

in physics in 1943, Dr. Cook worked at the Admiralty Signal Establishment on electrical measurements at micro-wave frequencies and returned to Cambridge in 1946 to specialize in the Department of Geodesy and Geophysics on pendulum and gravity meter surveys of the gravitational field in Britain and continental Europe. He joined the staff of the National Physical Laboratory in 1952 and has gained international renown for his outstandingly accurate determinations of fundamental quantities, in particular the density of mercury, wave-lengths of light and gravitational acceleration at Teddington, which are of basic importance in the establishment of more precise standards of measurement. During recent years his interests have extended to metrological applications of gas lasers and to the development of advanced methods and equipment for interferometric spectroscopy in the extreme ultra-violet region. He is planning, in association with the University of Trieste, a new determination of the gravitational constant, using for the experiment a torsion pendulum 80 m long suspended in a large cave near Trieste. Dr. Cook is a member of the British National Committees for Geodesy and Geophysics and for Space Research and holds official positions in the International Union of Geodesy and Geophysics and the International Astronomical Union. He has served on the Council of the Royal Astronomical Society and is joint editor of the *Geophysical Journal*. He is now being granted sabbatical leave until he takes up his new appointment and will be a Visiting Fellow at the Joint Institute for Laboratory Astrophysics at Boulder, Colorado, which is directed by the University of Colorado and the American National Bureau of Standards.

U.S. National Bureau of Standards :

Dr. W. J. Youden

DR. WILLIAM J. YOUSEN has retired from the Applied Mathematics Division at the National Bureau of Standards. Dr. Youden, who had been with the Bureau since 1948, was responsible for significant research in mathematical statistics, especially in the field of experiment design, and vigorously promoted sound understanding and increased utilization of modern statistical techniques throughout science and industry. His most outstanding achievements are in the field of combinatorial arrangements for the conduct of scientific experiments. One class of these designs, constructed for use when test conditions vary from one group of tests to another, is known as the Youden Square. He has also contributed methods for interlaboratory tests that are used in biological and medical applications as well as in the physical sciences. Before joining the Bureau staff, Dr. Youden carried out scientific and statistical research at the Boyce Thompson Institute for Plant Research, Inc. He was an instructor at the University of Rochester, and has had temporary professional appointments at Columbia University, the University of North Carolina, and the University of Chicago. Born in Australia, Dr. Youden received a B.S. in chemistry, mathematics, and engineering from the University of Rochester in 1921 and an M.A. and Ph.D. from Columbia University in 1924 in chemistry. Dr. Youden plans in the future to take up a teaching position in the College of Engineering at the George Washington University.

Dr. P. H. Verdier

DR. PETER H. VERDIER recently joined the staff of the Molecular Properties Section, Polymers Division, of the Institute for Materials Research of the National Bureau of Standards as a physical chemist. He will undertake research of the dynamics of polymer chains by means of the Monte Carlo system, and will specialize in the effects of excluded volume interactions on the motion of polymer chains. Dr. Verdier joined the Bureau from the Union Carbide Research Institute where he was engaged in

research on molecular structure and dynamics. Born in 1931 in Pasadena, California, Dr. Verdier received his B.S., with honours, in chemistry from the California Institute of Technology in 1952. In 1957 he received his Ph.D. in physical chemistry from Harvard University. He was a Research Associate in chemistry at the Massachusetts Institute of Technology during 1957-58, and a Research Fellow at Harvard during 1958-59.

Chemistry at Battersea College of Technology :

Prof. J. A. Elvidge

DR. J. A. ELVIDGE has been appointed to the second chair in the Department of Chemistry at Battersea College of Technology, the proposed University of Surrey. Educated at Haberdashers' Aske's Hampstead School (now at Elstree) and the Imperial College of Science and Technology, he graduated with honours in 1943 and gained the Hofmann Prize. As a William Gilles and then Beit Fellow, he carried out research on penicillin in a team under Sir Ian Heilbron and Dr. A. H. Cook, which gained him a London Ph.D. in 1946. Appointed lecturer at the (then) Royal Technical College, Glasgow, in 1947, he worked with Prof. F. S. Spring on gliotoxin and aspergillie acid. On returning to the Imperial College of Science and Technology in 1949, he collaborated with (then) Prof. R. P. Linstead in research on unsaturated acids and lactones, and macrocyclic compounds and intermediates, and took charge of the newly instituted third-year course for specialists in organic chemistry, which remained his major and expanding teaching interest. He was promoted to senior lecturer in 1956 and to a University readership in organic chemistry in 1962, and at this time received a London D.Sc. Dr. Elvidge's research interests include heterocyclic syntheses from malonyl chloride, reactions of nitrogen heterocycles, tetrazaporphins, metal derivatives, and applications of proton magnetic resonance to structural problems and in the determination of aromaticity. He has collaborated with chemists at the Brewing Industry Research Foundation on the structure and enolization of acylcyclopentanone products from hop resin. He is a consultant to Fisons Pest Control, Ltd., and prizes close relations with Imperial Chemical Industries Dyestuffs Division. He has been a lecturer and tutor at the recent summer schools on nuclear magnetic resonance spectroscopy organized by the Royal Institute of Chemistry. In his new post, Dr. Elvidge looks forward to introducing nuclear magnetic resonance techniques to an established research school, to further contacts with industry, and participation in the arrangements for the proposed new University at Guildford.

1965 Guggenheim International Astronautics Award :

Prof. M. V. Keldysh

THE Daniel and Florence Guggenheim International Astronautics Award for 1965 has been conferred on Prof. Mstislav V. Keldysh, of the U.S.S.R. Academy of Sciences in Moscow. Prof. Keldysh has made valuable contributions to the progress of astronautics and he is well known for his extensive research in problems of aerodynamics, fluid mechanics, rocket propulsion, and vibration theory. For several years he has been directing work on rocket propulsion and the mechanics of space flight. Prof. Keldysh has been president of the U.S.S.R. Academy of Sciences since 1961 and is also a member of the Praesidium of that Academy's Committee on Theoretical and Applied Mechanics and of the editorial boards of several scientific journals. He has received numerous awards in recognition of his achievements. He is a Corresponding Member of the Engineering Sciences Section of the International Academy of Astronautics. The Guggenheim International Astronautics Award, which is offered by the International Academy of Astronautics, carries with it a prize of 1,000 dollars.