moted to associate professor at Old Dominion University, Norfolk, Va. New members of the physics faculty are assistant professors **Grayson H. Rayborn** and **James L. Cox.** Rayborn was formerly at the University of Florida and Cox at North Carolina State University.

At Alfred University, Alfred, N. Y., **Fred W. Dix** has been appointed assistant professor, and **Michael Webb** has been promoted to associate professor. Dix is a recent graduate of Case-Western Reserve University.

Joseph L. Snider, formerly an assistant professor at Harvard, has been named associate professor of physics at Oberlin College.

New appointments in the Division of Undergraduate Science Education at the National Science Foundation are **Leo L. Baggerly** of Texas Christian University as associate program director, Science-Curriculum Improvement Program, and **Gregg Edwards** of the Commission on College Physics as assistant program director.

Frank E. Jamerson has been named head of the 75-man physics department at General Motors Research Laboratories. He joined GM as a senior nuclear physicist in 1957. **Nils L. Muench,** former physics-department head, is now technical director of the mathematical-sciences departments at the GM labs.

The new chairman of Wayne State University's Department of Chemical Engineering and Material Sciences is **Julius L. Jackson,** formerly professor of physics at Howard University.

Promoted at Florida Atlantic University were **Robert F. Stetson** to professor and **Björn N. A. Lamborn** to associate professor. New appointments include **Herman E. Matthews,** formerly of Stanford University, as assistant professor.

Alexander Stein, formerly of Control Data Corporation, is now at Quantronix Corporation, New York, as head of laser-component research.

PANOFSKY

Wolfgang Panofsky, director of the Stanford Linear Accelerator Center, is to be awarded a 1970 National Medal of Science. He has been cited "for classic experiments probing the elementary particles of matter and for contributions to advancing the means of experimentation in this challenging field." The medal, established by Congress in 1959, is the US Government's highest science and engineering award. Six of these medals will be presented by President Nixon at ceremonies early this year.

IEEE Elects Officers And Presents Awards

John V. Granger is the president of the Institute of Electrical and Electronics Engineers for 1970. Granger, chairman of the board of Granger Associates, Palo Alto, succeeds F. Karl Willenbrock of the State University of New York, Buffalo. James H. Mulligan, executive secretary of the National Academy of Engineering, has been elected vice-president of the IEEE; two additional vice-presidents were to be elected in January.

Ragnar Holm, a Swedish-born physicist, received the 1969 Contribution Award of the Parts, Materials and Packaging Group of the IEEE. Holm, now a consultant for the Stackpole Carbon Co., St. Mary's Pa., was honored as the man whose ". . . work is the basis for all present activities on electrical contacts . . ."

Robert Rediker, professor of electrical engineering at MIT, received the David Sarnoff Award of the institute during the IEEE October meeting in Washington. Cited for contributions to semiconductor-device research and injection lasers, Rediker received a medal, certificate and $1000.

The IEEE Leeds Award for 1970 has been awarded to Harold I. Ewen of Ewen Knight Corp., East Natick, Mass. Ewen, a radioastronomer, was cited "for contributions to the design of sensitive radiometric systems, and for the codiscovery of the 21-cm spectral line of interstellar hydrogen."

John A. Copeland of Bell Telephone Laboratories has been honored for his discovery of the limited space-charge accumulation mode of oscillation. The institute has awarded him its Liebmann medal; the presentation will be made in 1970. Copeland has been doing research on the Gunn effect; his present work includes theoretical studies of space-charge dynamics, thermal noise generation and interactions of bulk devices with external circuits.

Bradbury to Retire From Los Alamos Laboratory

Norris E. Bradbury, director of the Los Alamos Scientific Laboratory, will resign no later than October 1970, the date that marks his 25th anniversary as director. Bradbury succeeded J. Robert Oppenheimer and is only the second director in the history of the laboratory. He came to Los Alamos in 1944 from the Naval Proving Ground at Dahlgren, Va., to head the implosion field-test program.

A naval reserve officer, (and concurrently professor of physics at Stanford University) Bradbury was released from active duty to become director of the laboratory. He is a fellow of the American Physical Society and the National Academy of Sciences, and has received the Department of Defense distinguished public service medal and an AEC citation. (The citation is the highest AEC award.)

Samuel Devons Wins IPPS Rutherford Medal and Award

The Institute of Physics and the Physical Society Rutherford Medal and Award for nuclear physics has been won by Samuel Devons of Columbia University. The biennial award was given in 1968 to B. H. Flowers of the University of Manchester; in 1966 Peter Kapitsa of the USSR Institute for Physical Problems was the winner. Devons, born in Wales, has been a professor at Columbia since he came to the US from England in 1959. He is director of the history of physics laboratory at Barnard College.

Franklin Institute Has New Head and Presents Awards

Bowen C. Dees is new president of the Franklin Institute. Dees, most recently provost for academic affairs at the University of Arizona, received a

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PhD in physics from New York University. He spent 15 years with the National Science Foundation; his last position there was associate director for planning. Before joining NSF, Dees was chief of the scientific and technical division at the general headquarters of the Supreme Commander for the Allied Powers, Japan, where he helped with the reconstruction of Japanese scientific work.

During ceremonies held last October the highest award of the Franklin Institute, the Franklin Medal, was given to John A. Wheeler, Henry professor of physics at Princeton University, for his studies of atomic fission and of the interaction of electromagnetic and gravitational fields. The institute's Cresson Medal went to Henry Eyring, professor of chemistry and metallurgy at the University of Utah, and Peter C. Goldmark, president of the Columbia Broadcasting System Laboratories, and the Longstreth Medal was awarded to Carl J. Frosch of Bell Telephone Laboratories (retired) and Jean A. Hoerni, president of Intersil, Inc.

Albert Ghiorso, director of the HILAC Laboratory at the University of California, Berkeley, and Charles P. Ginsburg, vice-president of the Ampex Corp., won the Potts Medal; Frank H. Spedding, principal scientist, Ames Laboratory, won the Clamer Medal. Emmett N. Leith of the University of Michigan was the winner of the Ballantine Medal, and Harold E. Edgerton of MIT won the Michelson Medal (PHYSICS TODAY, November, page 101).

Geological Society Honors Harold Urey, Francis Birch

At its annual meeting in Atlantic City in November, the Geological Society of America presented its highest awards to Francis Birch of Harvard and Harold C. Urey of the University of California, San Diego.

Birch, a professor of geophysics, received the Penrose Medal for eminent research in pure geology. The society said, in part: "A significant part of the geophysical and related geological conclusions reached by others since the beginning of his career is based on data that he and his associates have provided and carefully explained."

Urey, a Nobel laureate in chemistry, received the Arthur L. Day Medal for contributions to geologic knowledge made through the applications of physics and chemistry to geologic problems.

ELIZABETH A. WOOD (right), who won the Dickinson College (Carlisle, Pa.) Glover Memorial Award in December, with (from left to right) Dickinson students Clyde Heckler and Susan Miller and physicist Priscilla Laws. Wood, former president of the American Crystallographic Association and a Bell Telephone Laboratories physicist until her retirement two years ago, was honored for her work in crystallography and as a science-education writer; she is the first woman to receive the award, which was established in 1959.

ASA Awards 1st Trent-Crede Medal to C. Irwin Vigness

The Acoustical Society of America has granted the first Trent-Crede Award posthumously to a man who worked for many years to see it established, Carl Irwin Vigness, former chairman of the society's Shock and Vibration Technical Committee. The award, which consists of a model and a certificate, is given for contributions to the technology of shock and vibration. It is named in memory of Horace M. Trent and Charles E. Crede, both very active in shock and vibration work. Vigness died in September, 1966.

Walter H. Zinn Receives AEC Enrico Fermi Medal

The Atomic Energy Commission has selected Walter H. Zinn as the 13th recipient of its $25 000 Enrico Fermi Award. Presentation was scheduled for 2 Dec. in San Francisco.

The commission cited Zinn "for his pioneering work in atomic energy, including the world's first reactors and the fast-breeder reactor, and for his distinguished record of leadership and contributions to the development of atomic reactors for research, production, propulsion and electric power."

A former director of Argonne National Laboratory and now a vice-president of Combustion Engineering Inc. Zinn worked with Leo Szilard in the 1930's on neutron physics. He worked under Fermi in Chicago in 1942 and helped to build the first successful atomic pile.

NASA Distinguished Service Medal Goes to Charles Townes

Charles W. Townes of the University of California, Berkeley received the Distinguished Public Service Award and delivered the main address at the annual awards day of the National Aeronautics and Space Administration in Washington. Awards for exceptional achievement in science, engineering and administration were made by Thomas O. Paine, NASA administrator.

Arthur Ruark Retires from AEC Division of Research

Arthur E. Ruark has retired as senior associate director of the US Atomic Energy Commission division of research. He had been with AEC since 1956 when he was named chief of the controlled-thermonuclear branch. While a PhD candidate at Johns Hopkins University, Ruark joined the atomic-structure section of the National Bureau of Standards. He later taught at Yale, the Mellon Institute,