VISITING PHYSICISTS AT CORNELL UNIVERSITY

DURING the academic year 1938–39 and summer of 1939 reports by non-resident speakers were presented at meetings of the faculty and graduate students in physics at Cornell University as follows:

September 26—*Photo-conductivity and the Theory of the Latent Image,* Professor N. F. Mott, University of Bristol.

October 20—*The Philosophical Interpretations and Misinterpretations of the Quantum Theory,* Professor Philipp Frank, German University of Prague.

November 7—*Some Metallurgical Problems from a Physicist's Point of View,* Dr. S. Dushman, General Electric Research Laboratory.

December 1—*The Separation of Isotopes by Chemical Methods,* Professor H. C. Urey, Columbia University.

January 16—*Behavior of Matter under High Pressure,* Professor Edward Teller, George Washington University.

March 6—*Design and Construction of the Large Westinghouse Electrostatic Generator,* Dr. W. E. Shoupp, Westinghouse Laboratories.

March 20—*Cloud Chamber Studies of Cosmic Rays,* Professor J. C. Street, Harvard University.

March 27—*Proton Reactions,* Professor L. A. DuBridge, University of Rochester.

May 1—*High Pressure Research,* Professor P. W. Bridgman, Harvard University.

May 15—*The Self-energy of the Electron,* Dr. V. F. Weisskopf, University of Rochester.

July 31—*Problems of the Pick-up Tube in Television,* Dr. E. G. Ramberg, Research Division, Radio Corporation of America.

August 7—*Some Significant Developments in Nuclear Physics,* Professor S. W. Barnes, University of Rochester.

AWARD OF THE WILLIAM H. NICHOLS MEDAL

THE William H. Nichols Medal of the New York Section of the American Chemical Society has been awarded for 1940 to Dr. John M. Nelson, professor of organic chemistry at Columbia University, "for important contributions to the chemistry of life processes." The official statement of the jury of award reads:

Professor Nelson is an internationally recognized authority on the isolation and purification of naturally occurring enzymes and the quantitative study of their mode of action. He is the author of seventy-five papers in scientific journals, and has devoted the major portion of his research to determining the characteristics and activities of enzymes, substances which accelerate chemical transformations in nature—carbohydrates, the organic compounds manufactured by green plants, and valence, the quality which causes elements to react.

Professor Nelson is noted as an investigator of those complex chemical substances, the enzymes, by virtue of which life processes are carried on. They are the catalysts, the lubricants for the wheels of the vital mechanism. His work has been concerned with two of these enzymes: invertase, which is typical of those involved in the digestive processes of animals and in related processes in plant life; and tyrosinase, which is typical of those involved in the respiratory process. The latter process is a reaction related to combustion by which foodstuffs and air produce heat and mechanical energy.

Since Professor Nelson undertook his research work, chemists have shown that enzymes are proteins, either simple or complex. Consequently, much of the work that he has directed has been closely related to molecules of proteins, the fundamental building blocks in nature. Until 1934, his research was actively centered on invertase, the enzyme that occurs in the small intestine of mammals and in the tissues of certain animals and plants. His many publications on the activity of invertase and on methods for preparing highly active and purified preparations established him as one of the authorities on enzymes in this country.

In 1934 Professor Nelson became interested in problems concerning the utilization of molecular oxygen in plants and animals. The investigations of several groups of workers, largely European, have shown that the use of oxygen in many respiration processes occurs through a series of reactions in which two types of enzymes function—dehydrogenases and oxidases. The action of the former enzymes has been fairly well defined, but the functions of the latter are still the subjects for extensive researches.

During the past year Professor Nelson succeeded in obtaining a crystalline protein which has characteristics similar to tyrosinase, an oxidase. The importance of this development is apparent from the fact that although thousands of enzymes are known to exist, only about ten have been crystalized in a pure form.

Professor Nelson was born in West Point, Neb., on October 19, 1876. He was graduated from the University of Nebraska in 1901, and during the next two years he was employed as chemist for the Nebraska Food Commission. During 1903–04 he was instructor in chemistry at the Rose Polytechnic Institute, Terre Haute, Ind. He received the Ph.D. degree from Columbia in 1907. In 1907–08 he was instructor in the Rensselaer Polytechnic Institute.

He joined the Columbia faculty in 1908 as tutor, becoming assistant professor in 1915, associate professor in 1916 and full professor in 1922. He has had charge of the instruction of organic chemistry in Columbia College and has directed graduate research. The medal will be presented at a dinner of the New York Section on March 8, when Professor Nelson will speak on the various phases of the research in which he has been engaged.

The Nichols Medal was founded in 1902 by the late Dr. William H. Nichols, a charter member of the American Chemical Society and chairman of the