IN MEMORIAM

Herbert David Kaesz
Professor of Chemistry, Emeritus
UC Los Angeles
1933-2012

Herbert David Kaesz, a remarkable and eminent organometallic and inorganic chemist, passed away on February 26, 2012 in Los Angeles at the age of 79 after a brief battle with cancer.

A UCLA faculty member for his entire career, Kaesz was a major force in the development of metal cluster and hydrido metal complexes, a class of organometallic compounds with metal- carbon bonds that bridge traditional inorganic and organic chemistry. Kaesz's group reported the first technetium carbonyl compounds in 1961, less than a year after he joined UCLA faculty in August 1960. This work led to a rich and renowned career exploring fundamental chemistry of metal cluster and hydrido metal complexes and their applications in catalysis and advanced materials. His group developed synthetic pathways to the hydrido metal cluster compounds and activation of their coordinated carbonyl ligands – a critical step in catalysis and synthesis of organic compounds. In 1990 Herb, along with Duward Shriver and Richard Adams, published "The Chemistry of Metal Cluster Complexes" which remains the premier reference text on the topic. In Herb's later research career, he focused on chemical vapor deposition of metal and alloy films. His group successfully developed processes to make thin metal and alloys films for use in microelectronic devices.

Herbert Kaesz was born in Alexandria, Egypt on January 4, 1933 to Austrian parents who were there to run a family business branch. Herb's father, Stefan Kaesz, received his Ph.D. in chemistry from the University of Vienna in 1921 under the mentorship of Wilhelm Schlenk. Schlenk, one of the most talented chemists of the first third of the 20th century, is well known to chemists for his seminal work in radical and organoalkali-metal chemistries and for his invention of so- called Schlenk glassware to handle air- sensitive compounds. Herb and his father shared a common passion for chemistry and science although Herb's father had to give up a career in academics in order to help run the family optical business that had manufacturing plants throughout Europe. When Herb was 7 years old, the family that included also his two younger siblings, brother Eric and sister Doris, immigrated to the U.S. and settled in New York City. Herb received an A.B. degree from New York University in 1954, and went to Harvard University for graduate studies, receiving his Ph.D. in 1959 under the mentorship of Francis Gordon Albert Stone. At Harvard, Herb, fellow student R. Bruce King, and Stone discovered for the first time the interconversion of two forms of allyl ligands in metal compounds. The interconversions are now a well- known feature of allyl compounds. Herb was then offered a faculty position at UCLA where he joined in August 1960 as a member of the inorganic chemistry division. Also at Harvard, Herb met his wife and life companion of 51 years, Joan, who was at the time secretary to Prof. Eugene Rochow in the chemistry department. They were married in Marblehead, Massachusetts in November 1958 upon Herb's completion of his Ph.D work. They drove cross- country for Herb to take up his position at UCLA in 1960 while Joan was pregnant with their first child. In 1970, Joan was hired by the American Chemical Society and became Herb's secretary throughout his 30- year tenure as Associate Editor of Inorganic Chemistry.

For more than forty years, Herb was a distinguished scholar and dedicated teacher, mentoring hundreds of undergraduate and graduate students and postdoctoral fellows, while devoting himself enthusiastically to services to the university and chemistry communities. His academic career established him as a prominent

scientist in organometallic chemistry. Herb's earlier research demonstrated that mononuclear metal carbonyl compounds may be inherently unstable, undergoing trimerization to form metal clusters. His group developed a direct and easy route to hydrido metal cluster compounds, permitting the high yield syntheses of this class of compounds. This elegant discovery made it possible to undertake the systematic study of the spectroscopic properties and reactivities of these compounds. Herb was also a leader in the new field of materials chemistry and the vapor deposition of metallic films from organometallic precursors. His group developed processes to make thin films of, e.g., platinum, palladium, titanium, a nickel alloy of titanium, and gallium alloys of transition metals. Herb published about 150 papers from his research at UCLA on the discoveries of new organometallic compounds – Their syntheses, characterization, structures, and applications in catalysis and advanced materials. Herb and his colleagues received ten patents for their inventions. He retired in 2003 but remained an active emeritus professor until his death.

Herb's teaching at UCLA. Herb was also a dedicated teacher and mentor. Since his retirement in 2003, he developed and taught "Serendipity in Science," a popular seminar for non- majors.

Herb performed much vital service for the chemistry community over his lifetime. He was Chair of the American Chemical Society Division of Inorganic Chemistry and the Commission on the Nomenclature of Inorganic Chemistry of the International Union of Pure and Applied Chemistry. In the latter role in the international organization, he participated in the naming of the new chemical element Seaborgium. Herb served as Associate Editor of Inorganic Chemistry for 31 years from 1969 to 2001, and devoted much of his time to the journal. This was his greatest service to the chemistry community. In the words of Richard Eisenberg, Editor- in- Chief of the journal in 2012, "Anyone who published in the journal during that time knew Herb. He was the person on whom the Editor, Fred Hawthorne, depended and the go- to person when something was needed." Herb was president of the Inorganic Syntheses Organization, publishing the Inorganic Syntheses series, and he served as editor of volume 26.

Services to the UCLA Chemistry and broader community. Herb received many honors over his career. He was elected a Fellow of the American Association for the Advancement of Science in 1981. In 1988 he received a Senior U.S. Scientist Award from the German Alexander von Humboldt Foundation. In 1998 Herb received the American Chemical Society Award for Distinguished Service in the Advancement of Inorganic Chemistry, one of the society's highest honors. In 2009 he was elected an American Chemical Society Fellow in its inaugural class in recognition of his "outstanding achievements in and contributions to science, the profession, and the society."

Apart from science, Herb was also passionate and very knowledgeable on many other topics, including music, art, history, literature, foreign cultures, languages, and movies. He actively participated in the "Science in the Cinema- Los Angeles" program, featuring films with science themes. His hobbies included woodworking and hiking. Herb was also enthusiastic and curious about everyone he met, and all his life he enjoyed getting to know people from different cultures and learning about different customs. Every time he traveled to a foreign country, he would return speaking phrases from the language and playing traditional music from the culture.

Herb will be remembered for his intellect, warmth, energy, openness, sense of humor, and generosity, especially to international students, postdocs and visiting scholars. Many who have worked with him treasure the memory of their times with him and his wife Joan, whether it was on a group hike in the backyard hills of the Santa Monica Mountains where they had their home since 1973 or at one of the many international conferences Herb participated in that Joan was able to travel to as well once their children had grown up. Herb was a beloved father to Michael, Judy and Susan and doting grandfather to Michael's son Dylan and Judy's children Erin and James.

Ziling (Ben) Xue, University of Tennessee