

IN MEMORIAM

Hans Nowotny (1911–1996)

Hans Nowotny was born on September 27th, 1911, in Linz/Donau, Austria. After a distinguished undergraduate career at the Technical University in Vienna (Diplom Ingenieur, 1933), he was awarded the Ph.D. (Doktor der Technischen Wissenschaften, 1934), completing his thesis at the Institute of Physical Chemistry directed by Professor Franz Halla. After a period of two years as Privatdozent with Professor Halla, Nowotny followed an offer of Professor Ludwig Ebert to the Institute of Physical Chemistry at the Technical University in Karlsruhe, Germany. In 1941–1945 we find Nowotny as a scientist at the Kaiser-Wilhelm-Institut für Metallforschung (later the Max-Planck-Institut) in Stuttgart, Germany. In 1947 Nowotny accepted the Extraordinary Professorship at the First Chemical Laboratory of the University of Vienna, and it was not later than 1952 when Nowotny was made Ordinary Professor and head of the Institute of Physical Chemistry of the Technical University in Vienna. After the death of Ludwig Ebert in 1958, Nowotny returned to the First Chemistry Laboratory of the University of Vienna as Ordinary Professor and head of the Institute, which soon changed its name to the present Institut für Physikalische Chemie. From this institute Nowotny retired as emeritus in 1977, continuing his scientific activities in his beloved rural home at Steinbach/Lower Austria, interrupted by frequent appointments as a visiting professor and teacher at the University of Storrs, Connecticut.

Nowotny's more than 500 scientific contributions reveal important innovations and progress over more than 50 years of solid state chemistry, in which he was one of the first explorers. The major part of his scientific work continued to be devoted to structural chemical problems in the solid state, with particular emphasis on high melting compounds. His interest was always in the correlations between crystal structures and the origin of their stability. The search for these correlations led to the synthesis of a vast number of new compounds in almost all areas of solid state chemistry: binary, ternary, and higher order intermetallics, borides, carbides, silicides, nitrides, silicates, and germanates are among the many systems examined with some classes of compounds named ever since *Nowotny phases*. In particular, Nowotny recognized that the large groups of complex carbides and nitrides form closely related series of compounds, but his special interest was in the metal silicides and related compounds, which obey a new structural principle and bear his name—the *Nowotny chimney ladder structures*. He often pursued metallurgical problems of great importance, the solutions of which led to the development of useful novel materials and optimized production processes.

The international community of scientists has always highly respected Nowotny's scientific endeavours, honoring him with numerous awards and recognitions:

- 1959 Direct member of the Austrian Academy of Sciences
- 1960 Lavoisier Medal of the Société Chimique de France
- 1962 Foreign member of the Academy of Sciences (Math. Naturwiss. Klasse), Göttingen, Germany
- 1963 Member of the German Academy of Natural Scientists, Halle
- 1964 Medal of the Université Libre de Bruxelles
- 1965 Honorary member of the Hungarian Academy of Sciences

- 1965 Dr. mont. h.c. of the Montanuniversität, Leoben, Austria
- 1967 Lebeau Medal of Commission de Chimie des Hautes Temperatures, CNRS, France
- 1968 Erwin Schrödinger award of the Austrian Academy of Sciences
- 1969 Exner medal of the Österr.Gewerbeverein (Association of Austrian Entrepreneurs)
- 1972 Loschmidt medal of the Austrian Association of Chemists
- 1978 Austrian Medal of Honor for Science and Arts;
Member of the Connecticut Academy of Science and Engineering
- 1980 Golden medal of honor of the City of Vienna
- 1984 Award for Science and Education of the City of Vienna
- 1985 Golden Anniversary of his Ph.D. of the Technical University of Vienna
- 1987 Heyn medal of the German Association for Metals

As a university teacher and visiting professor in Berkeley, California; Ohio State; Urbana, Illinois; Oregon Graduate Center; Amsterdam; Karlsruhe; Münster, Westfalia; Sorbonne, Paris; and finally Storrs, Connecticut, Nowotny inspired many young chemists and physicists to become enthusiastic scientists in many cases with successful university careers.

Besides Nowotny's determined character in science, we find him a charming and humorous person in private life. This combination of charm and respect was best portrayed when, during his appointment as a visiting professor at the Oregon Graduate Center for Study and Research, colleagues, staff, and students kindly addressed him as Professor Hans.

His scientific activity was suddenly terminated by a stroke in 1992 that deprived him of the opportunity to finish and publish his latest work on the systematics in intermetallic and refractory compounds. Hans Nowotny died peacefully after a long illness on October 5th, 1996. The scientific world has lost a dear friend and colleague.

Peter Rogl
Guest Editor