

November 23, Dr. L. N. Ridenour, University of Pennsylvania, Artificial Radioactivities.

J. Schwinger, Columbia University, The $[\sigma_1\sigma_2 - 3(\sigma_1r)(\sigma_2r)r^{-2}]J(r)$ terms and the quadrupole moment of H^2 .

December 2, Professor Otto Struve, Yerkes Observatory, Interstellar Absorption and Emission.

December 14, Professor S. Chandrasekhar, Yerkes Observatory, Stellar Structure and Stellar Energy.

December 16, Dr. K. K. Darrow, Bell Telephone Laboratories, History of the Mesotron.

January 6, Dr. D. P. Johnson, U. S. Bureau of Standards, Mercurial Thermometers.

April 4, Professor I. I. Rabi, Columbia University, Experiments with Molecular Beams on Nuclear Magnetic Moments.

Dr. M. Goldhaber, University of Illinois, Slow Neutron Boron Reaction.

April 14, Professor L. Brillouin, Collège de France, Spins and Statistics of Elementary Particles.

May 12, Professor R. S. Mulliken, University of Chicago, Intensities of Electronic Transitions and the Color of Organic Compounds.

May 19, Professor A. Ellett, State University of Iowa, The $D + D \rightarrow H_1 + H_2$ Reactions. Dependence of Angular Distribution and Cross Section upon Energy.

May 25, Professor A. H. Compton, University of Chicago, The Production and Disintegration of Mesotrons.

June 7, Dr. E. Feenberg, New York University, Canonical Transformations for Field Theories.

July 3, Dr. S. A. Korff, Bartol Foundation, Neutrons in Cosmic Radiation.

July 12, Professor Otto Struve and Dr. L. G. Henyey, Yerkes Observatory, Spectroscopic Evidence Regarding Interstellar Matter.

July 19, Professor T. W. Bonner, Rice Institute, Recent Work in Nuclear Physics at the Cavendish Laboratory.

AWARD OF THE JOHN FRITZ GOLD MEDAL

THE posthumous award of the 1940 John Fritz Gold Medal to Dr. Clarence Floyd Hirshfeld, who until his death on April 19 of this year was chief of research of the Detroit Edison Company, has been announced.

The medal, given annually for notable scientific or industrial achievement by a board composed of sixteen representatives of the four national societies of civil, mining and metallurgical, mechanical and electrical engineers, was given to Dr. Hirshfeld "for notable leadership through research and development in power generation and electric traction, and for being a great teacher and friend of men both young and old."

Modernization of the electric street-car completely from trolley wire to track is among the many advances in engineering credited to Dr. Hirshfeld. His career extended over thirty-six years and included teaching, writing and direction of research work. He was born in San Francisco on January 30, 1881. From 1903 to 1914 he taught at Sibley College of Cornell University, becoming professor of mechanical

engineering. In 1913 he organized for the Detroit Edison Company what is thought to be the first research department established and maintained by an electrical city supply company, where he became chief of research.

Dr. Hirshfeld was chief engineer of the Electric Railway Presidents' Conference Committee. He was the author of many books and articles on technical subjects, dealing principally with thermodynamics, steam power and problems of the transit industry. He was a member of the American Committee of the World Power Conference and of the U. S. National Committee of the International Electrotechnical Commission. He also served on the board of national councilors of the Purdue Research Foundation and on the advisory council of Yenching University. He was the first chairman of the Engineers' Council for Professional Development, and belonged to many scientific societies.

Dr. Hirshfeld was being considered as a candidate for the Fritz Medal at the time of his death. The award was, therefore, made posthumously.

RECENT DEATHS AND MEMORIALS

DR. LIVINGSTON FARRAND, president emeritus of Cornell University, who was from 1903 to 1914 professor of anthropology at Columbia University, died on November 8 at the age of seventy-two years.

DR. WILLIAM H. BROWN, lecturer in botany at the Johns Hopkins University, previously from 1924 to 1933 director of the Bureau of Science at Manila, P. I., in charge of scientific investigations for the Philippines, died on November 9. He was fifty-five years old.

DR. FREDERICK ADAMS WOODS, formerly lecturer in biology at the Massachusetts Institute of Technology, who since 1927 has lived in Rome, died on November 5 at the age of sixty-six years.

DR. ALFRED ALEXANDER DIXON, professor of physics at the North Carolina State College of Agriculture and Engineering, died on October 15 at the age of fifty-three years.

WILLIAM ARTHUR COWAN, who served for forty years as chemist of the National Lead Company, died on October 27 at the age of sixty-five years.

DR. L. O. ELLISOR, assistant entomologist at the Louisiana Agricultural Experiment Station, died on October 21 at the age of twenty-nine years. Bullion A. Osterberger, also assistant entomologist at the station, died on May 20.

DR. RALPH ALLEN SAMPSON, Astronomer-Royal for Scotland from 1910 to 1937, professor of astronomy at the University of Edinburgh, died on November 10 at the age of seventy-three years.

TRIBUTE to the late Dr. W. E. Britton, Connecticut state entomologist from 1901 until the time of his death last February, was part of the program of the sixteenth annual conference of Connecticut entomologists that met on October 27 at the University of Connecticut at Storrs. The principal address was given by Dr. E. Porter Felt, formerly state entomologist of New York and now director of research at the Bartlett Tree Laboratories at Stamford.

THE *Journal* of the American Medical Association states that, in response to the request of many mem-

bers, the council of the Minnesota State Medical Association sponsored a memorial pilgrimage to Rochester on October 27 to pay tribute to Drs. William J. and Charles H. Mayo. Every member of the association was invited to participate in the ceremonies at Plummer Hall in the Mayo Clinic and at Oakwood Cemetery. With Dr. George A. Earl, St. Paul, president of the state medical association, presiding, Dr. Edward L. Tuohy, Duluth, gave the address entitled, "An Expression from the Medical Profession of Minnesota." There followed a procession to the cemetery.

SCIENTIFIC NOTES AND NEWS

THE Nobel Prize in physics for 1939 has been awarded by the Swedish Academy of Science to Dr. Ernest O. Lawrence, professor of physics and director of the radiation laboratory of the University of California, in recognition of his research into the structure of atoms and the use of radiation in problems affecting biology and medicine.

THE Nobel Prize in chemistry for 1939 has been divided between Professor Adolf Butenandt, director of the Kaiser Wilhelm Institute for Biochemistry at Berlin-Dahlem, and Professor Leopold Ružička, of the Technische Hochschule, Zurich, in recognition of their work on hormones. The prize in chemistry, which was withheld last year, has been awarded to Professor Richard Kuhn, of the Kaiser Wilhelm Institute of Berlin, for his work on carotinoids and vitamins. It is expected that if Professor Butenandt and Professor Kuhn are unable to accept the prizes the money will be returned to the Nobel Foundation.

THE University of Paris on November 9 conferred honorary degrees on Dr. Robert Andrews Millikan, chairman of the executive committee of the California Institute of Technology; on Sir Humphry Rolleston, who was from 1925 to 1932 regius professor of physic at the University of Cambridge, and on Dr. Philippe Roy, Montreal physician, since 1928 Minister to France from Canada. President Lebrun and the Minister of Education, M. Yvon Delbos, attended the ceremony.

THE Gordon Wilson Medal of the American Clinical and Climatological Association was presented at the meeting on October 10 at Saranac Lake, N. Y., to Dr. George R. Minot, professor of medicine at the Harvard Medical School. On that occasion he gave the Gordon Wilson Lecture before the association.

DR. LOUIS DAVIDSON RICKETTS, of Arizona, consulting engineer, has been chosen the James Douglas gold medalist for 1940 by the American Institute of Mining and Metallurgical Engineers, in recognition

of his "inspirational leadership and distinguished achievements in the metallurgy of copper." Dr. Ricketts, who is now eighty years old, was at one time state geologist of Wyoming and was later associated with Phelps, Dodge and Company.

At the meeting of the American Public Health Association in Pittsburgh, on October 18, the 1939 awards of the Pennsylvania Public Health Association were presented to Professor C. G. King, of the department of chemistry, University of Pittsburgh, in recognition of his research work in biochemistry and nutrition, and to Professor H. T. Price, of the School of Medicine, for his clinical and educational work in the field of pediatrics.

THE Royal Australian Ornithologists Union has elected Dr. Robert Cushman Murphy, of the American Museum of Natural History, a corresponding member in recognition of his active interest in the conservation of wild life.

DR. PERCY BARTLETT, for thirty-five years a member of the faculty of the Medical School of Dartmouth College, has retired with the title of professor emeritus of surgery.

DR. CARLO J. TRIPOLI has been appointed professor of medicine in charge of the department of medicine of the Graduate School of Louisiana State University.

DR. RAYMOND L. GREGORY, professor of medicine at Howard University College of Medicine, Washington, has been appointed professor and head of the department of medicine at the University of Arkansas School of Medicine.

DR. ROBERT M. DICKEY, since 1936 head of the department of geology and mineralogy of the Michigan College of Mining and Technology, has resigned to become an engineer with the Bucyrus-Erie Company. His headquarters are in Chicago. Dr. Thomas M. Broderick will serve as acting head of the department until a permanent successor can be named, probably