YURIY M. ARLINSKII
(to 70th birthday anniversary))

On August 25, 2019 an outstanding Ukrainian mathematician, professor Yuriy M. Arlinskii has celebrated his 70th anniversary. He was born in Baku, Azerbaijan to a family of a teacher and a marine engineer. After having graduated from a high school in Odessa, Ukraine, he went to a newly established Donetsk State University and became a student in the College of Mathematics. Among his teachers there were both famous mathematicians and members of the Ukrainian Academy of Sciences, namely, Ya. B. Lopatinskii, I. I. Gikhman, P. V. Kharlamov, G. D. Suvorov, and talented young mathematicians. E. R. Tsekanovskii, who ran a research seminar on Operator Theory and Applications in Mathematical Physics and System Theory was his supervisor in the years of graduate and post-graduate study. Yu. M. has completed his first thesis in Donetsk Institute of Applied Mathematics and Mechanics in 1977. The problem therein was concerned with the M. S. Livsic theory of characteristic functions and functional models of unbounded non-self-adjoint operators. The methods of this research were based on the Berezanskii theory of rigged Hilbert spaces and the theory of biextension of symmetric operators, suggested by E. R. Tsekanovskii in the case of densely defined symmetric operators with equal finite deficiency indices. Yu. M. Arlinskii extended this theory to the most general case where a symmetric operator is, in general, nondensely defined and has arbitrary deficiency indices. These and some other results formed a part of the monograph "Conservative realizations of Herglotz-Nevanlinna functions" by Yu. M. Arlinskii, S. V. Belyi and E. R. Tsekanovskii published by Birkhäuser/Springer in 2011.

Further research activity of Yu. M. Arlinskii was exposed in a series of papers (jointly with E. R. Tsekanovskii) that developed a theory of non-self-adjoint contractive extensions of Hermitian contractions. This theory amplifies the well known results of M. G. Krein. In the last two decades of XX century in a series of publications Yu. M. has developed a profound theory of maximal accretive and maximal sectorial extensions

of sectorial operators and studied their applications to differential operators. This research was summarized in his doctoral thesis "Maximal accretive extensions of sectorial operators" defended in Kyiv Institute of Mathematics in 2000.

The broad area of research of Yu. M. Arlinskii concerns the theory of operator ranges, one-parameter holomorphic semigroups and singular perturbations of self-adjoint operators, the theory of discrete-time linear systems, truncated Hamburger moment problem for operators and Schur problem for operator-functions.

The first results regarding the role of non-self-adjoint Jacobi matrices with rank one imaginary parts as well as CMV matrices with scalar entries in the models theory of linear operators were obtained by Yu. M. in collaboration with E. R. Tsekanovskii and L. B. Golinskii. Later on he extended these results to the block-operator Jacobi and CMV matrices. In a number of papers joint with S. Hassi and H. S. V. de Snoo concerning properties of holomorphic Nevanlinna and Schur class operator-valued functions associated with selfadjoint extensions, new theoretico–functional methods in extension theory of symmetric contractions, symmetric non-negative operators, and discrete-time linear systems were elaborated.

Yu. M. Arlinskii published more than 80 articles in internationally recognized mathematical journals. He was a visiting professor at the universities in USA, Germany, Finland, France, the Netherlands, Switzerland and has joint papers with mathematicians from these and other countries. Yu. M. participated in many international mathematical conferences and workshops held in Europe and USA.

Yu. M. Arlinskii is a brilliant speaker and a bright personality. His pedagogical talent revealed at Luhansk East-Ukrainian State University where he had been working as a professor and then as a chairman of the Mathematical Analysis Department for about 35 years. Yu. M. Arlinskii is an author of several Mathematical and Functional Analysis textbooks written on the basis of his lectures for students.

In 2014 he was forced to leave Luhansk, when the hybrid war with Russia in Donbass broke out. For a few years before moving to Germany Yu. M. lived in Kharkiv where he was working at the Kharkiv Polytechnical University. His contribution to the mathematical life in Kharkiv was significant and undisputed.

We sincerely wish Yu. M. Arlinskii good health for many years to come and the inspiration for new fruitful research.

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