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PROFESSOR ŞTEFAN COBZAŞ AT HIS 60$^{\text{TH}}$ ANNIVERSARY

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At the western border of Romania, where the Mureş river leaves the Romanian territory and runs into the Tisza, there is a small town called Nădlac. Ştefan Cobzaş was born there on the 11$^{\text{th}}$ of December 1945 as son of the farmers Florea Cobzaş - father -, and Sofia Cobzaş - mother. At that time Nădlac was a village.

Ştefan Cobzaş attended elementary school (from 1952 to 1959) in his hometown. Then he studied at the most famous high school in Arad, the capital of the Mureş river plain. From 1963 to 1968, he was a student at the Faculty of Mathematics and Mechanics (nowadays the Faculty of Mathematics and Computer Science) of Babeş-Bolyai University, Cluj-Napoca, being awarded a diploma in Mathematics, with Mathematical Analysis as major. After graduation, he was a researcher at the Institute of Numerical Analysis of the Romanian Academy, the Cluj-Napoca branch, until 1977. In the same year, he was hired, following a contest, as instructor at the Department of Analysis (the current Department of Analysis and Optimization) of the faculty he had graduated nine years before. In this department Ştefan Cobzaş was successively promoted to the positions of assistant professor (1980), associate professor (1990) and finally full professor (1998).

In 1970, Ştefan Cobzaş married one of his fellow students, Lucia Maria Bordean. They have two children: Dana, born in 1975, and Alexandru, born in 1976. Both graduated from the same faculty as their parents (Faculty of Mathematics and Computer Science, Babeş-Bolyai University), but majored in different fields: Dana in Computer Science and Alexandru in Mathematics.

Professor Cobzaş is a specialist in analysis, in a broader sense of the term. Using a more precise language, we have to say that he is a specialist in mathematical

analysis, functional analysis, real analysis, topology and measure theory. While a student, Ştefan Cobzaş was attracted to the wide field of analysis, which he has never abandoned since then. His graduation thesis, written under the guidance of professor Ioan Muntean (1931-1996), dealt with the non-Archimedean topological vector spaces. It is under the coordination of professor Tiberiu Popoviciu that he began to prepare his doctoral thesis in the field of best approximation with constraints. Unfortunately, the great mathematician died in 1976 and, consequently, Ştefan Cobzaş completed his doctoral thesis under the coordination of professor Dimitrie D. Stancu. Ştefan Cobzaş successfully defended his doctoral thesis at Babeş-Bolyai University in 1979. Our colleague had also the opportunity to participate in professional training sessions abroad, which helped him to further improve his knowledge: in 1972 in Sofia (Bulgaria); in 1973 in Moscow (USSR); and in 1998 in Perpignan (France). The direct beneficiaries of professor Cobzaş's broad culture in the field of analysis are the students of the Faculty of Mathematics and Computer Science of Babeş-Bolyai University. His lectures and seminars have a high scientific level and, as a distinctive note, our colleague has always made subtle observations enriching the course itself and making it more attractive. This is evidence that Ştefan Cobzaş is not only an excellent mathematician, but also a very witty professor, his textbook *Mathematical Analysis* (*Differential Calculus*), published in the Romanian language at Cluj University Press in 1997, offering many examples in this respect.

Professor Cobzaş's professional qualities are fully emphasized by his 49 scholarly articles (see the appendix), which can be grouped into five categories: best approximation and optimization ([A.1] - [A.25]), finitely additive measures and support functionals ([B.1] - [B.3]), condensation of singularities ([C.1] - [C.5]), Lipschitz functions ([D.1] - [D.9]), miscellaneous topics ([E.1] - [E.7]). Professor Cobzaş's works and papers have been welcomed by the international scholarly community. From among those who have cited him we mention the following: Amstrong Th. E., Balaganskii V. S., Borwein J. M., Breckner W. W., Edelstein M., Fonf V. P., Fitzpatrick S., Jebelean P., Jourani A., Konyagin S. V., Mitrea A. I., Phelps R. R., Precupanu A.-M., Precupanu T., Reich S., Smarzewski R., Trif T., Zaslavski A. J. and others.

On behalf of the members of the Department of Analysis and Optimization of the Faculty of Mathematics and Computer Science of Babeş-Bolyai University, as well as on behalf of other colleagues and students of our faculty, we warmly congratulate Professor Ştefan Cobzaş on his 60th birthday wishing him good health and excellent achievements in his further research work.

List of Scientific Papers by Ştefan Cobzaş

A. Best approximation and optimization

A.1. *Strongly nonproximinal sets in c_0.* (Romanian). Rev. Anal. Numer. Teoria Aproximaţiei **2** (1973), 137-141

A.2. *Antiproximinal sets in some Banach spaces.* Math. Balkanica **4** (1974), 79-82

A.3. *Convex antiproximinal sets in the spaces c_0 and c.* (Russian). Mat. Zametki **17** (1975), 449-457

A.4. *Antiproximinal sets in Banach spaces of continuous functions.* Rev. Anal. Numér. Théor. Approx. **5** (1976), 127-143

A.5. *Antiproximinal sets in Banach spaces of c_0-type.* Rev. Anal. Numér. Théor. Approx. **7** (1978), 141-145

A.6. *Nonconvex optimization problems on weakly compact subsets of Banach spaces.* Rev. Anal. Numér. Théor. Approx. **9** (1980), 19-25

A.7. *Duality relations and characterizations of best approximation for p-convex sets.* Rev. Anal. Numér. Théor. Approx. **16** (1987), 95-108

A.8. *On a theorem of V. N. Nikolski on the characterization of best approximation for convex sets.* Rev. Anal. Numér. Théor. Approx. **19** (1990), 7-13

A.9. *Some remarks on the characterization of nearest points.* Studia Univ. Babeş-Bolyai, Mathematica **35** (1990), No. 2, 54-56

A.10. *Best approximation in spaces of bounded vector-valued sequences.* Rev. Anal. Numér. Théor. Approx. **23** (1994), 63-69

A.11. *Selections associated to the metric projection.* Rev. Anal. Numér. Théor. Approx. **24** (1995), 45-52 (with C. Mustăţa)

A.12. *Extension of bilinear operators and best approximation in 2-normed spaces.* Rev. Anal. Numér. Théor. Approx. **25** (1996), 63-75 (with C. Mustăţa)

A.13. *Extension of bilinear operators and best approximation in 2-normed spaces.* In: Göpfert A., Seeländer J., Tammer Chr. (eds.), *Methods of Multicriteria Decision Theory, Proceedings of the 6th Workshop of the DGOR-Working Group Multicriteria and Decision Theory,* Alexisbad 1996. Verlag Dr. Hänsel-Hohenhausen, Egelsbach, 1997, 19-29 (with C. Mustăţa)

A.14. *Antiproximinal sets in the Banach space c(X).* Comment. Math. Univ. Carolin. **38** (1997), 247-253

A.15. *Extension of bilinear functionals and best approximation in 2-normed spaces.* Studia Univ. Babeş-Bolyai, Mathematica **43** (1998), No. 2, 1-13 (with C. Mustăţa)

A.16. *Antiproximinal sets in the Banach space* $C(\omega^k, X)$. Rev. Anal. Numér. Théor. Approx. **27** (1998), 47-58

A.17. *Antiproximinal sets in Banach spaces.* Acta Univ. Carolin., Math. Phys. **40** (1999), 43-52

A.18. *Existence results for some optimization problems in Banach spaces.* In: Lupşa L., Ivan M. (eds.), *Analysis, Functional Equations, Approximation and Convexity.* Proceedings of the conference held in honour of Professor Elena Popoviciu on the occasion of her 75th birthday in Cluj-Napoca, October 15-16, 1999. Editura Carpatica, Cluj-Napoca, 1999, 39-44

A.19. *Generic existence of solutions for some perturbed optimization problems.* J. Math. Anal. Appl. **243** (2000), 344-356

A.20. *Antiproximinal sets in Banach spaces of continuous vector-valued functions.* J. Math. Anal. Appl. **261** (2001), 527-542

A.21. *Phelps type duality results in best approximation.* Rev. Anal. Numér. Théor. Approx. **31** (2002), 29-43

A.22. *Best approximation in random normed spaces.* In: Oyibo G. (ed.), *Advances in Mathematics Research.* Vol. 5. Nova Sci. Publ., Hauppage, New York, 2003, 1-18

A.23. *Extension of bounded linear functionals and best approximation in spaces with asymmetric norm.* Rev. Anal. Numér. Théor. Approx. **33** (2004), 39-50 (with C. Mustăţa)

A.24. *Separation of convex sets and best approximation in spaces with asymmetric norm.* Quaest. Math. **27** (2004), 275-296

A.25. *Geometric properties of Banach spaces and the existence of nearest and farthest points.* Abstr. Appl. Anal. **2005:3** (2005), 259-285

B. Finitely additive measures and support functionals

B.1. *Hahn decompositions of finitely additive measures.* Arch. Math. (Basel) **27** (1976), 620-621

B.2. *Support functionals of the unit ball in Banach spaces of bounded functions.* Babeş-Bolyai University Cluj-Napoca, Seminar on Mathematical Analysis, 1986, 85-90

B.3. *Support points and the convexity of sets in topological vector spaces.* An. Univ. Timişoara, Ser. Mat.-Inform. **36** (1998), No. 2, 237-242

C. Condensation of singularities

C.1. *Condensation of singularities and divergence results in approximation theory.* J. Approx. Theory **31** (1981), 138-153 (with I. Muntean)

C.2. *Double condensation of singularities for Walsh-Fourier series.* Rev. Anal. Numér. Théor. Approx. **21** (1992), 119-129

C.3. *A superdensity theorem.* Mathematica **39(62)** (1997), 37-44 (with I. Muntean)

C.4. *Triple condensation of singularities for some interpolation processes.* In: Stancu D. D., Coman G., Breckner W. W., Blaga P. (eds.), *Approximation and Optimization.* Proceedings of ICAOR: International Conference on Approximation and Optimization, Cluj-Napoca, July 29 - August 1, 1996. Vol. 1. Transilvania Press, Cluj-Napoca, 1997, 227-232 (with I. Muntean)

C.5. *Superdense a.e. unbounded divergence in some approximation processes of analysis.* Real Anal. Exchange **25** (1999/2000), 501-512 (with I. Muntean)

D. Lipschitz functions

D.1. *Continuous and locally Lipschitz convex functions.* Mathematica **18(41)** (1976), 41-51 (with I. Muntean)

D.2. *Norm-preserving extension of convex Lipschitz functions.* J. Approx. Theory **24** (1978), 236-244 (with C. Mustăţa)

D.3. *On the Lipschitz properties of continuous convex functions.* Mathematica **21(44)** (1979), 123-125

D.4. *Lipschitz properties of convex functions.* Babeş-Bolyai University Cluj-Napoca, Seminar on Mathematical Analysis, 1985, 77-84

D.5. *Extreme points in Banach spaces of Lipschitz functions.* Mathematica **31(54)** (1989), 25-33

D.6. *Extension of Lipschitz functions and best approximation.* In: Popoviciu E. (ed.), *Research on the Theory of Allure, Approximation, Convexity and Optimization.* SRIMA, Cluj-Napoca, 1999, 3-21 (with C. Mustăţa)

D.7. *Lipschitz properties for families of convex mappings.* In: Cho Y. J., Kim J. K., Dragomir S. S. (eds.), *Inequality Theory and Applications.* Vol. I. Nova Sci. Publ., Huntington, New York, 2001, 103-112

D.8. *Compactness in spaces of Lipschitz functions.* Rev. Anal. Numér. Théor. Approx. **30** (2001), 9-14

D.9. *Adjoints of Lipschitz mappings.* Studia Univ. Babeş-Bolyai, Mathematica **48** (2003), No. 1, 49-54

E. Miscellaneous topics

E.1. *Separation theorems for convex sets in locally convex non-Archimedean spaces.* (Romanian). Rev. Anal. Numer. Teoria Aproximaţiei **3** (1974), 137-141

E.2. *On the starlikeness and convexity of holomorphic functions.* Babeş-Bolyai University Cluj-Napoca, Seminar on Geometric Function Theory, 1986, 80-90

E.3. *On the Schauder's theorem on the compactness of the conjugate mapping.* Babeş-Bolyai University Cluj-Napoca, Seminar on Mathematical Analysis, 1990, 83-86

E.4. *Note on the paper of I. Muntean "On the method of near equations"* Calcolo 32 (1995), no. 1-2, 1-15. Rev. Anal. Numér. Théor. Approx. **26** (1997), 29-32

E.5. *Some questions in the theory of Šerstnev random normed spaces.* Bull. Şt. Univ. Baia Mare, Ser. B Fasc. Mat.-Inform. **18** (2002), No. 2, 177-186

E.6. *Asymmetric locally convex spaces.* Int. J. Math. Math. Sci. **2005:16** (2005), 2585-2608.

E.7. *Fixed point theorems in locally convex spaces - The Schauder mapping method.* Fixed Point Theory Appl. **2006**, Article ID 57950, 1-13