H. Fields has been appointed associate director of Argonne National Laboratory for High-Energy Physics. Fields joined Argonne's scientific staff in 1960 and has been director of the High Energy Physics Division since November, 1964.

Richard Berendzen, associate professor of astronomy at Boston University, has accepted a position as dean of the College of Arts and Sciences at American University.

obituaries

Clyde L. Cowan Jr

Clyde L. Cowan Jr, experimental physicist and co-discoverer of the neutrino, died 24 May at the age of 54. Cowan achieved international recognition for his role in the discovery of the neutrino, which earlier was generally believed to be undetectable despite its fundamental importance to the study of cosmology, the mechanisms of energy generation in the stars and the structure of elementary particles. Since this work in the mid-1950's, neutrino physics has become central to the extensive studies of weak interactions currently in progress by large groups of scientists the world over.

Cowan was a pioneer in the technique of employing large scintillation counters for particle detection, an approach that found uses in elementary-particle physics, the monitoring of low levels of radioactivity and the medical uses of radioactive isotopes.

Cowan received a bachelor's degree in chemical engineering in 1940 from the University of Missouri, and served in the Chemical Corps and then the US Army-Air Force during World War II. After his discharge as a captain, then working on radar development with the 8th Air Force, he attended Washington University in St. Louis where he earned a PhD in physics in 1949. He joined the staff of the Los

Alamos Scientific Laboratory, where he soon became a group leader in the weapons-test division. During this period he was among the first to study the electromagnetic signal produced by a nuclear explosion.

From 1951 to 1957, he and I gathered a team and pursued detection of the neutrino, which was successfully accomplished in the fall of 1956. Cowan then joined the faculty of George Washington University where he spent the year 1957-58 mainly concerned with the organization of the scientific exhibits for the 1958 Atoms for Peace Conference in Geneva. This unusual exhibit featured models—some of them in operation—of the equipment used in the latest advances in nuclear and particle physics; each exhibit was manned by one of the scientists who took part in the original research. In 1958, Cowan joined the faculty of Catholic University of America in Washington, D.C. where he remained as professor of physics until his death.

Cowan was characterized by his associates as a gentle, considerate and enthusiastic man, who was daring and persistent in his pursuit of scientific verities. His imaginative approach to physics is illustrated by his early suggestion of the bubble chamber as a tool for the study of neutrino interactions (1952 unpublished), his fascination with the Dirac equation for a zero-mass particle (1954 unpublished) and



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his suggestion (1956 remark at a Los Alamos seminar) that the hypothesis $\nu_\mu \equiv \nu_e$ be checked at a high-energy accelerator which could be built for neutrino studies.

It was my privilege to have Clyde Cowan as a collaborator during the years at Los Alamos when together we pursued the neutrino. In retrospect I am impressed by the symmetry of our joint efforts—each one listening with sympathy to the torrent of ideas, mostly wild, proposed by the other and attempting to select and constructively modify them until, in a few instances,