A tribute to Ulrich Höhle on the occasion of his 65th birthday

Ulrich Höhle was born on 6 December 1943 in Bad Oeynhausen, Germany. Being musically and mathematically gifted (among others), he could not decide between music and mathematics, so he began his studies in both directions: mathematics and music (piano) at Johannes-Gutenberg Universität in Mainz (1963–1966). After having realized his true vocation, he decided to become a mathematician and continued his studies in mathematics at Technische Universität in Munich (1966–1967) where he discovered his interest on the frontiers of probability theory and functional analysis. Then he returned to Mainz (1967–1970), and later went to Universität Fridericiana in Karlsruhe where he completed his doctoral thesis entitled Stochastische Topologien als Wahrscheinlichkeitsmaße auf Potenzmengen and received the Ph.D. degree in 1973. In September 1973 he moved to the Bergische Universität of Wuppertal where he finished his Habilitation in 1 February 1980 and was a professor until his retirement in 2009. He was also visiting professor at University of Cincinnati, Ohio (1985–1986) and at Université de Lyon (Spring 1987).

Ulrich Höhle has published nearly 80 papers, co-edited three volumes, and edited or co-edited three special issues of Fuzzy Sets and Systems. In 2001, he published his outstanding and deeply original monograph Many Valued Topology and Its Applications. He has served as an associate editor to three journals: Fuzzy Sets and Systems (since 1988 to present), Journal of Mathematical Analysis and Its Applications (1988–2000), and Scientiae Mathematicae Japonicae [formerly: Mathematica Japonica] (since 2008 to present). He is a Founding Member of the International Linz Seminar of Fuzzy Sets Theory as well as a permanent member of the Executive and Program Committees of this Seminar, and he has been the chairman of Linz Seminar ’1992 and co-chairman of Linz Seminar ’2005. With regard to the Linz Seminar, he is the world champion being the only person who has attended all the 31 Seminars organized so far. He has also been involved as the organizer of the Mathematical Section of the 2nd IFSA World Congress in Seattle, 1989.

His early interest and research from the seventies of the last century were influenced by J.M. Frank’s paper Probabilistic topological spaces [J. Math. Anal. Appl. 34 (1971) 67–81] where he for the first time met fuzzy sets—a rather
vague concept—to which he later gave various rigorous mathematical interpretations and his efforts in this direction culminated in the 2007 essay *Fuzzy Sets and Sheaves* consisting of two parts (see the list of publications listed below). One characteristic of Höhle’s work is his dedication to discover connections between fuzzy sets and many valued topology with various well established branches of mathematics such as convergence spaces, stochastic processes, probability measures, and the theory of locales. His most remarkable contributions of this type include, among others, Boolean valued topologization of the (non-topological) almost everywhere convergence and Boolean valued interpretation of Minlos’ Theorem (for much more we refer to his 2001 monograph).

It is impossible to describe properly Höhle’s contribution in a text of this length. However, one should still mention his monadic axioms of topology (various types of many valued topologies are just topologies in the sense of certain monads) as well as his concept of a weak topos (the category of all bounded metric spaces and nonexpansive maps is a weak topos in which the internal logic coincides with Łukasiewicz logic). Finally, we mention that Ulrich Höhle also did important work on $M$-valued sets and sheaves over integral, commutative $cl$-monoids as well as on classification of subsheaves over $GL$-algebras.

His current interest concentrates mainly on many valued logics, generalizations of sheaf theory, quantale sets, and non-commutative topological spaces.

Ulrich Höhle celebrated his 65th birthday on 6 December 2008. Our tribute to this distinguished mathematician appears somewhat belatedly. It was only in Autumn 2008, that we learned that Ulrich—a man so full of passion and enthusiasm—was approaching the age of 65.

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**List of Publications of Professor Ulrich Höhle**

**Dissertation**


**Articles from journals and within books**


Monograph


Co-edited volumes


Edited and co-edited special issues of Fuzzy Sets and Systems


Book review