Mathematica Slovaca

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Professor Zdenka Riečanová---jubilee

PROFESSOR ZDENKA RIEČANOVÁ — JUBILEE

Prof. Zdenka Riečanová was born on December 14, 1935 in Komjatice, district Nové Zámky. Her father Ján Petrovič was employed at Czechoslovak Railways during the whole productive period of his life. Her mother was a housewife. She has three sisters and two brothers.

In 1953 1958 she studied mathematics at the Faculty of Science of the Comenius University, specialty mathematical analysis. After finishing her university study she entered the Department of Mathematics of the Slovak Technical University, where she works till now.

In 1962 she began her postgraduate study supervised by Prof. Š. Schwarz. She took her second degree after defending the dissertation "Some problems of measures in topological spaces". She habilitated 5 years later by the work "On regularity of measures in abstract spaces". In 1974 she was promoted to the rank of Associated Professor and in 1996 to the rank of Professor.

During her professional career Prof. Riečanová gave lectures in various branches of mathematics: Mathematical Analysis, Mathematical Statistics, Numerical Methods, etc.. With co-authors she published several textbooks. One of them, "Numerical Methods and Mathematical Statistics" was awarded by the Prize of the Slovak Literary Fundation. She successfully supervised four postgraduate students.

In her scientific work Prof. Riečanová was engaged in Measure Theory, Nonstandard Analysis and in Quantum Structures Theory. She has published 76 papers in top scientific journals and is aware of 250 citations of her papers. Since 1980 she is continuously the coordinator of state run research grants.

Recently, her research work is focused mainly on Quantum Structures Theory and especially on D-posets and effect algebras. Let us mention some of her excellent results in this field. The discovery of blocks in effect algebras has shown us, that the classes of MV-algebras and orthomodular lattices have a very natural and beautiful generalization, namely *lattice effect algebras*. She has proved that every lattice effect algebra E is essentially a union of maximal sub-MV-algebras; these are called *blocks*. If we suppose E is an orthomodular lattice, we obtain the well-known fact that every orthomodular lattice is a union of maximal Boolean algebras. This result was completely unexpected at that time. The existence of blocks has several very important consequences. Another key result was formulation of a necessary and sufficient condition for extendability of the effect algebraic sum onto the MacNeille completion of an effect algebra E. In connection with state existence problems she proved the Smearing Theorem for states on atomic effect algebras from the set of all sharp elements onto the whole effect algebra.

Prof. Riečanová altruistically and selflessly devotes an essential part of her energy to the development of the Slovak mathematical community. Many interesting and original mathematical ideas and inspirations arose on her seminar about quantum structures, that has been taking place for about twenty years. To encourage the young mathematical community, she came with the idea of an international graduated student's conference in applied mathematics ISCAM. This idea turned out to be very successful and the interest in the conference is increasing every year.

By her scientific authority she has contributed significantly to the accreditation of her institution for education of postgraduate students as well as for the promotion of professors and associate professors in applied mathematics. She was appointed the chairwoman of the respective committee. For her lifetime professional contribution to science and education Prof. Riečanová was recently awarded by the Great St. Gorazd Medal.

We all know Prof. Riečanová as an absolutely fair and correct friend and colleague. Due to her typical modesty only a few people know about her bold and uncompromising attitude during the past communist era. She also showed us a distinguished way of how to mobilize mental power in times of fatal personal blows and how to overcome them successfully.

We wish Prof. Riečanová good long health, many interesting ideas and much inspiration in her scientific work.

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