

Kurt Dehnicke (1931–2011)

Kurt Dehnicke, emeritus Professor of inorganic chemistry at the University of Marburg, died on January 16, 2011 at the age of 79.

Kurt Dehnicke was born on April 22, 1931 in Cologne. In 1932 his family moved to Leipzig, where he completed his secondary education with his *Abitur* in 1949. After working as a laboratory assistant in the lignite works in Bohlen for one year, Dehnicke was granted permission to begin his chemistry studies in 1950 in Leipzig, which he completed with his *Diplom* in 1954 under the guidance of Leopold Wolf. He fled to the former West Germany in 1955 for political reasons and completed his doctoral degree on boron chemistry in 1957 under the supervision of Josef Goubeau at the University of Stuttgart. In 1965 he completed his *Habilitation* on “Investigations into Compounds Containing Electropositive Chlorine”, and in 1967 he was offered a chair for inorganic chemistry at the University of Marburg. There, in 1970/71, he was the last dean of the Faculty of Mathematics and Science and thereafter the first dean of the newly founded Department of Chemistry in 1971/72 (and again in 1989/90).

Quality and the promotion of inorganic chemistry were very important to Kurt Dehnicke; he was very active as a referee for the German Research Foundation (DFG; 1988–1992) and as co-editor of the *Zeitschrift für anorganische und allgemeine Chemie* (ZAAC; 1997–2007). Kurt Dehnicke published a large number of outstanding papers in ZAAC throughout his scientific career, including his first independent scientific publication, which was on tin(IV) oxychloride.^[1]

Kurt Dehnicke was known internationally for his unorthodox thrusts into uncharted scientific territory and his creative and experimentally challenging research on main-group and transition-metal elements. His syntheses often took paths that most chemists feared to tread. These paths were often not without risk and were often dangerous, but they were very successful; following in the footsteps of his mentor Goubeau, Dehnicke often used vibrational spectroscopy in the elucidation of structure and bonding.^[2] Many of the results described in the more than 820 papers and reviews that he published have had an enduring influence on inorganic chemistry and are now textbook knowledge. These efforts were honored in 1989 with the Wilhelm Klemm Prize of the German Chemical Society (GDCh).

Preparative access to explosive key compounds, such as dichlorine monoxide or halogen azides,^[3] permitted the synthesis of oxyhalides^[4] and azides of transition metals and main-group elements.^[5] A further preparative coup was the synthesis of

MNCl₃ (M = Mo, W) with a metal–nitrogen triple bond in 1965,^[6] which formed the basis of the DFG program “Nitrido Bridges” that Kurt Dehnicke initiated and led (1995/96).^[7–9] Kurt Dehnicke’s preference for particular elements could be seen in the development of inorganic complex chemistry (for example with Re, Os, Mo, W) of small, reactive, and multiatom species with bonding situations that are interesting from a theoretical viewpoint, such as nitrosyl, thionitrosyl, chloro- and bromothionitrenes, and dichloroselenonitrenes,^[10] or phosphinimato complexes of main-group elements, transition metals,^[11,12] and rare-earth metals.^[13] Further remarkable results were the preparation of triazyl chloride and tetraselenium tetranitride as well as comprehensive and groundbreaking work on new anionic chains, such as [Se_n]^{2–} (*n* = 5–6) and bicyclic polyselenides [Se_n]^{2–} (*n* = 10, 14). After reaching emeritus status in 1999, Kurt Dehnicke fulfilled his longstanding desire to work in the laboratory again. His work on the chemistry of beryllium caused a sensation in the scientific community. After the first publication on chloroberyllates in 2003,^[14] almost 30 further publications followed.^[15]

For many years, Kurt Dehnicke was very successfully and enthusiastically involved in academic teaching. He gave unforgettable experimental lectures with didactically well-chosen and spectacular demonstrations, which infected the audience with his enthusiasm for chemistry. Two videos on beryllium chemistry (2009)^[16,17] show Kurt Dehnicke doing what he loved best, namely passing on knowledge and experimenting.

These goals were followed by Kurt Dehnicke as initiator and “godfather” of the *Chemikum*,^[18] which he led for a year from 2005 and assisted in a guiding role thereafter. His lasting services to the university town of Marburg, to which he introduced the idea and the concept of the *Chemikum*, were honored when he was awarded the historical seal of the city Marburg on November 30, 2010.

Kurt Dehnicke made an outstanding impression on inorganic chemistry in Germany, both through his scientific work and his extraordinary personality. He was sometimes feared at conferences because of his direct, perplexing questions, which were usually combined with a profound humor, although chemistry was always what it was about. It was important to him to act not just with his mind but with his heart, because “then you have the strength to succeed in difficult projects and to inspire people”.

Kurt Dehnicke always applied himself where he felt there was a need. For example, he was instrumental in the reestablishment of the University of Leipzig from 1989. His efforts were rewarded in 1996 with an honorary doctorate from the University of Leipzig.



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Kurt Dehnicke was a very modest person and shunned all efforts to acclaim him. He endured his illness in the final year with an admirable degree of discipline. We have lost an enthusiastic and inspiring scientist, lecturer, mentor, colleague, and friend. He remains unforgotten for his legacy and his achievements.

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