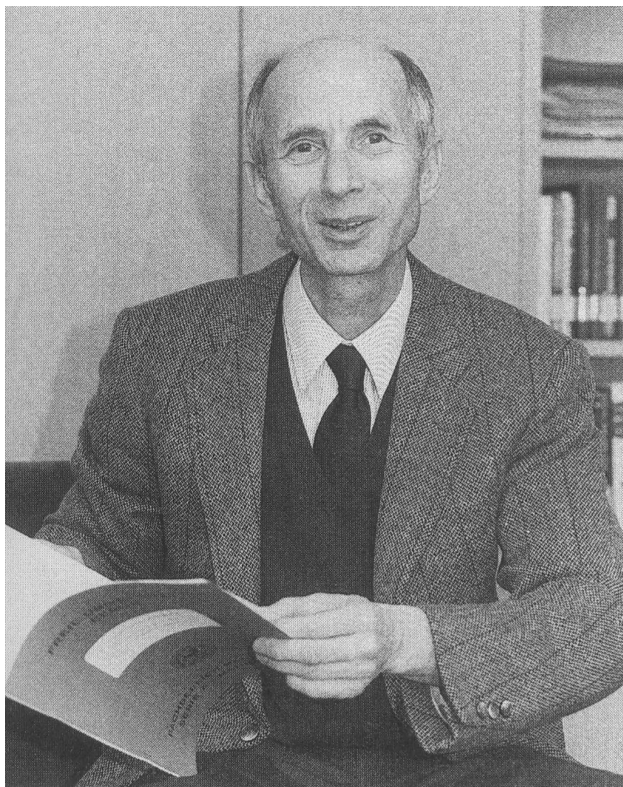# Professor Herbert Kupisch

(* 7 November 1928, † 10 October 2022)

(Photo: FU Berlin, provided by Hans von Höhne)

The mathematician Herbert Kupisch studied at Heidelberg and completed in 1958 his PhD under the direction of Professor Köthe. His thesis *Beiträge zur Theorie nichthalbeinfacher Ringe mit Minimalbedingung* appeared in Crelle's journal and was devoted to structural properties of algebras given by the Loewy series of their left and right ideals. In particular he introduced invariants for Nakayama algebras now known as *Kupisch series*. The year 1958/59 he spent with a fellowship at ETH Zürich where he met Richard Brauer. Then he took up an assistant position at Saarbrücken, completed his habilitation in 1963, and returned in 1968 to Heidelberg where he became an assistant professor. In 1975 he moved to FU Berlin as a full professor and continued to be active as a teacher far beyond his official retirement in 1997.

The early work of Kupisch was inspired by the study of blocks of group algebras of finite representation type. Eventually he established their biserial structure and gave an explicit description of all indecomposable modules. These results were also independently obtained by Janusz. This work turned into a highly successful classification programme which was at the heart of the early development of modern representation theory. In fact, Kupisch belongs to the first generation; he attended the first *International Conference on Representations of Algebras* (ICRA) held 1974 at Carleton University, Ottawa. A paper from 1965 provided some important foundations for the study of self-injective algebras of finite representation type. He analysed for any pair of primitive idempotents e and f of an algebra A the bimodule eAf and used this to introduce a new algebra which he called stem algebra. This new algebra depended only on the ideal lattice of A (when working over a fixed algebraically closed field) and came – essentially by construction – with a multiplicative basis. It took then 20 more years until the self-injective algebras of finite representation type were classified, to some extent by Kupisch's student Josef Waschbüsch, and finally in independent work by Christine Riedtmann. In a parallel project the existence of a multiplicative basis for any algebra of finite representation type was established by Bautista, Gabriel, Roiter, and Salmeron.

Kupisch had only few but very strong students, namely Josef Waschbüsch, Hans von Höhne, and Richard Tiefenbrunner. He stopped publishing papers and attending meetings already in the mid 1980s, but he was an enthusiastic teacher and kept teaching for the rest of his life. The representation theory community loses another of his pioneers, and those who had the privilege of meeting him will always remember his kindness and generosity.

Henning Krause (with help of Karin Erdmann)