

## Lista de lucrari

### Alexandru Mihai Bica

#### **A) Lucrari relevante (max. 10) indexate MathSciNet, Zentralblatt fur Mathematik, Web of Science**

A1. A. M. Bica, Algebraic structures for fuzzy numbers from categorial point of view, *Soft Computing*, 11 (2007) 1099-1105; Zbl: 1125.03039, (Factor de Impact (FI) 1.124, Scor Relativ de Influenta (SRI) 0.77).

A2. A.M. Bica, S. Muresan, Approaching nonlinear Volterra neutral delay integro-differential equations with the Perov's fixed point theorem, *Fixed Point Theory*, vol.8, no.2, 2007, 187-200; MR 2358987, (FI 0.779, SRI 0.365).

A3. A. M. Bica, The numerical method of successive interpolations for two-point boundary value problems with deviating argument, *Computers & Math. with Applications*, 62 (2011) 3829-3843; MR: 2852103, (FI 2.069, SRI 1.117).

A4. A. M. Bica, Fitting data using optimal Hermite type cubic interpolating splines, *Applied Mathematics Letters*, 25, no.12 (2012) 2047-2051; MR: 2967787, (FI 1.501, SRI 0.854).

A5. A. M. Bica, M. Curila, S. Curila, About a numerical method of successive interpolations for functional Hammerstein integral equations, *J. of Comput. & Applied Mathematics*, 236 (2012) 2005-2024; MR: 2863531, (FI 0.989, SRI 0.851).

A6. A. M. Bica, C. Popescu, Numerical solutions of the nonlinear fuzzy Hammerstein-Volterra delay integral equations, *Information Sciences*, 233 (2013) 236-255; MR: 2998563, (FI 3.643, SRI 2.017).

A7. A. M. Bica, One-sided fuzyy numbers and applications to integral equations from epidemiology, *Fuzzy Sets & Systems*, 219 (2013) 27-48; MR: 3035732, (FI 1.749, SRI 1.276).

A8. A.M. Bica, M. Curila, S. Curila, The method of successive interpolations solving initial value problems for second order functional differential equations, *Fixed Point Theory* 14, no.1(2013) 67-90; MR: 3088673, (FI 0.779, SRI 0.365).

A9. A. M. Bica, Optimizing at the end-points the Akima's interpolation method of smooth curve fitting, *Computer Aided Geometric Design*, 31 (2014) 245-257 (FI 0.81, SRI 1.006).

A10. A.M. Bica, C. Popescu, Approximating the solution of nonlinear Hammerstein fuzzy integral equations, *Fuzzy Sets & Systems*, 245 (2014) 1-17; (FI 1.749, SRI 1.276).

#### **B) Teza de doctorat**

B1. Modele matematice in biologie guvernate de ecuatii diferențiale, Universitatea „Babes-Bolyai”, Cluj-Napoca, 2004.

#### **C) Carti, tratate, monografii, capitole de carti** (indexate MathSciNet, Zentralblatt fur Mathematik, Scopus, Web of Science)

C1. A. M. Bica, Aplicații actuale ale metodei aproximățiilor succesive, Editura Universității din Oradea (176 pagini), 2008, ISBN : 978-973-759-680-2; (Zbl: 1191.65060, MR: 2561110).

C2. A. M. Bica, Metode numerice iterative pentru ecuatii operatoriale, Editura Universitatii din Oradea, 209 pagini, 2006, ISBN 973-759-007-4; (Zbl: 05567208).

C3. A. Bica, S. Muresan, Applications of the Perov's fixed point theorem to delay integro-differential equations, in: Fixed Point Theory and Applications, vol.7, (eds. Yeol Je Cho, Kim J.K., Kang S.M.), capit. 3, Nova Science Publishers Inc., New-York, 2007, pag. 17-41, ISBN: 1-59454-877-2 ; MR: 2355751, (WOS 000248942500003).

C4. A. Bica, L. Galea, S. Muresan, Application of the Picard operators to second order ODE's, in: Trends in Evolution Equation Research (ed. Gaston M. N'Guerekata), Nova Science Publishers, New York, 2008, capitolul 3, pp. 43-51, ISBN: 978-1-60456-270-5; MR: 2409145, (WOS 000273476100015).

C5. A.M. Bica, A New Point of View to Approach First Order Neutral Delay Differential Equations, in: New Research on Evolution Equations (ed. Gaston M. N'Guerekata), Nova Science Publishers Inc., New-York, 2009, capitolul 7, pag. 105-122, ISBN: 978-1-60456-102-9, (WOS 000273475500007).

C6. A.M. Bica, Application of a perturbed trapezoid inequality to first order delay differential equations, in: Inequality Theory and Applications, vol. 6, (eds. Yeol Je Cho, Jong Kyu Kim, Sever S. Dragomir), Nova Science Publishers Inc., New-York, 2010, capitolul 10, pag. 71-86; ISBN: 978-1-62100-849-1 (print), 978-1-61668-737-3 (e-book), (WOS 000284339900010).

C7. A. Bica, Lyapunov function for a bidimensional system-model in the glucose homeostasy and clinical interpretations, in: Focus on Evolution Equations (ed. Gaston M. N'Guerekata), Nova Science Publishers Inc., New-York, 2011, capitolul 4, pag. 75-86, ISBN: 978-160021342-7, (indexat Scopus).

#### **D1) Articole publicate in reviste indexate Web of Science, MathSciNet si Zentralblatt fur Mathematik**

[1] A. M. Bica, M. Curila, S. Curila, Optimal piecewise smooth interpolation of experimental data, Int. J. of Computers, Commun. & Control, vol.1, special issue, (2006) 74-79; WOS 000203014800011, (FI 0.441, SRI 0.199).

[2] A. M. Bica, S. Muresan, Approaching nonlinear Volterra neutral delay integro-differential equations with the Perov's fixed point theorem, Fixed Point Theory 8, no.2 (2007) 187-200; MR: 2358987, (FI 0.779, SRI 0.365).

[3] A. M. Bica, V. A. Caus, I. Fechete, S. Muresan, Application of the Cauchy-Buniakovski-Schwarz's inequality to an optimal property for cubic splines, J. of Computational Anal. & Appl. 9, no.1 (2007) 43-53; MR: 2300868, (FI 0.502, SRI 0.274).

[4] A. M. Bica, Algebraic structures for fuzzy numbers from categorial point of view, Soft Computing, 11 (2007) 1099-1105; Zbl: 1125.03039, (FI 1.124, SRI 0.77).

[5] A. M. Bica, Error estimation in the approximation of the solution of nonlinear fuzzy Fredholm integral equations, Information Sciences, 178, no. 5 (2008) 1279-1292; MR: 2379395, (FI 3.643, SRI 2.017).

[6] A. M. Bica, On iterates of Cheney-Sharma operator, J. of Computational Anal. & Appl. 11, no.2 (2009) 271-273; MR: 2508914, (FI 0.502, SRI 0.274).

[7] A. M. Bica, M. Curila, S. Curila, Approximating the solution of second order differential equation with retarded argument, J. of Computational Anal. & Appl. 12, no.1-A (2010) 37-47; MR: 2641746, (FI 0.502, SRI 0.274).

[8] A. M. Bica, L.F. Galea, Smooth dependence by lag at initial value problems for delay integro-differential equation, Carpathian J. of Mathematics, 26 (1) (2010) 41-51; MR: 2676716, (FI 0.852).

[9] A. M. Bica, M. Curila, S. Curila, About a numerical method of successive interpolations for two-point boundary value problems with deviating argument, Applied Math. & Computation, 217 (2011) 7772-7789; MR: 2799789, (FI 1.349, SRI 0.669).

- [10] A. M. Bica, The numerical method of successive interpolations for two-point boundary value problems with deviating argument, *Computers & Math. with Applications*, 62 (2011) 3829-3843; MR: 2852103, (FI 2.069, SRI 1.117).
- [11] A. M. Bica, The numerical method of successive interpolations for Fredholm functional integral equations, *Numerical Algorithms*, 58 (2011) 351-377; MR: 2847525, (FI 1.128, SRI 1.000).
- [12] A. M. Bica, Fitting data using optimal Hermite type cubic interpolating splines, *Applied Mathematics Letters*, 25, no.12 (2012) 2047-2051; MR: 2967787, (FI 1.501, SRI 0.854).
- [13] A. M. Bica, M. Curila, S. Curila, About a numerical method of successive interpolations for functional Hammerstein integral equations, *J. of Comput. & Applied Mathematics*, 236 (2012) 2005-2024; MR: 2863531, (FI 0.989, SRI 0.851).
- [14] A. M. Bica, C. Popescu, Numerical solutions of the nonlinear fuzzy Hammerstein-Volterra delay integral equations, *Information Sciences*, 233 (2013) 236-255; MR: 2998563, (FI 3.643, SRI 2.017).
- [15] A. M. Bica, One-sided fuzzy numbers and applications to integral equations from epidemiology, *Fuzzy Sets & Systems*, 219 (2013) 27-48; MR: 3035732, (FI 1.749, SRI 1.276).
- [16] A. M. Bica, C. Popescu, Fuzzy spline interpolation with optimal property in parametric form, *Information Sciences*, 236 (2013) 138-155; MR: 3042325, (FI 3.643, SRI 2.017).
- [17] A. M. Bica, M. Curila, S. Curila, The method of successive interpolations solving initial value problems for second order functional differential equations, *Fixed Point Theory* 14, no.1(2013) 67-90; MR: 3088673, (FI 0.779, SRI 0.365).
- [18] A. M. Bica, Solving delay differential equations by successive interpolations, *Carpathian J. of Mathematics*, 29, no.2 (2013) 133-140; WOS 000325444400001, (FI 0.852).
- [19] A. M. Bica, C. Popescu, Approximating the solution of nonlinear Hammerstein fuzzy integral equations, *Fuzzy Sets & Systems*, 245 (2014) 1-17; (FI 1.749, SRI 1.276).
- [20] A.M. Bica, Optimizing at the end-points the Akima's interpolation method of smooth curve fitting, *Computer Aided Geometric Design* 31 (2014) 245-257 (FI 0.81, SRI 1.006).

#### **D2) Articole publicate in Proceedings ISI (indexate Web of Science)**

1. A.M. Bica, Quartic spline of interpolation with minimal quadratic oscillation in average, in: *Lecture Notes in Computer Science LNCS 5434, Numerical Analysis and Its Applications* (eds. S. Margenov, L. Vulkov, J. Wasniewski), Springer-Verlag, Heidelberg Berlin, 2009, pag. 200-207, ISBN: 978-3-642-00463-6, ISSN: 0302-9743; Zbl pre 05673682, (WOS 000265070800020), DOI: 10.1007/978-3-642-00464-3-20.

#### **D3) Articole publicate in reviste indexate MathSciNet si Zentralblatt fur Mathematik**

- [21] A.I. Ban, A.A. Bica, L. Coroianu, Metric properties of the extended weighted semi-trapezoidal approximations of fuzzy numbers and their applications, *Communications in Computer & Information Science* 299, *Advances in Computational Intelligence part 3*, (2012) 29-38 ; Zbl.1252.26025.
- [22] A.M. Bica, Properties of the method of successive approximations for two-point boundary value problems, *J. of Nonlinear Evolution Equations and Applications*, 1 (2011) 1-22; Zbl pre06004216.
- [23] A.M. Bica, New numerical method for Hammerstein integral equations with modified argument, *Analele Univ. Oradea, fasc. Matematica*, vol. XVII (2010) no.1, 33-44; Zbl: 1210.45006, MR: 2676407.

- [24] A.M. Bica, H. Oros, Combined new numerical method for Volterra integral equations of pantograph type, Discrete, Continuous and Impulsive Dynamical Systems, Series A, Mathematical Analysis vol.16, No. S1, Supplement, 162-168 (2009); Zbl: 1180.65174, MR: 2518863.
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- [32] A. M. Bica, Structural transitions for linear differential systems with application in physiology, Analele Univ. Oradea, fasc. mat., tom XIII, 2006, 31-42; MR: 2244710, Zbl: 1164.34447.
- [33] A. M. Bica, Successive approximations for Hammerstein integral equations, Analele Univ. Oradea, fasc. mat., tom XIII, 2006, 43-56; MR: 2244711, Zbl: 1164.65525.
- [34] A. Bica, S. Muresan, G. Grebenisan, Parameter dependenceof the solution of second order nonlinear ODE's via Perov's fixed point theorem, Australian Journal of Mathematical Analysis and Applications, vol.3, no.1, article 10, pp. 1-8, 2006; MR: 2215446, Zbl: 1101.34009.
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- Citari** (selectate de pe Web of Science, Scopus si Google Scholar): 62
- Citari aparute in reviste indexate Web of Science:** 33
1. H. Zhang, L. Chen, J.J. Nieto, A delayed epidemic model with stage- structure and pulses for pest management strategy, *Nonlin. Anal. Real World Appl.* 9 (2008) 1714-1726 (FI 2.201); citeaza [37].
  2. D.B. Pachpatte, On a nonstandard Volterra type dynamic integral equation on time scales, *Electronic J. of Qualitative Theory of Differential Equations*, 2009, no. 72, 1-14 (FI 0.74); citeaza [38].
  3. I.A. Rus, Some nonlinear functional differential and integral equations, via weakly Picard operator theory: a survey, *Carpathian J. Math.* 26, no.2 (2010) 230-258 (FI 0.852); citeaza [2] si C1.

4. N. Parandin, M.A. Fariborzi Araghi, The numerical solution of linear fuzzy Fredholm integral equations of the second kind by using finite and divided differences methods, *Soft Computing* 15 (2011) 729-741 (FI 1.124); citeaza [5].
5. M.A. Fariborzi Araghi, N. Parandin, Numerical solution of fuzzy Fredholm integral equations by the Lagrange interpolation based on the extension principle, *Soft Computing* 15 (2011) 2449-2456 (FI 1.124); citeaza [5].
6. C. Dubau, Optimal property of the shape of aeolian blade profile using cubic splines, *J. of Computational Anal. & Appl.* 13, no.2 (2011) 254-263 (FI 0.502); citeaza [3], [7], [36], C2.
7. Hehu Xie, Ran, Zhang, H. Brunner, The collocation methods for general Volterra functional integral equations with vanishing delays, *SIAM J. on Scientific Computing* 33, no.6 (2011) 3303-3332 (FI 1.949); citeaza [24].
8. D. Trif, Direct operatorial tau method for pantograph-type equations, *Applied Mathematics & Computation*, 219 (2012) 2194-2203 (FI 1.349); citeaza [9].
9. Z. Mako, Real vector space of L-R fuzzy intervals with respect to the shape –preserving t-norm-based addition, *Fuzzy Sets & Syst.* 200 (2012) 136-149 (FI 1.749); citeaza [4].
10. T. Catinas, D. Otrocol, Iterates of multivariate Cheney-Sharma operators, *J. of Comput. Anal. & Appl.* 15, no.7 (2013) 1240-1246 (FI 0.502); citeaza [6].
11. Xuezhi Wu, Optimal fuzzy quadrature formula for classes of fuzzy-number-valued functions of Lipschitz type, *Fuzzy Sets & Syst.* 223 (2013) 100-108 (FI 1.749); citeaza [28].
12. B. Bede, L. Stefanini, Generalized differentiability of fuzzy-valued functions, *Fuzzy Sets & Syst.* 230 (2013) 119-141 (FI 1.749); citeaza [5].
13. Dong Qiu, Chongxia Lu, Wei Zhang, On the normed space of equivalence classes of fuzzy numbers, *The Scientific World J.*, article ID 792484 (2013) (FI 1.73); citeaza [4].
14. Dong Qiu, Weiquan Zhang, Symmetric fuzzy numbers and additive equivalence of fuzzy numbers, *Soft Computing* 17, no.8 (2013) 1471-1477 (FI 1.124); citeaza [4].
15. R. Ezzati, S. Ziari, Numerical solution of nonlinear fuzzy Fredholm integral equations using iterative method, *Appl. Math. & Comput.* 225 (2013) 33-42 (FI 1.600); citeaza [4], [5], [14], [15], [19].
16. F. Mirzaee, M. Paripour, M. Komak Yari, Application of hat functions to solve Linear Fredholm fuzzy integral equation of the second kind, *J. of Intelligent & Fuzzy Syst.* 27, no. 1 (2014) 211-220 (FI 0.936); citeaza [14] si [15].
17. T. Allahviranloo, Sh. S. Behzadi, The use of airfoil and Chebyshev polynomials methods for solving fuzzy Fredholm integro-differential equations with Cauchy kernel, *Soft Computing* 18, no. 10 (2014) 1885-1897 (FI 1.124); citeaza [5].
18. Dong Qiu, Chongxia Lu, Wei Zhang, Y. Lan, Algebraic properties and topological properties of the quotient space of fuzzy numbers based on Mares equivalence relation, *Fuzzy Sets & Systems* 245 (2014) 63-82 (FI 1.749); citeaza [4].
19. Nguyen Van Luong, Nguyen Xuan Thuan, Coupled points in ordered generalized metric spaces and application to integro-differential equations, *Analele Stiintifice Univ. Ovidius Constanta*, 21, no. 3 (2013) 155-180 (FI 0.221); citeaza C3 si

articolul preprint: A. Bica, S. Muresan, Periodic solutions for a delay integro-differential equation in biomathematics, RGMIA Research Report Collection, vol.6, no.4, 755-761, 2003 (Victoria University of Technology, Melbourne, Australia).

20. S.S. Dragomir, Some Lipschitz type inequalities for complex functions, *Applied Math. & Computation* 230 (2014) 516-529 (FI 1.600); citeaza [28].
21. M. Zeinali, S. Shahmorad, K. Mirnia, Fuzzy integro-differential equations: discrete solution and error estimation, *Iranian J. of Fuzzy Systems* 10, no. 1 (2013) 107-122 (WOS 000321457900006); citeaza [5].
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23. M. Otadi, M. Mosleh, Numerical solutions of fuzzy nonlinear integral equations of the second kind, *Iranian J. of Fuzzy Systems* 11, no. 1 (2014) 135-145; citeaza [5].

**Citari aparute in articole indexate MathSciNet, Zentralblatt fur Mathematik, Scopus, INSPEC, EBSCO**

1. V.A. Caus, Cubic spline estimators of the probability density function, *Analele Univ. Oradea, Stiinte Econ.* 18,no. 2 (2009) 637-641; citeaza [3].
2. N.V. Skripnik, Averaging of fuzzy integral equations, *Applied Math. & Physics* 1, no. 3 (2013) 39-44; citeaza [5].
3. M. Mosleh, M. Otadi, Solution of fuzzy Volterra integral equations in a Bernstein polynomial basis, *J. of Advances in Information Technology* 4, no. 3 (2013) 148-155; citeaza [14] si [15].
4. M. Alavi, B. Asady, Symmetric triangular and interval approximations of fuzzy solution to linear Fredholm fuzzy integral equations of the second kind, *Iranian J. of Fuzzy Systems* 9, no. 6 (2012) 87-99; citeaza [5].
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6. Zai-jun Wang, Bao-fu Fang, Guo-qiang Shi, Omni-directional walking gait and path planning for biped humanoid robot, *Information Technology Journal* 12, no. 6 (2013) 1160-1167; citeaza [12].
7. D.B. Pachpatte, Properties of some dynamic integral equation on time scales, *Ann. Funct. Anal.* 4, no. 2 (2013) 12-26; citeaza [38].
8. N.A. Rajab, A.M. Ahmed, O.M. Al-Faour, Reduction formula for linear fuzzy equations, *Int. J. of Basic & Applied Sciences* 13, no. 1 (2013) 80-86; citeaza [5].
9. Y. Jafarzadeh, Numerical solution for fuzzy Fredholm integral equations with upper-bound on error by splines interpolation, *Fuzzy Inf. Eng.* 3 (2012) 339-347; citeaza [5].
10. T. Lotfi, K. Mahdiani, Fuzzy Galerkin method for solving Fredholm integral equations with error analysis, *Int. J. Industrial Math.* 3, no. 4 (2011) 237-249; citeaza [5].
11. M. Shafiee, S. Abbasbandy, T. Allahviranloo, Predictor-corrector method for nonlinear fuzzy Volterra integral equations, *Australian J. of Basic & Applied Sciences* 5, no. 12 (2011) 2865-2874; citeaza [5].
12. B.G. Pachpatte, On a certain Fredholm type sum-difference equation, *Tamsui Oxford J. of Math. Sciences* 26, no. 4 (2010) 423-432; citeaza [38].
13. Z. Mako, Real vector space with scalar product of quasi-triangular fuzzy numbers, *Acta Univ. Sapientiae, Mathematica* 1, no. 1 (2009) 51-71; citeaza [4].
14. R.V. Gabor, Successive approximations for the solution of second order advanced differential equations, *Carpathian J. Math.* 22, no. 1-2 (2006) 57-64; citeaza [48] si C2.

15. B.G. Pachpatte, On Volterra and Fredholm type integrodifferential equations, *Tamsui Oxford J. of Math. Sciences* 24, no. 3 (2008) 289-310; citeaza [38].
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