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NEWS AND NOTICES

# PROFESSOR ROSICKÝ SEXAGENARIAN

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Although the vitality, energy and scientific vigour of Professor RNDr. Jiří Rosický, DrSc., seem to deny it, the facts are indisputable: on September 8, 2006 he turned sixty. A good occasion for us to reflect on the number of aspects in which cooperation with him and his friendship enriched our lives.

Jiří Rosický is an internationally recognized expert in algebra, particularly in categorical methods, and a number of related areas such as model theory, topology and theoretical computer science. He finished his undergraduate studies at Masaryk University in Brno in 1968 and continued there with his postgraduate studies. His doctoral thesis (CSc.) "Sublattices of the Lattice of All Topologies" written under the supervision of Professor Milan Sekanina was defended in 1973. After that he worked as an assistant professor, since 1979 as an associated professor and since 1986 as a full professor at the Department of Algebra and Geometry of the Faculty of Natural Sciences of Masaryk University. Since 1979 he has been Head of that department. In 1985 he received the title Doctor of Sciences (DrSc.), the topic of his dissertation was "Representation of Concrete Categories"; and one year later he became a full professor. He published a monograph in Cambridge University Press, more than 110 research papers (many of them in the best international scientific journals) and two Czech textbooks.

During the first stage of his research, approximately until the end of the 1980's, Jiří Rosický was working on applying methods of category theory in general algebra and general topology. It was particularly his use of infinitary logic in the theory of concrete categories that was internationally appreciated for its originality.

During the conference on "Categorical Topology" in L'Aquila in 1986 several talks were devoted to reflective subcategories and each of them mentioned the problem, posed by John Isbell twenty years earlier, of whether the intersection of full reflective subcategories of the category of topological spaces is always reflective. Inspired by that conference, Jiří Rosický and Jiří Adámek solved that problem (negatively) and this started many years of intense collaboration of the two. They published

more than thirty joint articles, some of them with further co-authors. For example with Bill Lawvere: in a series of three joint papers the duality of algebraic theories and varieties of algebras was proved and the question "How algebraic is algebra?" was attended to by describing the equational hull of the 2-category of varieties. The book "Locally Presentable and Accessible Categories" published in 1994 by the Cambridge University Press summarizes the first five years of joint research of Jiří Rosický and Jiří Adámek. Besides a systematic study of accessible categories and their relationship to general algebra and model theory this book applies the large-cardinal Vopěnka Principle to exploring categorical properties whose validity depends on the set theory one works in.

Everyone who had an occasion of joint research with Jiří Rosický (and a short look at the list of his publications reveals more than thirty co-authors of papers, with quite some "stars" among them) keeps pleasant memory of the intense, cooperative but also critical manner characteristic of Rosický's approach to the choice of problems, choice of methods of solution and final formulation in an article. How often have the collaborators been (repeatedly) surprised by the wide scope of knowledge, the source of original ideas, and the perseverance of Jiří Rosický.

Another research interest that Jiří Rosický has been following since 1980's is the theory of C*-algebras and quantales. For example, he and Joan Pelletier characterized in a joint article in the Journal of Algebra those involutive quantales that are simple, i.e., they have, besides isomorphisms and constant maps, no surjective endomorphisms.

In recent years the research of Jiří Rosický has taken several new directions. One is homotopy theory; his joint paper with Walter Tholen on universal homotopy theory, published in 2003 in the Transactions of American Mathematical Society, is an example of a new and simplified approach to an important result: the description of universal model categories as previously presented by Daniel Dugger. Another direction is the logic of coalgebras, a realm combining theoretical computer science, category theory and modal logics, in which a series of papers by Jiří Rosický and Alexander Kurz presented new insight into coequations and modal definability in coalgebra. Also in the realm of generalization of abelian categories Jiří Rosický and his various co-authors achieved significant results.

Jiří Rosický has been one of the principal participants of three research grants of the Grant Agency of the Czech Republic and two research projects of the Ministry of Education of the Czech Republic. He is one of the founders of the Eduard Čech Center for Algebra and Geometry in Brno.

In his pedagogical activity Jiří Rosický has been holding lectures at Masaryk University in Brno (and occasionally at various other universities, e.g. York University in Toronto, Canada and University of Louvain-la-Neuve in Belgium) ranging

from all aspects of algebra and model theory to combinatorics, topology and set theory.

His carefully prepared lectures and the high standards he expects both from himself and his students make him one of the most respected lecturers at his university. Jiří Rosický is active within the European projects Socrates and Erasmus. He supervised four PhD. students in the realm of category theory and algebra. He published two Czech textbooks "Algebra" and "Universal Algebra and Lattice Theory", the latter coauthored by Ladislav Bican.

Jiří Rosický is a member of the editorial board of the journals Theory and Applications of Categories, Applied Categorical Structures and Mathematica Bohemica and the Editor-in-Chief of the journal Archivum Mathematicum.

Also in his role as Head of the Department of Algebra and Geometry he has consistently and succesfully tried to keep high standards, and he is well respected by his colleagues and by his university's administration for his systematic manner of organizing the life of the department and for thinking ahead. As a typical example let us mention his introduction of e-mail communication at the very beginning of 1990's, quite ahead of the developments at Masaryk University in those times.

All we have said about the activities of Jiří Rosický is by no means exhaustive. He is a very active and agile researcher spending a lot of energy on travelling to his collaborators all over Europe and Canada, or hosting them in Brno, and organizing projects, seminars, and new joint articles. The seminar on algebra he started more than a quarter of century ago at his department is an example of good work fed by his energy. We wish him good luck in all of his future activities! May his energy not diminish and may the future years bring him further success and happiness in his professional as well as in his private life.

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