



Herbert D. Kaesz

Herbert D. Kaesz (1933–2012)

Herb Kaesz, Professor Emeritus at the University of California, Los Angeles (UCLA) and 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.

Herb was born in Alexandria, Egypt on January 4, 1933 to Austrian parents who were there to run a family business branch. When he was seven years old, the family 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 under the mentorship of Gordon Stone. At Harvard, he, fellow student Bruce King, and Stone discovered for the first time the η^1 - and η^3 -allyl interconversion in the synthesis of $[\text{Mn}(\eta^1\text{-CH}_2\text{CH=CH}_2)(\text{CO})_5]$ and $[\text{Mn}(\eta^3\text{-CH}_2\text{CH=CH}_2)(\text{CO})_4]$. The η^1 - and η^3 -interconversions are now a well-known feature of allyl complexes. Herb also studied main-group compounds. He received his Ph.D. in 1959.

Herb was then offered a faculty position at UCLA where he joined in August 1960. His interest quickly turned to the synthesis of $[\text{Tc}_2(\text{CO})_{10}]$. His words in the paper reporting it were: “[*This complex*] fills in the last missing member of the manganese sub-group metal carbonyls, which had been more elusive to obtain than those of the neighboring groups”. At the time, the US government had initiated the “Atoms for Peace” program to facilitate studies of radioactive elements. Herb and visiting professor J. Hileman received a gram of $[(\text{NH}_4)\text{TcO}_4]$ from Oak Ridge National Laboratory in Tennessee and converted it into $[\text{Tc}_2(\text{CO})_{10}]$. As Herb reminisced in an article in the magazine of the American Chemical Society (ACS) Southern California Section in 2008:

“In recognition of the pioneering work on dirhenium decacarbonyl, we sent Prof. W. Hieber at [now] the Technical University Munich, Germany, a preprint at the same time that we submitted our communication also co-authored by D. K. Huggins to the Journal of the American Chemical Society (Vol. 83 (1961), p. 2953). Prof. Hieber was also working on the synthesis of $[\text{Tc}_2(\text{CO})_{10}]$ with C. Herget, but only in trace amounts, and eventually reported his results in Angew. Chemie (Vol. 73 (1961), p. 579), citing our earlier report.”

“From this exchange of professional courtesies, Prof. Hieber was prompted to recommend to his students as well as to those of Prof. E. O. Fischer to come to UCLA for postdoctoral studies. In this

group were Drs. G. Buerger, B. Deubzer, W. Fellmann, H. Brunner, A. Maasboel, C. G. Kreiter and R. Aumann. The latter three were co-sponsored by my eminent colleague at UCLA, the late S. Winstein. The outstanding work of the above-named collaborators undoubtedly helped me to achieve tenure at UCLA.”

Herb was a major force in the development of hydrido metal complexes. His group prepared $[\text{HTc}(\text{CO})_5]$ and found that it lost CO to give the trimer $[\text{H}_3\text{Tc}_3(\text{CO})_{12}]$. This led to their pursuit of the rich chemistry of hydrido clusters, including $[\text{H}_4\text{Re}_4(\text{CO})_{12}]$, $[\text{H}_4\text{Ru}_4(\text{CO})_{12}]$, and $[\text{H}_2\text{Os}_3(\text{CO})_{10}]$. In the process, they discovered a direct route to the clusters by refluxing carbonyl complexes under a H_2 flow; this work has been extensively cited. His group also developed nucleophilic activation of coordinated CO ligands under mild conditions. In 1990, Herb, Duward Shriver, and Richard Adams published “The Chemistry of Metal Cluster Complexes”, which remains the premier reference text on the topic.

In the late 1980s, Herb turned his attention to chemical vapor deposition of metal and alloy films for electronic applications. The initial entry into the field was the use of H_2 as a reagent to give Pt thin films from $[(\eta^5\text{-C}_5\text{H}_4\text{R})\text{PtMe}_3]$ ($\text{R} = \text{H}, \text{Me}$). The use of mixed-metal complexes such as $[(\text{CO})_4\text{CoGaCl}_2(\text{thf})]$ yielded CoGa films.

I started my graduate studies at UCLA in 1984. At the time, I was not sure what area of chemistry to pursue. Herb convinced me that I would enjoy organometallic chemistry. I am particularly saddened by his passing and the realization that Herb, a mentor, advisor, friend, and colleague, is no longer around to talk to.

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 important service over his lifetime. He was Chair of the ACS Division of Inorganic Chemistry and the IUPAC Commission on the Nomenclature of Inorganic Chemistry. In the latter role, he participated in the naming of the 106th 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 community. Herb was president of the Inorganic Syntheses Organization, publishing the *Inorganic Syntheses* series, and he served as editor of volume 26.

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 Alexander von Humboldt Foundation. In 1998 Herb received the ACS Award for Distinguished

Service in the Advancement of Inorganic Chemistry. In 2009 he was elected an ACS 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 will be remembered for his intellect, warmth, energy, openness, sense of humor, and generosity, especially to international students,

postdocs and visiting scholars. I treasure the memories of my times with him and his wife Joan. Joan helped Herb in his work for *Inorganic Chemistry*, and they were happily married for 51 years until her passing in 2010. Herb is survived by daughters Judy Kaesz Murray and Susan Kaesz and grandchildren Dylan Kaesz, Erin Murray, and James Murray.

Zi-Ling Xue

University of Tennessee, Knoxville

DOI: 10.1002/anie.201204036