



Biography of George S. Hammond

George Simms Hammond was born May 22, 1921, in Auburn, Maine, where his family owned and operated a dairy farm on the aptly named Hardscrabble Road. His father died when George was thirteen, leaving his mother with seven young children, of whom George was the oldest. George had to assume extensive responsibilities in the running of the dairy farm. Although the time, 1935, was in the middle of the Great Depression, the family survived as a unit albeit with a marginal lifestyle. For example, their home was devoid of any heating save the cooking stove—in Maine!

His college-educated parents scorned local schooling, and he was home-schooled through the sixth grade. Beginning in the seventh grade, he attended the Auburn public schools and graduated from high school in 1938. He stayed out of school for a year to continue running the farm, but the next year he matriculated at Bates College, located in Lewiston, the town next to Auburn. Had it not been for the proximity of Bates College to the family home, George would not have attended college. He continued to operate the farm with the help of a hired man and his siblings. He selected chemistry as a major because, among other appeals, he found it easy—this fact, he notes, was somehow missed by his other classmates. After graduating magna cum laude and Phi Beta Kappa from Bates College in January 1943, he took a position as a chemist at Rohm and Haas Company in Philadelphia. (By that time, the farm responsibilities were turned over to a younger brother.) In late 1943, George left Rohm and Haas to enter graduate school at Harvard University. He worked with P. D. Bartlett and received his M.S. and Ph.D. degrees from Harvard in 1947; his thesis was entitled *Inhibition of the Polymerization of Allyl Acetate*. George then moved to UCLA as a postdoctoral research fellow with Saul Winstein, where he worked on intermolecular compounds that later became known as charge-transfer complexes. In 1945, George married Marian Reese, and they produced and raised five children. In 1975, they were divorced, and George subsequently married Eve Menger, who became a guiding light in his life in many ways. Eve's two daughters

became George's stepchildren, bringing the total number of his children to seven. When George and Eve were married, at George's insistence they linked their surnames with a hyphen, although professionally they are still Eve Menger and George Hammond.

George began his independent academic career in 1948 as an Assistant Professor of Chemistry at Iowa State College (now Iowa State University). His 1955 publication on the interpretation of transition-state structures has become widely known as the Hammond Postulate and is probably the single contribution for which he is most widely known. In 1956–1957, he was a Guggenheim Fellow and National Science Foundation Senior Postdoctoral Fellow for study at Oxford and Basel. In 1958, he moved to the California Institute of Technology as Professor of Organic Chemistry. He later became the Arthur Amos Noyes Professor of Chemistry as well as Chair of the Division of Chemistry and Chemical Engineering. During his 14 years at Caltech, his research program opened up the field of organic photochemistry, undoubtedly the major volume of work for which he is best known. Although the time at Caltech was both enjoyable and fruitful, in 1972 he moved to the University of California at Santa Cruz as Professor and Vice Chancellor for Natural Science. In 1974, he became Foreign Secretary of the National Academy of Sciences and held both positions until 1978. During all these years, George made many public speeches on controversial themes, both political (e.g., the invasion of Cambodia, delivered in 1971 at a public rally on Caltech's Olive Walk) and scientific (e.g., the future of chemistry). These talks were sometimes costly (e.g., the Nixon administration removed his name from nomination for a major NSF post shortly after the Olive Walk talk). His outspoken approach earned him the appellation of Stormy Petrel, but with the benefit of hindsight, it is clear that he was right more often than not. Perhaps he was just ahead of his time. Much to the shock, and perhaps envy, of his colleagues, George left academe in 1978 and moved to Allied Chemical Corporation where he spent 10 years as a research director holding various titles, the last being Executive

Director for Bioscience, Metals, and Ceramics Research. This title evidences his characteristic breadth of interests. In 1988, George retired and started to follow his wife, Eve, first to the University of Virginia where she was Vice Provost and then to Corning, Inc., in Corning, New York, where she was a research director. In 1997, Eve retired, and she and George moved to Oregon, where they currently reside. Although they are formally retired, both are still professionally active. George has continued part-time activity as an industrial consultant and as a part-time visiting faculty member at Bowling Green State University, Georgetown University, and Portland State University. Present activities also include the Unitarian Universalist Church, helping small children to learn to read, and acting with the Hillsboro Actors Repertory Theater. His first acting experiences were in high school, but after that he did very little with the stage other than watch others act upon it. When they were in Corning, he and Eve took acting classes, which rekindled his thirst for treading the boards. For him, one of the best things about the Portland area is the theater, especially HART. During his career, George Hammond has received a number of honors in recognition of his contributions in both research and teaching. The first such award was the ACS Award in Petroleum Chemistry in 1961, followed by the James Flack Norris Award in Physical Organic Chemistry (1968), the E. Harris Harbison Award for Gifted Teaching (1971), the ACS Award in Chemical Education (1974), the Priestley Medal of the ACS (1976), and the Othmer Gold Medal of the Chemical Heritage Foundation (2003). He was elected a member of the National Academy of Sciences in 1963. He was elected a Fellow of the American Academy of Arts and Sciences in 1965 and elected a Fellow of the American

Association for the Advancement of Science in 1981. In 1994, George was awarded the National Medal of Science by President Clinton. He has been awarded six honorary doctorate degrees. George has certainly enjoyed the honors bestowed upon him, but they were never a motivating force; the sheer pleasure of doing chemistry and teaching chemistry have always been his motivating forces. George has published over 300 papers and is the coauthor of five textbooks, the best known of which was *Organic Chemistry*, coauthored with Donald J. Cram (first edition 1959). Cram and Hammond was a project first conceived when they were both postdoctoral fellows at UCLA. It has sometimes been said that the book's emphasis on reaction mechanisms revolutionized the way organic chemistry has been taught. It has also been said that Hammond is the father of organic photochemistry, which he feels is a modest exaggeration since reports of the photochemical reactions of organic compounds have appeared in the literature since the last quarter of the nineteenth century. Beyond organic photochemistry, his interests have been widely spread among the chemical sub-disciplines. During the last five years of his employment with Allied, he had the opportunity to become directly involved in materials science, a field in which he had a long-standing interest. At Bowling Green State University, he was instrumental in building an academic program in materials science. At the ACS National Meeting in San Diego in April 2001, a symposium and banquet honored George on the occasion of his 80th birthday (<http://chem.pdx.edu/~wamserc/Hammond>). George feels that he has been exceptionally blessed with the large number of talented people who have worked with him over the years.

Carl C. Wamser
Portland State University

Guest Editor