

BRANT COUNTY MUSEUM

57 CHARLOTTE STREET
BRANTFORD, ONTARIO

N7Y 2W4

Telephone (519) 752-2453



BRANT COUNTY MUSEUM



Dr. James Hillier, Executive Vice President and Senior Scientist, of RCA, first came into prominence for his contributions to the development of the electron microscope and for his subsequent role in encouraging the growth of electron microscopy as a research technique of wide importance in biology, medicine, chemistry, and other sciences.

As Senior Scientist, Dr. Hillier acts as principal advisor on scientific matters to Edgar H. Griffiths, RCA President and Chief Executive Officer. He conducts specific analyses and studies of technical programs of interest to RCA as well as serving as RCA's principal contact with leading scientific organizations and associations both here and abroad.

Dr. Hillier is well known in the field of research management. In 1963, he was elected President of the Industrial Research Institute, an organization composed of representatives from more than 200 major companies dedicated to the improvement of industrial research and management techniques.

Between 1937 and 1940, while Dr. Hillier was a research assistant at the Department of Physics of the University of Toronto and at the Banting Institute of the University of Toronto Medical School, he and a colleague, Albert Prebus, designed and built the first successful high-resolution electron microscope in the Western Hemisphere.

Following this achievement, Dr. Hillier joined RCA in 1940 as a research physicist at Camden, N. J. Working with a group under the direction of Dr. V. K. Zworykin, television and electronics pioneer, Dr. Hillier designed the first commercial electron microscope to be made available in the United States.

Having developed the instrument in practical form, he then undertook the introduction of the electron microscope into general use as a new and powerful research tool, particularly for the biological and medical sciences. During a period of several years, he continued to develop major engineering improvements in the instrument and several new techniques of biological specimen preparation. In his quest for complementary microanalytical techniques he invented the electron microprobe.

Dr. Hillier has written more than 100 technical papers, and has been issued 41 U. S. Patents.

In 1975 Dr. Hillier received the Industrial Research Institute Medal "for exemplary leadership in the management" of RCA research laboratories and "for great sensitivity to the innovative needs of his industry."

For his pioneering contributions to the development of the electron microscope as a vital tool of medical research, Dr. Hillier received an Albert Lasker Award from the American Public Health Association in 1960. In 1967, he was elected to membership in the National Academy of Engineering for his contributions to the development of electron microscopy, and was named to the Council of the Academy in 1971.

Dr. Hillier was presented with the David Sarnoff Award of the Institute of Electrical and Electronics Engineers in 1967 "for his pioneering research on the electron microscope... and for his accomplishments as a research director and his inspiration to scientists -- young and old." In 1977 he received the Electron Microscopy Society of America's Distinguished Award "for his pioneering efforts in the development of early electron optical instrumentation on the North American continent."

Born in Brantford, Ontario, on August 22, 1915, Dr. Hillier studied at the University of Toronto, where he received the degrees of B. A. in Mathematics and Physics in 1937, M. A. in 1938, and Ph. D. in Physics in 1941.

In 1953, he was appointed Director of the Research Department of Melpar, Inc., returning to RCA a year later to become Administrative Engineer, Research and Engineering. In 1955, he was appointed Chief Engineer, RCA Industrial Electronic Products, with responsibility for directing the Corporation's engineering activities related to industrial systems, broadcast equipment, communications systems, and other major nonmilitary electronics.

In 1957 he returned to RCA Laboratories as General Manager, and a year later was elected Vice President. He was named Vice President, RCA Research and Engineering, in 1968, and Executive Vice President, Research and Engineering, in 1969, the position he held until his appointment as Executive Vice President and Senior Scientist in April 1976.

Dr. Hillier is a Fellow of the American Physical Society, the American Association for the Advancement of Science, the Institute of Electrical and Electronics Engineers, an Eminent Member of Eta Kappa Nu, a past president

of the Electron Microscope Society of America, and a member of Sigma Xi. He served on the Governing Board of the American Institute of Physics during 1964-65. He has served as a member of the Commerce Technical Advisory Board of the U. S. Department of Commerce, on the New Jersey Higher Education Committee, and as Chairman of the Advisory Council of the Department of Electrical Engineering of Princeton University. He is a member of the Advisory Council of the College of Engineering, Cornell University.

In 1975 and 1977 Dr. Hillier visited the People's Republic of China as a member of the Electronic Industries Association's (EIA) delegations.