

V. Ramamurthy thanks J. Cornelisse for the write-up and a photo of E. Havinga.

OBITUARY
Egbert Havinga, 1909 - 1988

Egbertus Havinga, Emeritus Professor of Organic Chemistry at Leiden University, The Netherlands, died on November 22, 1988, at his home in Wassenaar.

Born in 1909 in Amersfoort, The Netherlands, Egbert Havinga received his academic education from Utrecht University where he specialized in organic chemistry (with F. Kögl) and theoretical physics (with H.A. Kramers). In 1939 he completed his Ph.D. studies under the guidance of Kögl with a thesis on: "Monolayers: Structure and Chemical Reactions". Also in 1939 he married Louise Oversluys, his partner for life, to whose love and support Egbert attributed much of his success in science and happiness in life.

In 1946, after having served at the Veterinary Faculty at Utrecht (Laboratory of Medicinal Chemistry), he accepted an offer from the University of Leiden to become full professor of Organic Chemistry and director of the laboratory of organic chemistry. Although in the years to follow he received a number of attractive invitations to move over to industrial research he preferred the academic setting and stayed at Leiden University until his retirement from the Chair in 1979. Still being healthy and energetic he continued to enjoy life and chemistry. Until the last few months Egbert Havinga actively participated in national and international scientific meetings. In the intervals he visited the laboratory almost daily and enthusiastically took part in research discussions and seminars. Even in the last few weeks he wanted to keep abreast of ongoing developments in chemistry, and invited colleagues and friends to visit him at home and tell the latest chemical news.

Havinga's appointment at Leiden University meant the start of a very active academic career, in research and teaching as well as in management and administration. At the end of World War II Leiden University was in a deplorable state and, apart from the housing, most research and teaching facilities needed rebuilding almost from scratch. Professor Havinga energetically set to work and delivered numerous essential contributions to the post-war recovery of the Faculty of Sciences and the Chemistry Department.

Havinga's scientific interest was very broad. He worked in many different areas of organic chemistry ranging from physical organic to bio-organic. Widely recognized are his contributions to vitamin D chemistry (pathways and products of thermal and photochemical isomerizations), stereochemistry (spontaneous formation of chiral substances, conformational analysis of non-aromatic 5- and 6-membered ring compounds) and peptide and enzyme chemistry (structure/activity

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work on the photoreactivity of vitamin D and its isomers and of conjugated trienes, and on heterolytic aromatic photosubstitution. The latter type of reaction was discovered in Leiden. In both fields he was the first to call attention to the remarkable opposite (stereo)specificity of photoinduced and thermal reactions. In the vitamin D field this discovery inspired to the first hint on the importance of orbital symmetry in the control of these reactions. A further factor of importance in determining the course of photoreactions of conjugated trienes was recognized in the ground state conformation, to be expressed later in the principle of Non-Equilibration of Excited Rotamers (NEER). In the field of aromatic photosubstitution detailed and sophisticated studies led to the unravelling of the mechanisms in the conspicuous diversity of reaction courses and to a general classification of the distinct categories of aromatic photosubstitution within a unifying mechanistic framework.

Some shorter lines of Havinga's research that became less known but were very dear to him concerned the transmission of substituent effects in styrenes and stilbenes, the occurrence of tautomerism, dimerization and E/Z-isomerization in aromatic nitroso compounds, various aspects of surface chemistry and of plant growth regulation, and covalent catalysis. Many of these investigations were undertaken out of curiosity for the factors that control the exemplary efficiency of enzymatic reactions.

Apart from its broadness and versatility Havinga's research is characterized by the early introduction of physical methods into organic chemistry. In his papers one notes the use of advanced spectroscopic techniques and of quantum mechanical calculations already at a time when it was far from commonplace.

The major part of Havinga's researches was carried out in collaboration with Ph.D. students. The number of Ph.D. theses prepared under the guidance of Havinga amounts to 166. For many students a decisive role in choosing to study organic chemistry with Havinga was played by his lecture courses. Professor Havinga was an outstanding teacher of organic chemistry on all its levels. His advanced courses on the chemistry of natural products were particularly popular and attracted numerous students, also from non-chemical disciplines who attended, not with a future examination in mind, but just for the fun of being inspired by someone who loves his subject and can convey his enthusiasm. This is not meant to imply that Havinga thought lecturing an easy job. On the contrary, he spent much time in preparing his lectures and planned them meticulously and in very great detail.

The development and prosperity of chemistry at Leiden University was furthered by Havinga in many other ways. It was mainly, if not solely, through his urging and efforts that in 1950 the Chair of Theoretical Organic Chemistry was

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Professor H. Veldstra. The expansion of classic organic chemistry materialized in the creation of two more Chairs of Organic Chemistry. In the fifties and sixties when the number of chemistry students increased by an order of magnitude the need for new housing resulted in the building of the Gorlaeus Laboratories at the outskirts of the old city of Leiden. Professor Havinga was asked by the Faculty to bring in the aspects essential to chemical research and teaching. He accomplished this time-consuming task with great enthusiasm and skill, stimulated by his thorough interest and feeling for art and architecture.

His academic achievements brought him recognition both at home and abroad. He was elected member of the Royal Netherlands Academy of Arts and Sciences since 1956 and honorary member of the Royal Netherlands Chemical Society since 1978. In 1968 he was knighted Ridder in de Orde van de Nederlandse Leeuw. He received numerous Awards, Medals and Foreign Memberships.

During his whole life Egbert Havinga has been working incredibly hard. Remarkably, he also found the time and energy to be active in various fields outside chemistry and, characteristically, he excelled in those fields. In his younger years he was admired by his team-mates and feared by his opponents on the hockey field. Many tennis-playing EPA and IAPS members will remember with awe Havinga's performances on tennis courts throughout the world and there rarely has been a photochemistry conference at which he did not take a few hours off to give some of his colleagues a thorough beating.

Havinga was also an art-lover and a musician. He was a talented pianist who even contributed to contemporary piano music by inspiring the Dutch composer Willem J. Aerts to write "Thirteen Variations and Coda on a Theme of E. Havinga in E minor".

Egbert Havinga will be missed by all of us, especially at photochemistry conferences, which he loved to attend and at which he had the opportunity to meet his many friends. Those friends admired and loved him and they will all remember with great respect this eminent chemist and true gentleman.

Egbert Havinga has been the author or coauthor of well over 250 research papers. Leading references to his main areas of research are listed below. A personal retrospective view of his academic career is to be found in:

Havinga, E., *Enjoying Organic Chemistry, 1927 - 1987*, a contribution to *Profiles, Pathways, and Dreams: The Development of Modern Organic Chemistry* (J.E. Seeman, Ed.), to be published 1989 by the A C S.

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- b) Havinga, E.; Kronenberg, M.E., *Pure Appl. Chem.* 1968, **16**, 137.
- c) Cornelisse, J.; De Gunst, G.P.; Havinga, E., *Adv. Phys. Org. Chem.* 1975, **11**, 225.
- d) Cornelisse, J.; Havinga, E., *Chem. Rev.* 1975, **75**, 353.
- e) Cornelisse, J.; Lodder, G.; Havinga, E., *Rev. Chem. Intermed.* 1979, **2**, 231.
- f) Den Heijer, J.; Shadid, O.B.; Cornelisse, J.; Havinga, E., *Tetrahedron* 1977, **33**, 779 and preceding papers in this series.

Conformational Analysis:

- a) Romers, C.; Altona, C.; Buys, H.R.; Havinga, E., In *Topics in Stereochemistry*; Eliel, E.L., Allinger, N.L., Eds.; Wiley: New York, 1969; Vol. 4, p 39.
- b) Buys, H.R.; Leeuwestein, C.H.; Havinga, E., *Tetrahedron* 1970, **26**, 845 and preceding papers in this series.

Vitamin D - Conjugated Trienes:

- a) Havinga, E.; De Kock, R.J.; Rappoldt, M.P., *Tetrahedron* 1960, **11**, 276.
- b) Havinga, E.; Schlatmann, J.L.M.A., *Tetrahedron* 1961, **16**, 146.
- c) Havinga, E., *Chimia* 1962, **16**, 145.
- d) Sanders, G.M.; Pot, J.; Havinga, E., *Fortschr. Chem. Org. Naturst.* 1969, **27**, 131.
- e) Havinga, E., *Experientia* 1973, **29**, 1181.
- f) Jacobs, H.J.C.; Havinga, E., *Adv. Photochem.* 1979, **11**, 305.
- g) P.A. Maessen, P.A.; Jacobs, H.J.C.; Cornelisse, J.; Havinga, E., *Angew. Chem. Int. Ed. Engl.* 1983, **22**, 718, and preceding papers in this series.

Studies on Polypeptides:

- Serdijn, J.; Bloemhoff, W.; Kerling, K.E.T.; Havinga, E., *Recl. Trav. Chim. Pays-Bas* 1984, **103**, 351 and preceding papers in this series.

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