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PROFESSOR GHEORGHE MICULA AT HIS 60TH ANNIVERSARY

RADU PRECUP

Dedicated to Professor Gheorghe Micula at his 60^{th} *anniversary*

Professor Gheorghe Micula was born in Delureni (Bihor County), Romania, on April 23, 1943. He graduated the Faculty of Mathematics and Mechanics of the Babeş-Bolyai University in 1965, with Magna cum Laudae qualification. In 1971 he obtained the Ph. D. degree with the thesis "Contributions to numerical solutions of differential equations by means of splines", elaborated under the guidance of D. V. Ionescu. He was successively Assistant Professor (1965-1971), Lecturer (1971-1990) and Associate Professor (1990-1992) at the Chair of Differential Equations of the Faculty of Mathematics and Computer Science. Since 1992 he is full Professor at the same chair.

He married in 1965 Maria Vasile. They have one daughter, Sanda, who also graduated Faculty of Mathematics and Computer Science of Babeş-Bolyai University.

He was Fellow: A. v. Humboldt (1973-1975) - Universities of Freiburg, Mainz and Berlin; DAAD - Universities of Marburg, Berlin, Darmstadt, Siegen and Würzburg; and Fulbright-University of Kentucky Lexington (USA). Also, between 1974-2003 he was Visiting Professor at several universities, in Germany, Israel, China, New Zealand, Turkey, South Korea and Italy.

Professor Micula obtained the First Prize in Mathematics of Balkan Union of Mathematics (Athens 1973) and "S. Stoilov" Prize of Romanian Academy (1980). He is Doctor Honoris Causa of University of Oradea.

Professor Micula is the president of Cluj section of Romaniam Mathematical Society, vice-president of the Romanian section of GAMM (Germany) and member of the Amer. Math. Soc., European Mech. Soc. and European Math. Soc.

The research interests of Professor Micula go to the numerical solutions of differential, integral and partial differential equations, spline functions, numerical analysis and approximation theory, and are reflected by his 7 books and over than 80 published papers.

The impact of his research on the mathematical community is proved by the quotations of his works in papers by J. Böhmer, J. Butcher, Ju. N. Subbotin, W. Schempp, G. Meinardus, H. Brunner, N. H. Mülthei, G. Hämerlin, Ju. S. Zavjalov, G. Nürnberger, J. W. Schmidt, W. Haussmann, B. D. Bojanov, K. E. Atkinson, J. Györvary, B. Kvasov, etc.

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On behalf of my colleagues in the Chair of Differential Equations, I wish Professor Micula a long life, good health and all the best for many years to come.

LIST OF PUBLICATIONS

I. Monographs, books and textbooks

1. *Spline Functions and Applications* (Romanian). Bucharest Technical Publishing House, 1978, 348 pp. (Book distinguished with "The first Prize of the Romanian Academy of Science", Bucharest 1980).
2. *Teoria funcţiilor spline şi aplicaţii.* Litografia Univ.Cluj-Napoca, 1979, 136 p.
3. *Culegere de Probleme şi Exerciţii de Ecuaţii Diferenţiale şi Integrale*, Litografia Univ. Babeş-Bolyai, Cluj-Napoca, 1980 (joint book with M. Frenkel, P. Pavel, B. Ionescu).
4. *Probleme de ecuaţii diferenţiale şi cu derivate parţiale*, Editura Didactică şi Pedagogică, Bucureţi, 1982 (joint book with I. A. Rus, P. Pavel, B. Ionescu).
5. *Theory and Applications of Spline Functions.* Freie Univerität Berlin, Preprint Nr. A 89/1. Fachbereich Mathematik, Seria A, 1989, Mathematik 249 p.
6. *Differential Equations and Integral Equations by Practical Exercises and Problems* (Romanian). Dacia Publishing House Cluj-Napoca, Romania, 1989, 290 p. (joint book with P. Pavel).
7. *Theory and Applications of Spline Functions, Part. I and Part. II* Preprint Nr. A-91-33, Freie Universität Berlin, Fachbereich Mathematik, Seria A, Mathematik, Berlin (1991), 330 p. (co-editor R. Gorenflo).
8. *Differential and Integral Equations through practical problems and exercises.* Kluwer Academic Publishers, Dordrecht, The Netherlands (1992), 408 p. (joint book with P. Pavel).
9. *Handbook of Splines,* Kluwer Academic Publishers, Dordrecht-Boston-London, 1999, 624 pp. (joint book with Sanda Micula).

II. Articles

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5. *Approximate integration of systems of differential equations by spline functions.* Studia Univ. Babeş-Bolyai, Cluj, Series Math. Fasc. 2 (1971), 27-39.

6. *Fonctions spline d'approximation pour les solutions des systèmes d'équations différentielles.* Anal. St. Univ. Al. I. Cuza, Iaşi 27 (1971), 139-155.
7. *Contributions to the numerical solution of differential equations by spline functions.* (roumanian). Doctoral dissertation, Univ. of Cluj, Romania, 1971.
8. *Spline functions approximating the solution of nonlinear differential equation of n-th order.* ZAMM, 52 (1972), 189-190.
9. *Funcţii spline de grad superior de aproximare a soluţiilor sistemelor de ecuaţii diferenţiale.* Studia Univ. Babeş-Bolyai Cluj, Fasc. 1 (1972), 21-32.
10. *Numerical integration of differential equation $y^{(n)} = f(x, y)$ by spline functions.* Rev. Roum. Math. Pures et Appl. (Bucharest), 1 (1972), 1385-1390.
11. *Approximate solution of the differential equation $y'' = f(x, y)$ with spline functions.* Math. Comput. 27 (1973), 807-816.
12. *Sur la résolution numérique des équation integrale du type de Volterra de seconde éspèce à l'aide des fonction spline.* Studia Univ. Babeş - Bolyai Cluj, Series Mathematica, Fasc. 2 (1973), 65-68 (joint paper with M. Micula).
13. *Die numerische Lösung nichtlinearer Differentialgleichungen unter Verwendung von Spline-Funktionen.* Lect. Notes in Math. 395, Springer, 1974, 57-83.
14. *Deficient spline approximate solutions to linear differential equations of the second order.* Mathematica (Cluj), 16 (39) (1974), 65-72.
15. *The numerical solution of Volterra integro-differential equations by spline functions.* Rev. Roum. Math. Pures et Appl. (Bucharest), 20 (1975), 349-358.
16. *Über die numerische Lösung nichtlinearer Differentialgleichungen mit Splines von niedriger Ordnung.* Internat. Ser. Numer. Math. 27 (1975), 185-195. Birkhäuser Verlag, Basel-Stuttgart, 1975.
17. *The numerical solution of nonlinear differential equations by deficient spline functions.* ZAMM, 55 (1975), 254-255.
18. *Bemerkungen zur numerischen Lösung von Anfangeswertproblemen mit Hilfe nichtlinearer Spline-Funktionen.* Lect. Notes in Math. 501 (1975), 200-209. Springer, 1975.
19. *On the approximative solution of nonlinear differential equations of the second order by deficient spline functions.* Lucrări Ştiinţifice, Seria A, Inst. Ped. Oradea, (Romania), (1975), 7-11.
20. *Bemerkungen zur numerischen Behandlung von nichtlinearer Volterraschen Integralgleichungen mit Splines.* ZAMM, 56 (1976), 302-304.
21. *Numerische Behandlung der Volterra - Integralgleichungen mit Splines.* Studia Univ. Babeş-Bolyai, Cluj-Napoca, 24 (1979), Fasc. 2, 46-54.

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28. *The spline technique in the theory of differential equations.* Proceedings of the Conference on Differential Equations. Cluj-Napoca, November 21-23, 1985, 29 p.
29. *Numerical solution of some linear elliptic problems by spline functions.* Proc. Itinerant Seminar on Functional Equations, Approximation and Convexity. Iaşi, (Romania), 26 Oct. 1986, 13-17.
30. *Nonpolynomial spline functions for the approximate solution of system of ordinary differential equations.* Research Seminars, Seminar on Numer. and Statist. Calculus, Preprint No 9, (1987), 143-153, Univ. of Cluj-Napoca (joint paper with M. Micula).
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39. *Approximate solution of the second order differential equations with deviating argument by deficient spline functions.* Bul. Şt. Inst. Politehnic Cluj-Napoca, Seria Matematică-Mecanică, Vol.34,(1991) (joint paper with H. Akça and I. Dag).
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41. *Numerical solutions of system of differential equations with deviating argument by spline functions.* Acta Technica Napocensis, Series Applied Math. and Mech., 35 (1992), 107-116 (joint paper with H. Akça).
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47. *On the use of spline functions of even degree for the numerical solution of the delay differential equations.* Calcolo, Vol. 32 (1995), No. 1-2, 83-101 (joint paper with P. Blaga and H. Akça).
48. *Deficient spline approximations for second order neutral delay differential equations.* Studia Babeş-Bolyai, Mathematica, 40 (1995), No. 4, 85-97 (with H. Akça and G. Arslan).

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50. *The numerical solution of differential equation with retarded argument by means of natural spline functions of even degree.* Internat. J. Computer Math., UK, 61 (1996), No. 1-2, 1-18 (joint paper with P. Blaga and M. Micula).
51. *The numerical treatment of delay differential equation with constant delay by natural spline functions of even degree.* Libertas Mathematica, 16 (1996), 123-131 (joint paper with P. Blaga and H. Akça).
52. *A polynomial spline approximation method for solving Volterra integro-differential equations.* Studia Univ. Babeş-Bolyai, Mathematica, 41 (1996), No.4, 71-80 (joint paper with A. Ayad).
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64. *Spline Functions and Applications.* References. Preprint 99-15, Universität Stuttgart, Mathematisches Institut A, 1999, 236 pp. (joint paper with W.L.Wendland).
65. *An implicit numerical spline method for systems of ordinary differential equations.* Applied Mathematics and Computation, 111 (2000), 121-132 (joint paper with A. Revnic).
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67. *The "D. V. Ionescu Method of Function φ" and Spline Functions.* Libertas Mathematica, 21 (2001), 15-26, Volume dedicated to the Centennial Birthday of D. V. Ionescu (joint paper with M. Micula).
68. *Polynomial spline functions of even degree approximating the solutions of (delay) differential equations* II. ZAMM, 81 (2001), Supl. 1, 83 -85 (joint paper with P. Blaga).
69. *Numerical solution of the delay differential equations by nonpolynomial spline functions.* Studia Univ. "Babeş-Bolyai", Informatica, 46 (2001), No. 2, 91-98 (joint paper with V. A. Căuş).
70. *On the numerical approach of Korteweg - de Vries - Burger equations by spline finite element and collocation methods.* Seminar on Fixed Point Theory Cluj-Napoca, 3 (2002), ICNODEA 2001, 261-270 (joint paper with M. Micula).
71. *A new deficient spline functions collocation methods for the second order delay differential equations.* PUMA, Budapest, 13 (2003), 97-109 (joint paper with F. Calio, E. Marchetti, R. Pavani).
72. *A variational approach to spline functions theory.* Rend. Sem. Mat. Univ. Pol. Torino, 61(2003), Nr. 1, 41-59.

III. Miscellanea

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2. *Profesorul emerit D. V. IONESCU la împlinirea vârstei de 80 de ani.* Gazeta Matematică, Bucharest, vol. 86, Nr. 6, 1981, 225-226.

3. *Theorie und Anwendungen von Spline-Funktionen.* Literaturverzeichnis. Preprint Nr. 890, März 1985. Technische Hochschule Darmstadt, B. R. D., Fachbereich Mathematik, 162 pp.
4. *Spline-Funktionen und Anwendungen.* Literaturverzeichnis. Preprint Nr. 1071, Juli 1987. Technische Hochschule Darmstadt, B. R. D. 219 p.
5. *Leonhard Euler. Life and Mathematical Creation.* Plenary Lecture. In: Proceedings of the Annual Meeting of the Romanian Soc. Sc. Math. Roumanie, Cluj-Napoca, May 27-31, 1998. Ed. Digital Data, Cluj-Napoca 1998, 17-24.
6. *O carte în sprijinul înţelegerii matematicii şi informaticii.* In: Proceedings of the Annual Meeting of the Romanian Soc. Sc. Math. Roumanie, Cluj-Napoca, May 27-31, 1998, Ed. Digital Data, Cluj-Napoca 1999, 1-5.
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Faculty of Mathematics and Computer Science,
Babeş-Bolyai University, Cluj-Napoca, Romania