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RNDr. Miloslav Duchoň, DrSc. --- a septuagenarian?

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## RNDR. MILOSLAV DUCHOŇ, DRSC. — A SEPTUAGENARIAN?

In our society the date August 21st is associated with the beginning of the end of the famous Dubček era in the memorable year 1968. But in the Mathematical Institute SAS, this day has always a more agreeable association, which we remembered now. On 21st of August 2002, in full health and full of energy, a prominent member of the Mathematical Institute SAS, RNDr. Miloslav Duchoň, DrSc. celebrated his 70th anniversary.

He was born in Veltěž near Prague. His parents, coming from upper Nitra, lived in a neighborhood of Prague before the war, up until its break out. He was the second child among four brothers and one sister. He entered primary school in his birthplace. His family returned to Slovakia after the occupation of Bohemia and Moravia. They returned to Liešťany, in the Rudno valley of upper Nitra, where his father opened a small shop. Miloš started to attend the high school at the famous Gymnasium of Andrej Sládkovič in Banská Bystrica. After the school hostel there was closed, and a school hostel in Prievidza was opened, he finished the last two years in the capital of upper Nitra, in Prievidza. He sent an application to the Military Medical School in Hradec Králové, where he passed the entrance health tests, but he was not admitted, because of his father's shop. Then young Miloš sent another application to the Faculty of Natural Sciences of Comenius University in Bratislava, where he studied mathematics, specializing in mathematical analysis. His university teachers belonged to the first generation of Slovak mathematicians: Academician J. Hronec, Professors M. Kolibiar, A. Huťa, L. Mišík, M. Sypták, T. Šalát, M. Greguš., O. Borůvka (some of them were only more advanced students then, now many of them are no longer living). His fellow students were RNDr. J. Bosák, DrSc. (1933-1987), Doc. Š. Belohorec, CSc., Dr. J. Krbila, Dr. J. Březina, among others. His diploma thesis was supervised by the Nestor of Slovak mathematicians, Academician J. Hronec.

After finishing his university studies in 1957, he was placed by the state to the Mathematics Department of the University of Agriculture in Nitra as an assistant lecturer. In Nitra, he also met his wife, with whom they brought up one son.

In 1961, Professor Kotzig (1919–1990), director of the Cabinet of Mathematics of SAS in Bratislava (since 1966, the Cabinet has been renamed the Mathematical Institute of SAS) agreed with the chancellor of the University of Agriculture that Dr. Duchoň would be transferred to the Cabinet of Mathematics. He found here, besides of the director, two of his fellow students, Dr. J. Bosák and Dr. A. Rossa (the latter left abroad in 1968 and lives in Canada). That time they had no secretary and did all administrative work themselves—incomparable with today's bureaucracy. All three of his colleagues became outstanding specialists in graph theory; it can be said that the foundations of the famous Slovak school of graph theory were built on the Mathematical Institute.

Initially the young Duchoň had also been interested in graph theory, but soon he changed his interests to a different direction, to measure theory, harmonic analysis and functional analysis. In 1967, under supervision of Professor A. Huťa and professor J. Kaucký, he defended his thesis "On tensor products of vector measures", and obtained the degree Candidate of

Sciences (the equivalent of PhD.). In the same year, he was awarded the degree RNDr. at the Faculty of Natural Sciences of Comenius University. His scientific activity cumulated to the scientific degree Doctor of Sciences in 1983. The subject of his doctoral thesis was bilinear products and harmonic analysis of vector measures. He successfully supervised three women PhD. students, and at present he is supervising another three. He also supervised many diploma works and for many years he lectured at the Faculty of Natural Sciences (for example he taught the first of the present authors stochastic processes in 1970/71).

Dr. Duchoň is author of 54 scientific papers, 3 mimeographed texts, a text for post-graduated students, coauthor of 3 editions of Short Encyclopedia of Mathematics, and author of some 12 popularization publications. His most significant results are connected with the convolution of vector measures and description of the Banach algebra of vector measures. He also dealt with the moment problem of vector measures. For many years, he had been a principal investigator of the research projects of the State Plan of Basic Research, dealing with abstract differential equations, and real and functional analysis. More recently, he has been a successful leader of several research project of the grant agency VEGA. His results aroused interest in the scientific community abroad. In 1964 he spent three months lecturing and researching in Rome, and in 1989 he was for 1 month at the University of Tübingen. Since 1989, he has made several visits to the Catholic University in Louvain-la Neuve in Belgium. He was awarded a Silver Medal of Dionyz Štúr for merits in mathematical sciences (1982) and a Gold Medal of Jur Hronec (1992). For many years, he was a member of the Scientific Collegium SAS. He combined his original love of medicine with mathematics as a President of the Permanent Workshop of SAS for Biomathematics. In 1998, he was charged with leading the Mathematical Institute.

He was for many years Managing Editor of *Matematický časopis*, and was responsible for its renaming to the present *Mathematica Slovaca*, where he still is a member of Editorial Board. He is also Editor in Chief of the new journal *Tatra Mountains Mathematical Publications* and is in charge of the Slovak unit of *Zentralblatt of Mathematics*.

In September this year it was already 41 years since he came to today's Mathematical Institute SAS. He is now doyen among the permanent employees there. Perhaps he belongs to the "traditional inventory" of the Mathematical Institute, that cannot be thought without him. He is also a living memory, with a distinguished charm he is able to remember many personalities of the Mathematical Institute, many visitors and many events that happened long ago. In spite of his long stay at the Institute, he is still lively and his mercurial presence is very visible, so that it is a great surprise for us to realize that this jovial colleague is a gentleman of a certain age, even a septuagenarian; is that possible? In fact the Institute is his second home, he can be found there often in evenings and weekends.

Dear Miloš, allow us, in the name of the Mathematical Institute SAS, and the whole Slovak Mathematical Society, as well as in our own names, to congratulate you to your precious anniversary, and to wish you all the best, good health and continuing enthusiasm and success in obtaining further beautiful mathematical results.

*Anatolij Dvurečenskij*  
*Sylvia Pulmannová*

LIST OF PUBLICATIONS OF MILOSLAV DUCHOŇ

Scientific papers

- [1] *Cartesian product of scalar and vector-valued measure*, Mat.-Fyz. Časopis **16** (1966), 274–281. (Russian)
- [2] *Inductive tensor product of vector-valued measures*, Mat.-Fyz. Časopis **17** (1967), 108–112 (with I. Kluvánek).
- [3] *On the projective tensor product of vector-valued measures*, Mat.-Fyz. Časopis **17** (1967), 115–120.
- [4] *On the projective tensor product of vector-valued measures II*, Mat. Časopis **19** (1969), 228–234.
- [5] *On the tensor product of vector measures in locally compact spaces*, Mat. Časopis **19** (1969), 324–329.
- [6] *A note on measures in cartesian product*, Acta Fac. Rerum Natur. Univ. Comenian. Math. **22** (1969), 39–45.
- [7] *Biprojective tensor product and convolutions of vector measures*, Studia Math. **38** (1970), 187–192.
- [8] *On vector measures in cartesian products*, Mat. Časopis **21** (1971), 241–247.
- [9] *A convolution algebra of vector-valued measures on compact abelian semigroup*, Rev. Roumaine Math. Pures Appl. **16** (1971), 1467–1476.
- [10] *A dominancy of vector-valued measures*, Bull. Polish Acad. Sci. Math. **19** (1971), 1085–1091.
- [11] *The Fubini's theorem and convolution of vector-valued measures*, Mat. Časopis **23** (1973), 170–178.
- [12] *Sesquiregular measures in product spaces and convolution of such measures*, Mat. Časopis **24** (1974), 31–42.
- [13] *Structure theory for a class of convolution algebras of vector-valued measures*, Math. Nachr. **60** (1974), 97–108.
- [14] *Nonmultiplicative measures in locally compact products*, Math. Slovaca **27** (1977), 133–142.
- [15] *Product of dominated vector measures*, Math. Slovaca **27** (1977), 292–301.
- [16] *Fourier coefficients of continuous linear mappings on homogeneous Banach spaces*, Math. Slovaca **29** (1979), 321–331.
- [17] *Convolution algebra of vector-valued measures*. In: Proceedings of the Conference Topology and Measures I, Zinnowitz 1974. Wissenschaftliche Beiträge der Ernst-Moritz-Arndt-Universität Greifswald, Greifswald, 1978, pp. 75–77.
- [18] *Remark on analytic functions in ordered spaces*, Math. Slovaca **31** (1981), 133–139.
- [19] *Harmonic analysis of vector measures on ordered semigroups*. In: Proceedings of the Conference Topology and Measure III, Vitte 1980. Wissenschaftliche Beiträge der Ernst-Moritz-Arndt-Universität Greifswald, Greifswald, 1982, pp. 57–58.
- [20] *On extension of Baire vector measures*, Math. Slovaca **36** (1986), 313–321.
- [21] *On tensor product of weakly compact mappings*, Math. Slovaca **36** (1986), 393–400.
- [22] *Vector measures and nuclearity*, Math. Slovaca **38** (1988), 79–83.
- [23] *Characterization of Fourier transforms on compact groups*. In: Proceedings of the Sixth Prague Topological Symposium 1986, Helderman Verlag, Berlin, 1988, pp. 694.

- [24] *On vector measures and distributions*, Math. Slovaca **39** (1989), 165–173.
- [25] *Convolution of spectral mappings*. In: Topology, Measures and Fractals (C. Bandt, J. Flachsmeier, H. Haase, eds.), Math. Res. 66, Akademie-Verlag, Berlin, 1992, pp. 9–14 (with M. Zajac).
- [26] *On some random Fourier series*. In: Probastat'91 (A. Pázman, J. Volaufová, eds.), Proc. of the 10th Conf. on Probab. and Math. Statist., Bratislava, August 26–30, 1991, Czechoslovakia, Technical Univ. Liptovský Mikuláš, Bratislava, 1992, pp. 330–339.
- [27] *On Fourier-Stieltjes transforms in vector lattices*, Tatra Mt. Math. Publ. **2** (1993), 15–183.
- [28] *On Herglotz theorem in vector lattices*, Tatra Mt. Math. Publ. **3** (1993), 231–236.
- [29] *Integration by parts in vector lattices*, Tatra Mt. Math. Publ. **6** (1995), 13–18 (with M. Debiève).
- [30] *Generalized Herglotz Theorem in vector lattices*, Math. Slovaca **46** (1996), 531–540.
- [31] *On the Kurzweil-Stieltjes integral in ordered spaces*, Tatra Mt. Math. Publ. **8** (1996), 133–141 (with B. Riečan).
- [32] *On the product of semigroup valued measures*, Tatra Mt. Math. Publ. **10** (1997), 17–27 (with B. Riečan).
- [33] *Generalized moment problem in vector lattices*, Novi Sad J. Math. **26** (1996), 53–61 (with B. Riečan).
- [34] *Moment problem in some ordered vector spaces*, Tatra Mt. Math. Publ. **12** (1997), 247–251 (with C. Debiève and B. Riečan).
- [35] *Fuzzy moment problem*, Tatra Mt. Math. Publ. **14** (1997), 225–233 (with B. Riečan).
- [36] *A moment theorem for continuous fuzzy functions*. In: IFSA '97, Prague. Proceedings Vol. 1, Academia, Prague, 1997, pp. 509–510 (with B. Riečan).
- [37] *Concerning one of the methods of modelling of cell dividing*, Acta Fac. Rerum Natur. Univ. Comenian. Form. Protect. Natur. **16** (1994), 97–106 (with F. Lamoš).
- [38] *Fourier transforms of complex measures on some compact semigroups*, Tatra Mt. Math. Publ. **12** (1997), 253–260 (with A. Kolesárová).
- [39] *Fourier transforms of vector measures on some semigroups*, Tatra Mt. Math. Publ. **14** (1998), 283–292 (with A. Kolesárová).
- [40] *A generalized moment problem in vector lattices*, Busefal **75** (1998), 91–96 (with C. Debiève and M. Duhoux).
- [41] *Helly's theorem in vector lattices*, Busefal **75** (1998), 101–109 (with C. Debiève and M. Duhoux).
- [42] *Moment problem for effect algebras*, Internat. J. Theoret. Phys. **36** (1997), 1941–1958 (with A. Dvurečenskij and P. de Lucia).
- [43] *A generalized moment problem in vector lattices*, Soft Comput. **4** (2000), 2–4 (with C. Debiève and M. Duhoux).
- [44] *On Herglotz theorem in partially ordered vector spaces*, Soft Comput. **4** (2000), 5–8 (with P. Maličký).
- [45] *Helly's theorem in some Banach lattices*, Math. J. Toyama Univ. **23** (2000), 163–174 (with C. Debiève and M. Duhoux).
- [46] *On the Choquet integral for Riesz space valued measure*, Tatra Mt. Math. Publ. **19** (2000), 75–90 (with J. Haluška and B. Riečan).
- [47] *Moment problem for majorated operators*, Tatra Mt. Math. Publ. **19** (2000), 177–182 (with J. Haluška).
- [48] *Positive linear map on trigonometric polynomials*, Acta Univ. Mathaei Belii Nat. Sci. Ser. Ser. Math. **7** (2000), 47–54 (with P. Maličký).

- [49] *A Helly theorem in the setting of Banach spaces*, Tatra Mt. Math. Publ. **22** (2001), 105–114 (with C. Debiève and M. Duhoux).
- [50] *Survey of some topics of harmonic analysis*, Tatra Mt. Math. Publ. **23** (2001), 165–169.
- [51] *Moment Problem and Spectral Theorem*, Internat. J. Theoret. Phys. **45** (2002), 375–385 (with S. Pulmannová).
- [52] *Fourier transforms of vector-valued measures on a certain compact semigroup*, Tatra Mt. Math. Publ. **24** (2002), 89–103 (with A. Kolesárová).
- [53] *Moment problem for majorated operators*, Tatra Mt. Math. Publ. **24** (2002), 133–139 (with J. Haluška).
- [54] *Circadian changes of peripheral circulation at ill people with ischemic illness of extremities*. In: Bioclimatology in the World Contemporary Needs of Society. International conference, Smolenice 1992 (with P. Gavorník, I. Balažovjeh and A. Dukát). (Slovak)

#### Textbooks, lecture notes and books

- [1] *Mathematics*. Lecture Notes, Agriculture University, Nitra, 1960. (Slovak)
- [2] *Small Encyclopaedia of Mathematics. Parts: Theory of Stochastic Processes, Theory of Information* (1st ed.; 2nd revised ed.; 3rd extended edition), Obzor, Bratislava, 1967; 1978; 1981 (with many coauthors). (Slovak)
- [3] *Stochastic Processes*. Lecture Notes for Postgraduate Students, Comenius University, Bratislava, 1974. (Slovak)
- [4] *Introduction to a Theory of Stochastic Processes*. Lecture Notes, Comenius University, Bratislava, 1979. (Slovak)

#### Further publications

- [1] *Professor Ladislav Mišík fifty years old*, Mat. Časopis **21** (1971), 176. (Slovak)
- [2] *To the twentieth anniversary of founding of SAS*, Pokroky of MFA. Supplement **18** (1973). (Slovak)
- [3] *On limit theorems in probability theory*, Matematické obzory **5** (1974), 49–55. (Slovak)
- [4] *Professor Anton Huša sixty years old*, Mat. Časopis **25** (1975), 375–381, (with V. Šeda). (Slovak)
- [5] *Twenty years of Mathematical Institute of SAS*, Pokroky MFA **24** (1979), 241–244, (with J. Bosák). (Slovak)
- [6] *On Hardy-Weinberg genetic law*, Matematické obzory **29** (1987), 55–64. (Slovak)
- [7] *Honey-bees and goniometry*, Zenit (1988-89). (Slovak)
- [8] *Sinusoids and ECG (harmonic analysis)*, Zenit (1991). (Slovak)
- [9] *Harmonic analysis and biological rhythms*, Matematické obzory **39** (1993), 19–28. (Slovak)
- [10] *Combinatorics and blood system AB<sub>0</sub>*, Matematické obzory **40** (1993), 43–50. (Slovak)
- [11] *Proportion, adequacy – elements of beauty and life*, Obzory matematiky, fyziky a informatiky **44** (1996), 15–18. (Slovak)
- [12] *On some properties of functions sinus and cosinus*, Obzory matematiky, fyziky a informatiky **45** (1996), 14–18. (Slovak)