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Obituary: Hans Faillard (1924–2005)

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Hans Faillard (1924–2005)

On August 5, 2005, Prof. Dr. rer. nat. Hans Faillard passed away at the age of 81 years. Hans Faillard had studied chemistry and medicine at the University of Cologne and he habilitated in 1957 with Ernst Klenk, the creator of terms such as "Neuraminsäure" (neuraminic acid) and "Ganglioside" (gangliosides). Hans Faillard left this "Cologne School" in 1964, when he was appointed full professor and director of the Institute of Physiological Chemistry at the newly built Ruhr-University at Bochum. Here he was not only active as dean of the Department of Natural Science Medicine but also as Rector of the University from 1969 until 1972. In 1973 he followed another call to the University of Saarland, Saarbrücken. There he was head of the Institute of Biochemistry and worked experimentally until 1994. From 1973 until 1979 he also served as President of the University.

Hans Faillard's scientific oeuvre comprises about 100 publications on glycoproteins and glycolipids, and the synthesis, analysis, structure, metabolism and biological functions of carbohydrates, mainly those of sialic acids and their glycosides. Especially noteworthy is a publication on the first synthesis of *N*-glycolylneuraminic acid. In his laboratories also *O*-acetylated sialic acids were synthesized as substrates for esterases or as affinity matrices for the isolation of lectins. His possibly most important discovery was—in 1955—the isolation and crystallization of *N*-acetylneuraminic acid as reaction product of viral and bacterial sialidases (neuraminidases). With this experiment, the receptor of influenza viruses was defined as a sialic acid and the "Receptor-Destroying-Enzyme (RDE)" of these viruses recognized as a neuraminidase. Following this, Hans Faillard and his associates and colleagues studied the substrate specificity of sialidases and the organ specificity of influenza viruses. Other studies focused on the structural analysis and biological effects of glycoproteins, especially mucins, and the growing number of different sialic acids in cells and tissues. It was Hans Faillard who very early observed that cultured human cells are able to take up *N*-glycolyneuraminic acid. First insight into the mechanism of the biosynthesis of *N*-glycolyneuraminic acid and *O*-acetylated sialic acid was gained in his institute in Bochum. H. Faillard belongs to those scientists who recognized the protective role of sialic acids on proteins. The so-called intrinsic factor, acting in the stomach and responsible for the resorption of vitamin B12, is a glycoprotein which has to be sialylated for proper function. Another early observation was the increased expression on T-lymphocytes of sialic acids, also their *O*-acetylated form, in tumours, e.g., in breast cancer.

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Hans Faillard was not only a man of vision in research and a pioneer in the field of glycobiology, but he showed a special liking and interest for planning and organizing research and universities. He was successful as builder of institutes at the Universities of Cologne and Bochum, suggested modernization of courses of studies, institutes and whole universities, which was often not easy in times of university reforms. He also documented his thoughts on the influence of science on society. In addition to his activities in higher education policy he engaged himself, very often as the leading person, in institutions such as Alexander von Humboldt Foundation, West German Rektorenkonferenz and Kultusministerkonferenz as well as in the expert committee of the German–French Universities.

Hans Faillard was an enthusiastic and didactically able teacher who had a wealth of interdisciplinary knowledge at his disposal. He demanded complete engagement of his associates and colleagues, however, he was able to convince in his patient and noble way and with diplomacy. A number of his associates followed the scientific career and increased—on the basis of his findings—our knowledge on the complexity and importance of carbohydrates, lipids and other biomolecules.

We shall honour his memory.