AWARD OF THE WILLARD GIBBS MEDAL TO DR. VAN SLYKE

THE Willard Gibbs Medal of the Chicago Section of the American Chemical Society has been awarded for 1939 to Dr. Donald Dexter Van Slyke, research chemist of the Rockefeller Institute for Medical Research, New York City, in recognition of his work on the chemistry of proteins, enzyme action blood chemistry and the metabolic conditions of diabetes and nephritis. In announcing the award the jury gave the following summary of the work for which it was made:

By showing that fatal diabetic coma is preceded by a falling off in the bicarbonate content of blood plasma, Dr. Van Slyke made it possible to anticipate and prevent the sudden onset of coma. Such bicarbonate determination is now in general application in hospitals.

In Bright's disease and renal physiology, he has worked out methods of measurement of renal function, established the relation of renal function to renal disease, and found some explanation for chemical changes in the blood and in metabolism.

The mystery surrounding the mechanism of enzyme action he solved by showing that enzymes act by forming with substrates the substances acted upon by enzymes, definite compounds in which the substrate becomes unstable and undergoes decomposition. In the physical chemistry of gases and electrolytes of the blood he showed the law governing the solubility of the blood gases—oxygen, carbon dioxide, nitrogen, carbon monoxide and hydrogen—in blood fluid and cells.

In the physiology of amino acids, Dr. Van Slyke has followed through the animal body the course of such acids from digesting proteins, proving that they pass into the blood and thence into all tissues, but chiefly into the liver, and that the change to urea nitrogen occurs chiefly in the liver.

In the chemistry of amino acids he has developed methods for quantitative separation, methods for determining aliphatic primary amino nitrogen and analysis which have become standard, and analysis of proteins by determining the characteristic chemical groups of amino acids resulting from hydrolysis.

The speed and accuracy of gasometric micro methods of analysis worked out by Dr. Van Slyke have led to their introduction into general analytical microchemistry. These methods are in routine use for ammonia, organic nitrogen, organic carbon, calcium, iodate, chloride, ferricyanide and reducing sugars.

Determination of proteins combined with alkali in the cells and in the fluid of the blood showed that the differences in non-diffusible protein ions combined with alkali within and without the cells were such as to clear up, under the Gibbs-Donnan theory for heterogeneous equilibria, the puzzling situation which arose from the fact that the concentration of certain chemicals is not the same in blood fluid and blood cells. These differences were found to vary regularly with increasing pH and with increasing oxygenation of the hemoglobin.

Dr. Van Slyke introduced a unit now generally adopted for expressing quantitatively the power of "buffers," substances which can loosely combine with alkali and surrender it to strong acids, to set free in their place only acids that are relatively weak and innocuous. By this unit, the activity of the buffer solution is related to pH and the dissociation constant of the buffer acid or base.

The award was determined by a national jury of scientific men, of which Professor Charles D. Hurd, of Northwestern University, was chairman. Dr. Robert R. Williams, of New York, discoverer of the chemical structure of vitamin B, was the medalist in 1938. Other medalists were: Svante Arrhenius, of Sweden; Mme. Marie Curie, of France; Sir James Irvine, of Scotland; Dr. Richard Willstaetter, of Munich. Among American scientific men have been Theodore W. Richards, Leo H. Baekeland, Ira Remsen, Arthur A. Noyes, Willis R. Whitney, Edward W. Morley, William H. Burton, William A. Noyes, F. G. Cottrell, Julius Stieglitz, Gilbert N. Lewis, Moses Gomberg, John Jacob Abel, William D. Harkins, Claude S. Hudson, Irving Langmuir, Phoebus A. Levene, Edward C. Franklin, Harold C. Urey, Charles A. Kraus, Roger Adams and Herbert N. McCoy.

SCIENTIFIC NOTES AND NEWS

DANIEL W. MEAD, consulting engineer of New York City, a former president of the American Society of Civil Engineers, was presented with the Washington Award for 1939 of the Western Society of Engineers at a dinner held in Chicago on February 20.

DR. ALEXANDER WETMORE, assistant secretary of the Smithsonian Institution, has been elected an honorary member of the Sociedád Cubana de Historia Natural Felipe Poey.

DR. FRANK SCHLESINGER, director of the Observatory of Yale University, has been elected a member of the Royal Society of Sciences of Upsala.

DR. ALFRED HARKER, fellow of St. John's College and reader in petrology emeritus in the University of Cambridge, celebrated his eightieth birthday on February 9.

SIR HENRY HALLETT DALE, director of the National Institute for Medical Research, and Dr. Arthur Lyon Bowley, emeritus professor of statistics in the University of London, have been elected honorary fellows of Trinity College, Cambridge.

THE University of Oxford will confer the degree of doctor of science on Dr. Pio del Rio Hortega, director of the National Institute of Cancer and of the Lab-

oratory of Normal and pathological Histology in Madrid, in recognition of his "valuable discoveries, arising out of the employment of new and original methods in connection with the anatomy of the brain."

THE British Institution of Chemical Engineers has awarded the Osborne Reynolds Medal, presented annually in commemoration of Professor Osborne Reynolds, to Hugh Beaver for "valuable constructive work." The Moulton Medal, presented annually in commemoration of Lord Moulton, director-general of Explosives Supply in the Ministry of Munitions during the war, has been awarded jointly to Dr. J. H. Dobson and Dr. W. J. Walker, professor of engineering in the University of the Witwatersrand, Johannesburg, for their work on engineering problems associated with the improvement of conditions in mines. The Junior Moulton Medal has been awarded to E. F. J. Tomalin, who has recently left King's College, London, for the Dutch West Indies to work in the petroleum industry, and the William Macnab Medal to Pierre Etienne Rousseau, of Johannesburg, a mining engineer.

IT is announced in *Nature* that the Academy of Sciences in Vienna has made the following awards: The Haitinger prize for physics to Dr. H. Haberlandt, for his work on the luminescence of fluorites and other minerals; the Rudolf Wegscheider prize for chemistry to Dr. R. Kuhn, for his work on lactoflavine; the Fritz Pregl prize for microchemistry to Dr. F. Hecht, for his work on microchemical analysis, particularly of thorium, monazite and uranium minerals; the Hansgirg prize for astronomy to Dr. M. Beyer, for his work on the photometry of stars, and in particular for his work on variable stars.

F. MALCOLM FARMER, vice-president and chief engineer of the Electrical Testing Laboratories, New York City, has been nominated for the presidency of the American Institute of Electrical Engineers.

DR. F. G. DONNAN, professor of chemistry in the University of London, has been elected to succeed Sir F. Gowland Hopkins as president of the Association of Scientific Workers.

OFFICERS of the Royal Astronomical Society, London, have been elected as follows: *President,* Professor H. C. Plummer; *Vice-presidents,* Professor S. Chapman, W. M. H. Greaves, Dr. H. Spencer Jones and Professor F. J. M. Stratton; *Treasurer,* J. H. Reynolds; *Secretaries,* Professor H. H. Plaskett and D. H. Sadler; *Foreign Secretary,* Sir Arthur Eddington.

SIR JAMES JEANS, the mathematical physicist, who was professor of applied mathematics at Princeton University from 1905 to 1909, has accepted an invitation to become the Conservative candidate for Parliament from the University of Cambridge at the next general election.

DR. HERBERT S. JENNINGS, of the Johns Hopkins University, has been appointed professor of zoology for the spring semester at the University of California at Los Angeles.

PROFESSOR OTTO NEUGEBAUER, of the University of Copenhagen, has accepted an appointment as professor of mathematics at Brown University, where he will be engaged in research until May. During the summer he will lecture in England, and will return to Providence in September.

DR. JAMES COULL, professor of chemical engineering of Cooper Union, New York City, a native of Aberdeen, Scotland, has been appointed professor and head of the department of chemical engineering at the University of Pittsburgh, to succeed Professor Harrison C. Bashioum, who died last October. He will take up the work at once.

E. H. PRAEGER, of New York City, for the last several years chief engineer for Madigan-Hyland, consulting engineers for Park Commissioner Robert Moses of New York, has been named head of the department of civil engineering at the Rensselaer Polytechnic Institute. He succeeds Professor Thomas R. Lawson, who will retire at the end of the year after serving for forty years as a member of the faculty, as head of the department since 1921.

DR. RICHARD PRAGER, of Potsdam, Germany, until recently of the University of Berlin, arrived in Boston on February 26 to join the research staff of the Harvard College Observatory. He will be at Harvard for at least two years, taking up research work on variable stars. Dr. Prager, who was stationed until recently at the Berlin-Babelsberg Observatory, is known as bibliographer in the field of variable stars and for many years was chiefly responsible for naming variable stars and for recording them in the annual catalogue.

DR. JAMES RÖGNVALD LEARMONTH, Regius professor of surgery at the University of Aberdeen, has been appointed professor of surgery at Edinburgh University to succeed the late Sir David Wilkie.

DR. L. WITTGENSTEIN, formerly fellow of Trinity College, has been elected professor of philosophy at the University of Cambridge, to succeed Dr. G. E. Moore, who will retire at the end of the current academic year.

DR. FRANK H. JOHNSON, instructor in biology at Princeton University, has been awarded a fellowship by the Rockefeller Foundation in order to carry on work in microbiology in the laboratory of Professor A. J. Kluyver, at the Technische Hoogeschool, Delft,

Holland. Dr. Johnson will spend six months in Professor Kluyver's laboratory, returning to Princeton next autumn.

DR. BENEDICT CASSEN has joined the staff of the Westinghouse Research Laboratories in East Pittsburgh, Pennsylvania, to conduct research on means of producing high voltage x-rays for therapeutic uses. He has been engaged in x-ray and neutron research at the Harper Memorial Hospital in Detroit.

DR. ALBERT RAY OLPIN has been appointed to succeed the late Hurlbut S. Jacoby as research director of the Ohio State University Research Foundation.

JAMES STOKLEY, associate director in charge of astronomy in the Franklin Institute of Philadelphia, has been appointed director of the new Buhl Planetarium and Institute of Popular Science in Pittsburgh. The Board of Managers of the Franklin Institute has accepted his resignation, effective on April 15. The Buhl Institute is being erected by the Buhl Foundation, at a cost of $1,070,000. The building, now nearing completion, is situated on the north side of the city on a site furnished by the municipality, which was formerly occupied by the old Allegheny City Hall. In addition to a Zeiss planetarium, fifth in the United States, and a public observatory, the building will include a lecture hall seating 250 persons, a main exhibit hall 150 feet long by 33 feet wide, five smaller halls, a room for amateur telescope makers, offices, shops and preparation rooms.

DR. WARREN J. MEAD, head of the department of geology of the Massachusetts Institute of Technology, delivered the February lecture before the Rensselaer Chapter of the Society of Sigma Xi. The March lecture will be delivered by Dr. Brian O'Brien, of the University of Rochester. His subject will be "Detection and Consequences of the Variability of the Sun."

PROFESSOR A. K. LOBECK, of the department of geology of Columbia University, recently returned from a tour of several southern universities, where he gave lectures on Russia, including one before the LeConte Scientific Society of the University of South Carolina.

DR. FRANCIS CARTER WOOD, director of the Institute of Cancer Research at Columbia University, gave the Bergen lecture at Yale University on February 1. He spoke on "Cancer—Social and Scientific Aspects."

APPLICATIONS for the positions of senior mineral economist, at $4,600 a year; mineral economist, at $3,800 a year; associate mineral economist, at $3,200 a year, and assistant mineral economist, at $2,600 a year, must be on file with the U. S. Civil Service Commission at Washington, D. C., not later than March 13. Competitors will not be required to report for examination at any place, but will be rated on the extent of their education and on the extent and quality of their experience and fitness which are relevant to the duties of the position.

ORGANIZATION of a committee of physicians and laymen to aid Yale University in the development of its program in medicine and public health was announced by Dean S. Bayne-Jones, of the School of Medicine, at a meeting of medical alumni held in the Sterling Hall of Medicine on February 23. Dr. Harvey Cushing, Sterling professor of neurology emeritus and director of studies in the history of medicine, will act as general chairman, with an executive committee composed of Dean S. Bayne-Jones, *chairman;* Fuller F. Barnes, Bristol, Conn.; William McCormick Blair, Chicago; George Parmly Day, Yale University; Thomas W. Farnam, Yale University; Dr. Norman E. Freeman, Philadelphia; Harry C. Knight, New Haven; Dr. Fred T. Murphy, Detroit; Professor C.-E. A. Winslow, Yale University, and Dr. Milton C. Winternitz, Yale University. The purpose of the committee is to aid in making better known among the alumni and friends of the university the work of Yale in medicine and public health. For the development of this work, large sums, contingent upon the receipt of further gifts, have already been pledged.

MEMBERS of a state soil conservation committee authorized at the last special session of the California State Legislature have been appointed as follows: Dean Claude B. Hutchison, of the College of Agriculture; Professor B. H. Crocheron, director of the Agricultural Extension Service, University of California, and Edward Hyatt, state engineer. Walter W. Weir, university drainage engineer, has been made secretary. It is understood that the membership of the university men on the committee is purely advisory, and that the actual administration and operation of the act will remain in the hands of the state officials. The committee is empowered to promote the formation of soil conservation districts, to investigate proposed soil conservation districts, to advise with such districts, to cooperate with the appropriate federal authorities and with individuals and corporations interested in soil conservation and to coordinate the activities of the various agencies interested in soil conservation.

THE ninth semi-annual Eastern Photoelasticity Conference will be held at Cornell University on May 13. The committee on local arrangements, of which Professor F. G. Switzer, of the College of Engineering at Cornell, is chairman, expects an attendance of approximately one hundred scientific workers in this field, both from college faculties and from the research staffs of various industries. The program of technical papers will be supplemented by an exhibit of the latest equipment for photoelastic research and demonstrations in the laboratories. A special program is being prepared for the wives of those who attend the conference.