

UNIVERSITY OF
ROCHESTER
C H E M I S T R Y

*Charles Frederick Houghton Professors
Past and Present*



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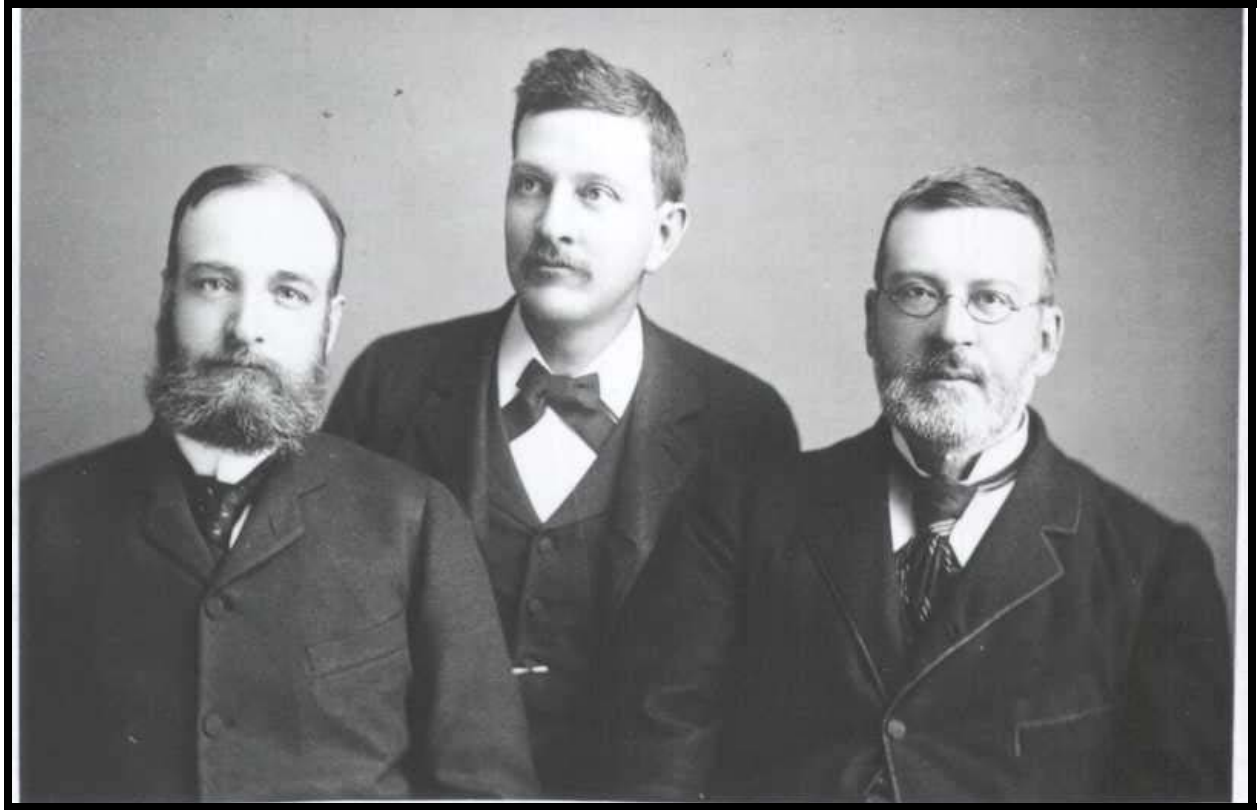
*Charles Frederick Houghton Professor of Chemistry
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The History of the Endowment:

Charles Frederick Houghton was Vice President of the Corning Glass Works and was active in government affairs in New York State and the State Assembly, as summarized in the brief biography that follows. Several years following his death on March 30, 1897, the Charles Frederick Houghton Professorship in Chemistry was established. In 1925 Mrs. Helen Vail, his widow, generously donated the funds for the Endowed Chair in memory of her late first husband. Mrs. Vail's gift was part of the Greater University Campaign conducted in 1924 with an eye towards the purchase of the River Campus and the expansion of the University of Rochester from a small school on the Prince Street campus to a great university. According to the Treasurer's Endowment Sheet at that time, it was stated "This fund is to establish a professorship in Chemistry to be always known as The Charles Frederick Houghton Professorship." Correspondence between Mrs. Vail and President Rush Rhees shows that the original amount of her endowment was \$100,000. According to an account of Mrs. Vail's gift in the *Democrat & Chronicle* (November 25, 1924) this gift was the last \$100,000 pledged of a \$10,000,000 campaign. The following is part of the account: "Mrs. Vail made her gift....out of a general feeling of friendliness for Rochester, and a particular friendliness for the University which had its beginnings in the fortuitous sequel to a brief course in quantitative and qualitative chemical analysis which she and Mr. Houghton took under the late Professor Samuel A. Lattimore in about 1883. The sequel to this brief course in chemistry....was her discovery, in experiments she and her husband conducted together of a method of coloring glass which had an important effect on the success of the business (Corning Glass)."

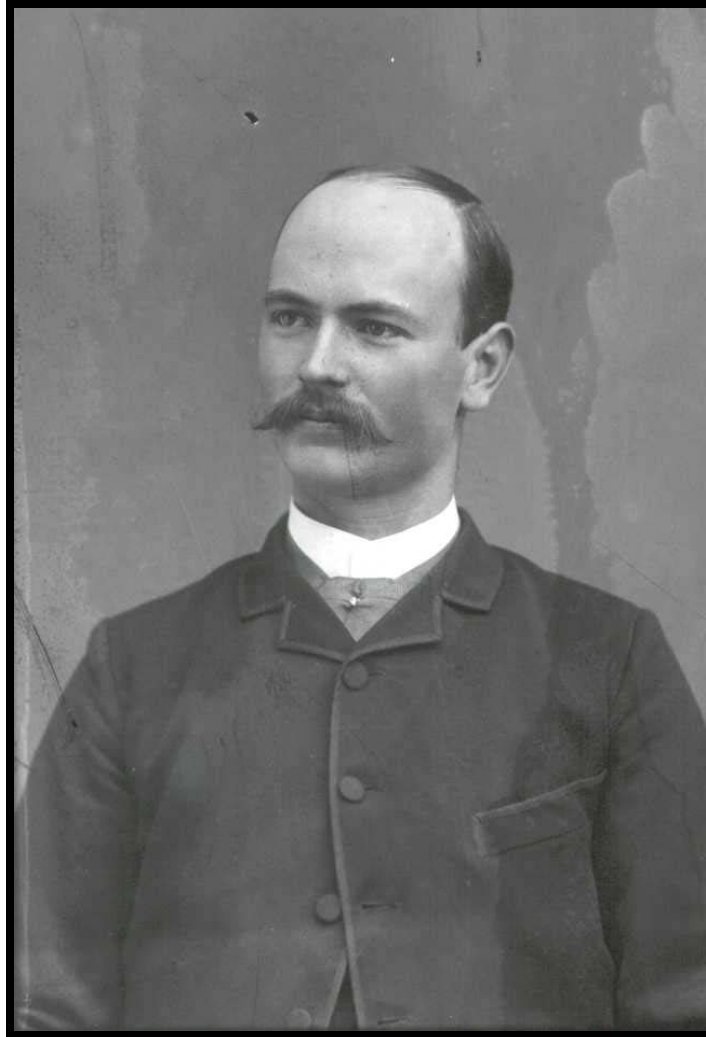
Some of the most distinguished professors in the history of the Chemistry Department have held the position of Charles F. Houghton Professor of Chemistry:

Victor John Chambers 1925-1939
W. Albert Noyes 1939-1960
D. Stanley Tarbell 1961-1967
Marshall D. Gates, Jr. 1968-1981
Andrew S. Kende 1981-present (now Emeritus)
William D. Jones 2002-present



The Brothers Houghton circa 1880

Charles F. Houghton, Alfred A. Houghton and Amory Houghton, Jr.



Charles Frederick Houghton circa 1870

Charles F. Houghton, son of the founder of Corning Glass Works, was born in Cambridge, Massachusetts on June 1, 1846. He attended public schools in Cambridge until he was fourteen, and then attended Edward Hall's boarding school in Ellington, Connecticut where he remained for three years.

His business career began in 1863 at the Union Glass Works in Somerville, Massachusetts, where under his father's direction he learned the foundation of the technical and practical knowledge of the glass business, which in later years contributed so largely to the success of the establishment located in Corning, New York.

In 1864 he moved with his father to Brooklyn, New York and was engaged in the office of the Brooklyn Flint Glass Co. In 1866 he was a clerk in the wholesale drug business in New York City, a position he held until 1869, when he moved to Corning, and was engaged in his father's business in various capacities. During the changes that occurred from 1869 until the organization of the present company in 1875, he served in all of the various departments, and thus acquired a practical knowledge of the business. He became a stockholder, and later, Vice-President. He is credited with laying the foundation for a large business in railroad signal lenses by patenting an improvement in the lens design in 1877.

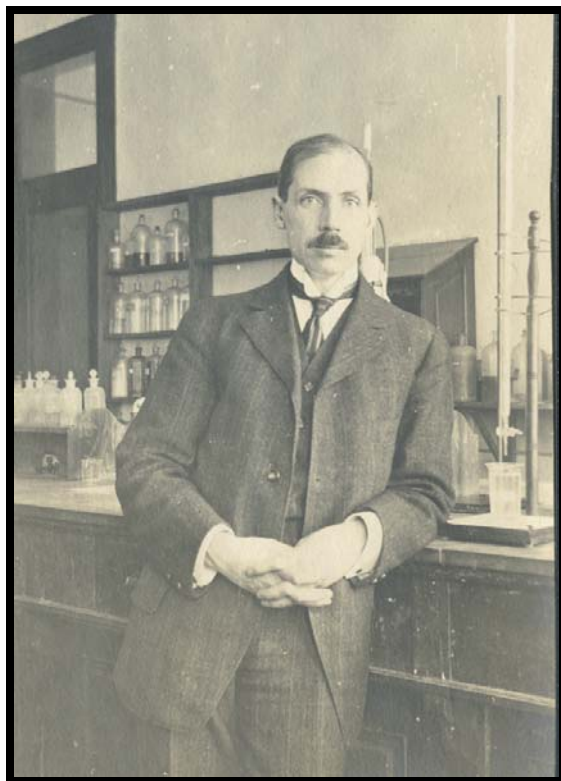
In the autumn of 1873 he was elected to the Assembly as the candidate of the Republican party of the Second District of Steuben County. This is the only public office he held but his interest in political matters continued unabated.

On July 2, 1878 he married Helen Hall, daughter of Judge Benjamin F. Hall of Auburn. They had three children. Charles was a vestryman of Christ Church. He was intensely interested in the welfare of Corning and contributed liberally to all public and charitable enterprises.



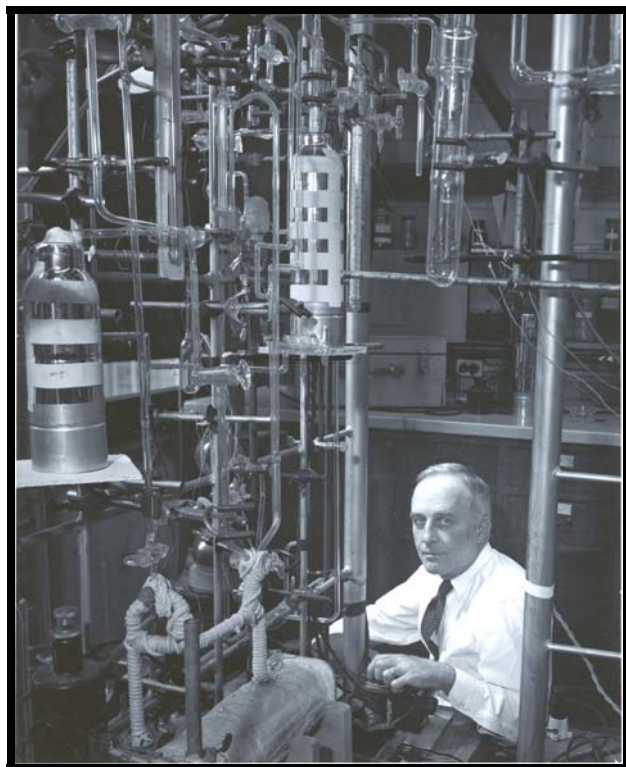
Charles Frederick Houghton circa 1890

Charles Frederick Houghton Professors of Chemistry



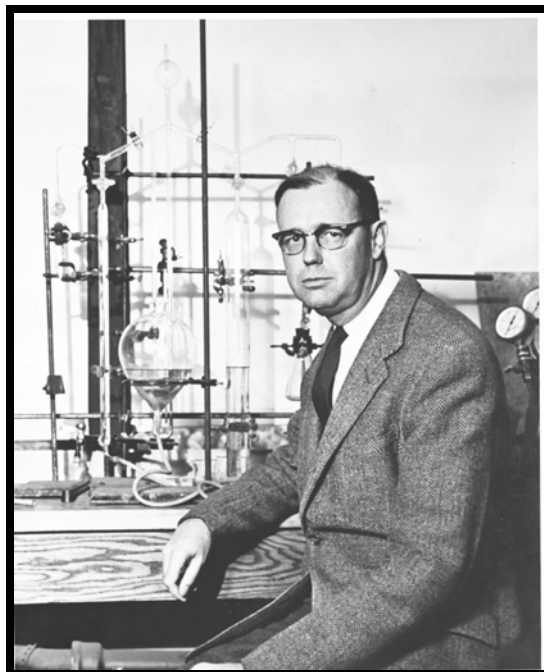
Victor John Chambers

Victor John Chambers was born in 1870. Professor Victor John Chambers, a graduate of the University of Rochester in 1895, received his Ph.D. from John Hopkins University in 1901, and accepted an appointment as Professor in the Department of Chemistry at Rochester in 1908 when there were only two faculty members in the Department. When he retired thirty two years later in 1939, the faculty of the Department of Chemistry had increased to ten members and offered twenty three courses. By then a strong department had evolved, a department which was the first at the University of Rochester to offer a doctoral degree program. In 1925, Victor J. Chambers became the first chair holder of the C. F. Houghton Endowed Professorship in Chemistry. Professor Chambers believed strongly that a good teacher must be interested in teaching and in learning new developments in his field. Professor Chambers believed that seminar meetings were a keystone of the process for stimulating intellectual growth. Therefore, it was appropriate that the Victor J. Chambers Lectureship was established to honor this early leader of the Department after his death. In addition to establishing one of the University's first doctoral programs, he promoted the introduction of other Ph.D. programs throughout the University and served as Dean of Graduate Studies, even after his retirement in 1939. Professor Chambers passed away in 1956. Chambers House, a River Campus Residence Hall was dedicated to honor his memory in 1969.



W. Albert Noyes

Professor W. Albert Noyes was a University of Rochester Chemistry faculty member from 1939 to 1963. During this time he served as Charles Frederick Houghton Professor of Chemistry, Chairman of the Chemistry Department, Dean of the Graduate School, and Dean of the College of Arts and Science. Professor Noyes was a unique individual. Not only was he a superbly gifted scientist and educator, he was also a great humanitarian and a leading figure in world scientific affairs. He held important offices in UNESCO, was President of the International Union of Pure and Applied Chemistry, and in 1947 was the President of the American Chemical Society. Professor Noyes was an internationally famous photochemist and towering figure in the University of Rochester's history. Professor Noyes's scientific accomplishments extended far beyond his own research papers. He served as editor of *Chemical Reviews*, the *Journal of Physical Chemistry*, and the *Journal of the American Chemical Society*, duties that brought national and international distinction to Rochester. Among Professor Noyes's numerous awards and honors are degrees from six universities in the United States, France, and Canada; recognition and medals from the governments of France, England, and the United States; memberships in the prestigious National Academy of Sciences and the American Academy of Arts and Sciences; and four awards from the American Chemical Society, including the Priestley Medal, the highest honor in American Chemistry. In 1965, two years after becoming Professor Emeritus, Professor Noyes was awarded an honorary Doctor of Science degree from the University of Rochester. Professor Noyes passed away on November 25, 1980.



D. Stanley Tarbell

D. Stanley Tarbell completed three degrees in chemistry at Harvard University. The author of more than two hundred scientific publications, he completed his postdoctoral work at the University of Illinois. Professor Tarbell obtained a teaching position in 1938 at the University of Rochester, where W. Albert Noyes, Jr., head of the Department of Chemistry, presented him with the challenge of building an outstanding program in organic chemistry. This he did during his distinguished career in research and teaching that spanned almost thirty years on the University of Rochester faculty. His contributions to physical organic chemistry included elucidation of addition reactions to olefins, determination of intermediates in the Claisen rearrangement of allyl aryl ethers, and quantitative comparison of the behavior of organo sulfur versus organo oxygen compounds. He discovered new categories of organic compounds, including mixed carboxylic-carbonic anhydrides, and delineated their chemistry. He established the structures of important natural products, notably those of colchicine, which arrests the process of cell division in plants and animals, and the antibiotic fumagillin, which has emerged as an inhibitor of angiogenesis. In the course of his research, Tarbell also contributed substantially to the methodology of organic synthesis. After teaching and chairing the department of chemistry at the University of Rochester for twenty-nine years, Professor Tarbell went to Vanderbilt University in 1967 under the Distinguished Professorship Program. The University of Rochester and Vanderbilt University, in turn, benefited greatly from his presence on their faculties, and he was most effective in his role as a teacher and a director of research for many students. During his tenure at Rochester, he directed seventy five doctoral students. He also established himself, along with his wife, Ann, as a biographer of chemists and historian of science. A true scholar of language as well as history, he read Latin, French, German, Classical Greek, and Arabic, and he enjoyed such reading, especially in his retirement. Professor Tarbell passed away in 1999.



Marshall D. Gates, Jr.

As a long-time member of the faculty (1949-1981), Marshall D. Gates, Jr., Houghton Professor Emeritus, was a major figure in the growth of the Department of Chemistry at the University of Rochester into a program of national prominence. Gates, a native of Michigan, received his education at Rice University (B.S. 1936) and Harvard University (A.M., Ph.D. 1941), and spent several years on the faculty of Bryn Mawr (1941-1949). During this period, Gates began studies which, with his coworker G. Tschudi, culminated in 1950 in the first laboratory preparation of morphine, a landmark achievement in chemical synthesis. This accomplishment, which brought major national and international recognition to Professor Gates and Rochester, resulted in numerous lectureships, visiting professorships, and eventually his election to the National Academy of Sciences. The full measure of Marshall Gates' contributions to the Department and science are not gauged solely by his achievements in research. Marshall Gates was truly a man for all seasons; a superb teacher and scholar recognized by the University with the Edward Peck Curtis Award for Excellence in Undergraduate Teaching (1967). He was also extremely giving of his time to his profession, serving as Assistant Editor, then Editor in Chief of the *Journal of the American Chemical Society* for the astounding period of twenty years (1949-1969). He further served his country as a member of the Committee on Problems of Drug Dependence of the National Research Council (1956-1970), and as a member of the President's Committee on the National Medal of Science (1968-1970). Most of all, Marshall was a genuinely warm human being with a zest for life, embodied in his active pursuit of many of his lifelong hobbies, which included skiing, sailing, chess, and sculling. The Department of Chemistry honored his lifelong achievements with the establishment of the Marshall D. Gates, Jr. Chair in Chemistry in October 2003. Marshall D. Gates passed away on October 1, 2003 at the age of 88.



Andrew S. Kende

During his more than fifty years as a member of the American Chemical Society, Andrew S. Kende has made significant contributions to the science of organic chemistry in its broadest sense, as well as to the organic chemistry community. His research career started under R.B. Woodward at Harvard University, where his doctoral thesis research elucidated new pathways for the reactions of aliphatic diazo compounds with ketenes and led to the first spectroscopic characterization of pure cyclopropanone (1956). During an NRC-American Cancer Society Postdoctoral Fellowship with D.H.R. Barton of Glasgow (1956-57), he demonstrated the structure of the major photoisomerization product of dehydroergosteryl acetate, an excursion into natural products which continued during his early years at Lederle Laboratories. In 1968, he accepted an appointment as Professor of Chemistry at the University of Rochester. Since that time his research program has followed two principal themes: pericyclic reactions and total synthesis. Professor Kende's research at Rochester has involved over forty five graduate students and a similar number of postdoctoral fellows, as well as undergraduates. Professor Kende's research led to a 1978 Guggenheim Fellowship and to numerous invited plenary lectures, including several Gordon Conference lectures, NSF Workshops in Natural Products Chemistry (1972 and 1974), and the International Symposium on Anthracycline Chemistry (Winnipeg, 1978), as well as plenary lectures at the Royal Society of Chemistry (Cambridge, England, July, 1983), the International Conference on Heterocyclic Chemistry (Tokyo, August, 1983), and the Medicinal Chemistry Symposium (Cambridge, England, September, 1983). In 1986, he was awarded a Japan Society for Promotion of Science Fellowship. Professor Kende also received the Arthur C. Cope Senior Scholar Award in 2003. Professor Kende was appointed Charles F. Houghton Professor of Chemistry (now Emeritus), at the University of Rochester in 1981. Professor Kende served as an associate Editor for the *Journal of Organic Chemistry* from 1997-2002.



William D. Jones

William D. Jones was born in Philadelphia, Pennsylvania, in 1953, and was inspired to work in inorganic chemistry as an undergraduate researcher with Mark S. Wrighton at Massachusetts Institute of Technology (B.S., 1975). He obtained a Ph.D. degree in chemistry at California Institute of Technology (1979), working with Robert G. Bergman and completing his final year at Berkeley. He moved to the University of Wisconsin as a NSF Postdoctoral Fellow with ACS President-elect Chuck Casey. In 1980 he accepted a position as Assistant Professor at the University of Rochester. He was promoted to Associate Professor in 1984 and Professor in 1987, and is now the Charles F. Houghton Professor of Chemistry. Professor Jones is the author of over 150 publications in scientific journals. Professor Jones' research has involved the study of transition metal organometallic compounds for the cleavage of strong carbon-element bonds, such as carbon-hydrogen, carbon-carbon, and carbon-sulfur bonds. One area that has been developed involves the discovery of complexes that can activate C-H bonds of the unreactive aromatic and aliphatic hydrocarbons found in petroleum under mild conditions. Another is the hydrodesulfurization of petroleum using complexes of nickel and rhodium, in which a simple method to remove sulfur from oil has been discovered. He has received several awards, including an Alfred P. Sloan Research Fellowship (1984), a Camille & Henry Dreyfus Foundation Teacher-Scholar Award (1985), a Royal Society Guest Research Fellowship (1988), a Fulbright-Hays Scholar (1988), a John Simon Guggenheim Fellow (1988), and the ACS Award in Organometallic Chemistry (2003). He also serves as an Associate Editor for the *Journal of American Chemical Society* beginning in 2003. Professor Jones served as the Chair of the Department of Chemistry at the University from 2000-2003.

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DEPARTMENT OF CHEMISTRY



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