

Biographical Sketch
of
M. Frederick Hawthorne

M. Frederick Hawthorne was born August 24, 1928, in Fort Scott, Kansas and he received his elementary and secondary education in Kansas and Missouri. In 1944, Hawthorne left High School prior to graduation and through examination entered the Missouri School of Mines and Metallurgy, Rolla, Missouri as a chemical engineering student. In 1947, he transferred to Pomona College, Claremont, California and received the B.A. degree in chemistry in 1949. Hawthorne immediately commenced graduate work in organic chemistry at the University of California, Los Angeles (Ph.D. 1953). Iowa State University, Ames, Iowa then attracted Hawthorne as a postdoctoral associate (physical-organic chemistry) for a period of sixteen months. He joined the Rohm and Haas Company, Redstone Arsenal Research Division, Huntsville, Alabama in 1954 as a Senior Research Chemist. In 1956, Hawthorne launched his career in borane cluster chemistry by organizing and leading the Organometallic Chemistry Group at Rohm and Haas, Redstone. While on leave of absence from Rohm and Haas in Fall 1960, he served as a Visiting Lecturer in physical-organic chemistry at Harvard University, Cambridge, Massachusetts. During 1961, Hawthorne served as a Laboratory Head at the Rohm and Haas Co., Philadelphia, Pennsylvania and in 1962, he became a full Professor at the University of California, Riverside. He transferred to his present position at the Los Angeles campus in 1969. In 1998 he was appointed University Professor, the most distinguished title bestowed upon faculty by the Regents of the University of California. Hawthorne joins nineteen colleagues sharing this title University-wide.

Hawthorne is the author or co-author of more than 475 research papers, 26 patents and 9 book chapters that reflect the joint efforts of approximately 150 Ph.D. students and postdoctoral associates and 11 Ph.D. coworkers at Rohm and Haas, Redstone. His students and postdoctoral associates represent 21 different countries and 35 of them now occupy academic positions. One of them was a space shuttle astronaut; Anna Lee Fisher (nee Sims), M.S. (chemistry), M.D.

Hawthorne's research work has been internationally recognized and widely honored. In 1963, he was awarded an Alfred P. Sloan Research Fellowship and in 1968, he was presented the Chancellor's Award for Research at the University of California, Riverside. Hawthorne received the UCLA McCoy Award for Contributions to Chemistry in 1972, and the American Chemical

Society Award in Inorganic Chemistry in 1973. In 1973, he was elected to membership in the U.S. National Academy of Sciences at the age of 44. Pomona College awarded Hawthorne an Honorary Sc.D. degree in 1974 and he was elected a member of the American Academy of Arts and Sciences in 1975. The Cosmos Club, Washington, D.C., elected Hawthorne to membership in 1976. In 1980, he was elected a Fellow in the American Association for the Advancement of Science. The U. S. Air Force presented Hawthorne the Meritorious Civilian Service Medal in 1986 and he received the Richard C. Tolman Medal Award of the Southern California Section of the American Chemical Society that same year. He was a Fellow of the Japan Society for the Promotion of Science in 1986, and lectured throughout Japan. In recognition of his seminal contributions to borane cluster chemistry Hawthorne was the first recipient of the Boron USA Award for Distinguished Achievements in Boron Chemistry in 1988. In 1988, he was the recipient of the American Chemical Society Award for Distinguished Service in the Advancement of Inorganic Chemistry. In 1990, Hawthorne became the recipient of an Alexander von Humboldt Foundation Award for Senior U.S. Scientists. In addition, The Ohio State University appointed Hawthorne Distinguished Visiting Professor during the autumn of 1990. He received the Bailar Medal for Achievement in Inorganic Chemistry in 1991. In 1992, Hawthorne was awarded the Ph.D., *honoris causa*, by Uppsala University, Uppsala, Sweden. He was the recipient of the 1993 Polyhedron Medal and Prize for Creativity in Inorganic and Organometallic Chemistry. In 1994, he was selected for a Chemical Pioneer Award of the American Institute of Chemists and he was the 1994 recipient of the Willard Gibbs Medal presented by the Chicago Section of the American Chemical Society. Hawthorne was elected a Corresponding Member of the Göttingen Academy of Sciences in 1995. Hawthorne was the first recipient of the Award for Polyhedral Borane Chemistry presented by the IMEBORON International Committee on Boron Chemistry in 1996. In 1997 he was the recipient of the U.S. National Academy of Sciences Award in Chemical Sciences and the Seaborg Medal presented by the UCLA Association of Chemists and Biochemists. The Royal Society of Chemistry recognized Hawthorne with a Centenary Lectureship in 1998. In 2000 he was awarded the Basolo Medal for 2001.

Over the years Hawthorne has presented many named and endowed lectures as well as plenary lectures at national and international meetings. Examples include: a Visiting Lectureship at Queen Mary College, the University of London in Fall 1963; The DuPont Lecture at the University of South Carolina and Horizons in Organometallic Chemistry Plenary Lecture at

the New York Academy of Sciences in 1973; Plenary Lecturer at the Second International (IUPAC) Conference on Boron Chemistry, Leeds, England, 1974; Venerable Lecturer at the University of North Carolina and Reilly Lecturer at the University of Notre Dame in 1974; Frontiers in Chemistry Lecturer at Wayne State University in 1975; Plenary Lecturer at the New York Academy of Sciences, 1976; Plenary Lecturer at the Marvel Symposium, the University of Arizona, 1977; Plenary Lecturer at the Second International Symposium on Inorganic Ring Systems, Göttingen, FRG, 1978; Plenary Lecturer, International Conference on Inorganic Chemistry, the University of Bielefeld, FRG, 1980; Plenary Lecturer, International Conference on Platinum Group Metals, the University of Bristol, England, 1981; Plenary Lecturer, Second China-Japan-USA Inorganic and Organometallic Chemistry Symposium, Shanghai, PRC, 1982; Section Lecturer, Twenty-Ninth IUPAC Meeting, Cologne, FRG, 1983; Co-Chairman and Lecturer, Third China-Japan-USA Symposium on Organometallic Chemistry and Catalysis, The University of California, Santa Cruz, 1984; Castle Lecturer, University of South Florida, 1986; Plenary Lecturer, Fifth International Symposium on Inorganic Ring Systems, The University of Massachusetts, 1988; M^cElvain Lecturer, The University of Wisconsin, Madison, Wisconsin, 1989; Plenary Lecturer, Seventh International Meeting on Boron Chemistry (IMEBORON VII), Nicolaus Copernicus University, Torun, Poland, 1990; and Eighth such meeting (IMEBORON VIII), the University of Tennessee, Knoxville, Tennessee, 1993; the Bailar Medalist Lectures, The University of Illinois, Urbana, 1991; and the Gooch-Stephens Lectures at Baylor University in 1992. In addition, he has lectured at numerous Gordon Research Conferences in Organic and Inorganic Chemistry and in 1974, he chaired the Gordon Research Conference in Inorganic Chemistry. Most recently he presented an invited lecture at the 1993 Gordon Research Conference in Inorganic Chemistry and in 1994, a Plenary Lecture in Chemistry at the Sixth International Symposium on Neutron Capture Therapy for Cancer, Kobe, Japan, as well as an invited lecture at the Seventh International Symposium on Inorganic Ring Systems, Banff, Canada. In early 1995, Hawthorne served as a Robert A. Welch Foundation lecturer throughout the state of Texas. The University of California, Los Angeles, has honored him by selecting him as 1995 Faculty Research Lecturer. In 1996, he was the Boomer Lecturer at the University of Alberta, Edmonton and a Plenary Lecturer in the International Meeting on Boron Chemistry (IMEBORON IX), Heidelberg University. He presented the Swift Lecture at the California Institute of Technology, the Fishel Lecture at Vanderbilt University and the Seaborg Medal Lecture at UCLA in 1997. He lectured in the Frontiers in Chemistry Symposium Celebrating the

50th Anniversary of the State of Israel in 1998. Also in 1998 he was the Centenary Lecturer of the Royal Society of Chemistry and an invited speaker at the 1998 Gordon Research Conference on Organometallic Chemistry held in Newport, Rhode Island. He was an invited speaker at the 1999 International Meeting on Boron Chemistry (IMEBORON X), Durham University and the symposium on Organic and Inorganic Synthesis via Boranes given at the 218th Meeting of the American Chemical Society, New Orleans, Louisiana.

Hawthorne has served and continues to serve on many boards and committees associated with the U.S. National Academy of Sciences and its National Research Council. Hawthorne was a Member of the Review Panel on U.S.-Soviet Scientific Exchange (National Academy of Sciences) and a co-author of the Kaysen Panel Report (Chemistry Section), 1975-76. He also served as the Chemistry Member of the Board on International Scientific Exchange (National Academy of Sciences), 1975-78. In addition, he has served (1980-86) as one of two chemist members of the U. S. Air Force Scientific Advisory Board, Office of the Secretary of the Air Force. He is a former member of the National Academy of Sciences Board of Army Science and Technology and under these auspices chaired an oversight panel concerned with the conduct of Chemical Defense Research at the U. S. Army Chemical Research, Development and Engineering Center during 1985-89. He also served as a consultant to the Defense Science Board Task Force Study on the Detection and Neutralization of Illegal Drugs and Terrorist Devices in 1987-88. In 1991-92, Hawthorne served on the Director's External Advisory Board, The Los Alamos National Laboratory. Hawthorne serves as a member of the Executive Committee of the International Society for Neutron Capture Therapy (1992-98). He served as President of this Society for the period 1996-98 and he presided at the Eighth International Symposium of this Society held in La Jolla, California, September 12-18, 1998.

In 1966, Hawthorne was appointed Associate Editor of *Inorganic Chemistry* with Professor Edward L. King as Editor. In 1969, Hawthorne became Editor-in-Chief and he has been re-appointed through 2000. His many years of service as Editor has seen *Inorganic Chemistry* grow into a biweekly publication with an unsurpassed international reputation. He also serves on the Editorial Advisory Boards of *Bioconjugate Chemistry* and the *Bulletin of the Chemical Society of Japan*.

He is married to Diana Baker Razaia who is active in philanthropic organizations.