

Ekkehard Winterfeldt (1932–2014)

Ekkehard Winterfeldt passed away on October 11, 2014 in Isernhagen, surrounded by his family. His home and family, in particular his wife Marianne, was always the key foundation and essential support for his outstanding scientific career. He was known as a gentleman, an inspiring scholar, and “Doktorvater” in the true sense of the word (“Doktorvater” is German for PhD supervisor, literally “thesis father”) by his students and colleagues. He was able to convey his passion, excitement, and enthusiasm about science, and in particular organic chemistry, to everybody who worked with him.

Winterfeldt was born on May 13, 1932 in Danzig, and at the end of the Second World War, his family moved to the city of Schleswig, where he finished his high-school education in 1952. He studied chemistry at the Technische Hochschule (today the Technische Universität) Braunschweig, and joined the group of Ferdinand Bohlmann for a diploma thesis on the synthesis of oenanthotoxin. His PhD dissertation on the synthesis of hydroxy-sparteines was completed after only two years in 1958 in the same group. He followed Bohlmann to the Technische Universität (TU) Berlin where he worked on the structural characterization and synthesis of lupin alkaloids, and completed his habilitation in 1962. He was subsequently appointed Professor of Chemistry at the TU Berlin. At that time, he was interested in the synthesis of alkaloids, and completed the first total syntheses of a variety of indole alkaloids, such as akuammigine, tetrahydroalstonine, and ajmalicine. He also started working on stereoselective transformations of triple bonds, which resulted in a variety of practical protocols still employed today. Examples can be seen in E. Winterfeldt, H. Preuss, *Chem. Ber.* **1966**, 450 and E. Winterfeldt, D. Schumann, H.-J. Dillinger, *Chem. Ber.* **1969**, 1656.

In 1969, Winterfeldt was offered chairs in Berlin (TU), Hannover, and Marburg, of which he accepted the call from the University of Hannover in 1970. In Hannover he continued with the stereoselective syntheses of alkaloids, in particular the synthesis of camptothecin, geissoschizine, and natural products of the indoloquinolizine family. His interests in alkaloids were then extended to toxins such as histrionicotoxins, compounds isolated from South American frogs, and cyclopentane-containing natural products such as prostaglandins, carbacyclins, macrolides, triquinanes, and sesquiterpenes. For the latter products, he developed a highly flexible stereoselective protocol based on 4-acetoxy-2-cyclopentene-1-one as the substitute for cyclopentadienone. During the 1980s, he established an elegant route to ansa-steroids, which was

later applied by other groups for the synthesis of natural-product-like compounds for medicinal chemistry. The work using Diels–Alder reactions was later extended into an—at that time unprecedented—concept of how to use chiral dienes for introducing chirality to achiral molecules. These chiral dienes served as chiral auxiliaries that could be tracelessly removed by retro-Diels–Alder reactions. This protocol was then applied to the synthesis of natural products such as didemnonones or clavularin A. His work on steroids led to pivotal publications on the synthesis of unsymmetrical bissteroidal pyrazines, which allowed the synthesis of the cephalostatins.

Winterfeldt was the co-editor of several scientific journals and was President of the Gesellschaft Deutscher Chemiker (German Chemical Society; GDCh) 1996/1997. During his time as President he was responsible for the reorientation (Europeanization) of the GDCh journals and for establishing the “JungChemikerForum” which is nowadays an established section of the GDCh. In 2011, he was appointed Honorary Member of the GDCh for his contributions towards the advancement of chemistry and the goals of the GDCh. He was also a member of the Senate of the Deutsche Forschungsgemeinschaft and the Kuratorium of the Fonds der Chemischen Industrie. He received several awards, including the Emil Fischer Medal (1990), the Adolf Windaus Medal (1993), and the Richard Kuhn Medal (1995), and an honorary doctorate from the University of Liège (1991). He was also member of several scientific academies.

Winterfeldt supervised around 200 PhD students and published more than 240 papers. His students remember his energetic 8 o'clock lectures, in which he used a lively vocabulary to explain the behavior of chemicals and reagents. Often reagents were considered as “good friends” or “compounds that were disgusted by hydrogen bonds that were stretched out towards them”. Everybody looked forward to these early-morning lectures in which chemistry was presented with a very human face. Two quotes can be used to characterize Winterfeldt. The first is: “Give me students, give me an institute, and with Marianne at my side I would do everything again the very same way”. The second is, inspired by a famous quote of Lichtenberg: “If chemistry is the only thing you know, you don't know anything at all.”

The chemical community has lost one of its most inspiring scientists, scholars, and ambassadors.

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DOI: 10.1002/anie.201410838



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