

# Raport de cercetare pe anul 2008

## I. Lucrări ISI

1. R. Brijder, M. Cavaliere, A. Riscos-Nunez, G. Rozenberg, **D. Sburlan** - *Membrane Systems with Proteins Embedded in Membranes*, Theoretical Computer Science, acceptat vol. , 404, 1-2 (2008), pp. 26-39.(ISI Impact Factor: 0,743)
2. M. Ionescu, **D. Sburlan** - *Several Applications of Spiking Neural P Systems*, Computing and Informatics, 27, 3+, 515-528, 2008 (ISI Impact Factor 2003: 0,254).
3. **Popa C.** - *Constrained Kaczmarz Extended algorithm for image reconstruction*, Linear Algebra and its Applications, 429(2008), 2247 - 2267.
4. **Popa C.** - *Algebraic Multigrid Smoothing Property of Kaczmarz's Relaxation for General Rectangular Linear Systems*, Electronic Transactions in Numerical Analysis (ETNA), 29(2008), 150 - 162.
5. Mohr M., **Popa C.** - *Numerical solution of symmetric least-squares problems with an inversion-free Kovarik type-algorithm*; Intern. Journal of Computer Math., 85 (2) (2008), 271-286.
6. **Popa C.** - *On numerical solution of arbitrary symmetric linear systems by approximate orthogonalization*, Mathematics and Computers in Simulation 79 (4), 1033-1038, 2008.
7. C. Bolance, M. Guillen, **E. Pelican** and **R. Vernic** - *Skewed bivariate models and nonparametric estimation for the CTE risk measure*, Insurance: Mathematics and Economics 43 (3), 386-393, (2008).
8. **Bogdan C.M.**, Păduraru A. - *Concern and Business Rule-Oriented Approach to Construction of Domain Ontologies*, Int. J. of Computers, Communications & Control, ISSN 1841-9836, E-ISSN 1841-9844, Vol III (2008), Suppl. Issue: Proceedings of the International Conference of Computers, Communications and Control (ICCCC 2008), pag. 185-189.
9. Pavel A.F., **Bogdan C.M.** - *Object-Oriented Construction of Portals Using AJAX*, Int. J. of Computers, Communications & Control, ISSN 1841-9836, E-ISSN 1841-9844, Vol III (2008), Suppl. Issue: Proceedings of the International Conference of Computers, Communications and Control (ICCCC 2008), pag. 442-447.
10. **Popovici D.M.**, **Bogdan C.M.**, Matei A., Voinea V., Popovici N. - *Virtual Heritage Reconstruction based on an Ontological Description of the Artifacts*, Int. J. of Computers, Communications & Control, ISSN 1841-9836, Vol III (2008), Suppl. Issue: Proceedings of the International Conference of Computers, Communications and Control (ICCCC 2008), pag. 460-464.
11. **Alexandrescu, A.** - *A Development Process for Enterprise Information Systems Based on Automatic Generation of the Components*. International Journal of Computers, Communications & Control, vol. III (2008). Suppl. Issue: Proceedings of the International Conference of Computers, Communications and Control (ICCCC 2008), pag. 168-172.

## II. Lucrări BDI

1. A. Bautu, **E. Bautu** - *Searching Ground States of Ising Spin Glasses with Genetic Algorithms and Binary Particle Swarm Optimization.- A Hybrid System of Nature Inspired Metaheuristics*, Nature Inspired Cooperative Strategies for Optimization (NICSO 2007), Series Studies in Computational Intelligence Springer, Vol. 129, Krasnogor, N.; Nicosia, G.; Pavone, M.; Pelta, D. (Eds.), 2008, ISBN: 978-3-540-78986-4, pp. 85-94.
2. M. Ionescu, **D. Sburlan** - *On P Systems with Adjoining Controlled Communication Rules*, Int. J. of Unconventional Computing, acceptat vol. 4, 2008.
3. **Vernic, R.** – “*Individual Risk Models*”. Encyclopedia of Quantitative Risk Assessment and Analysis (Melnick, E. and Everitt, B.-eds.), Wiley - Chichester, UK, pp.881-888, 2008.
4. **E. Bautu, E. Pelican** - *Symbolic approach for the generalized airfoil equation*, Creative Math. and Inf., 17 (2008), No. 2, 38—46.
5. **A. Rusu**, *Infinitely many functional pre-complete classes of formulas in the propositional provability intuitionistic logic*, Buletinul A.Ş. al Rep. Moldova, Matematica, 2007, nr. 1(53), p. 66-72. (ISSN: 1024-7696)

## III. Articole în reviste CNCSIS

1. **A. Leahu** and C. E. Lupu - *Statistical simulation and prediction in software reliability*. Analele Univ. Ovidius Constanța, Seria Matematică, vol. XVI (1), 2008, pp 81-90.
2. **C. Popa** - *On Cimmino's reflection algorithm*, Proceedings of the Romanian Academy, Series A, vol. 9, No. 1, January-April 2008.
3. **D.M. Popovici**, D. Talaba, E. Canciu, V. Voinea, C.M. Bogdan, N. Popovici - *Using virtual reality in 3d multi-modal reconstruction of historical sites*, Workshop on Virtual Reality in Product Engineering and Robotics: technology and applications; special issue of: Bulletin of the Transilvania University of Braşov, 2008, ISSN 1221-5872.
4. A. Bautu, **E. Bautu** - *Agent Based Simulation of Offshore Oil Pollution*, 2008, acceptat pentru publicare in Analele Univ. de Vest, Timisoara, Seria Matematica-Informatica.

## IV. Conferințe

### Lucrări publicate în volumele unor conferințe indexate ISI

1. **Bogdan C.** - *Concern-Oriented and Ontology-Based Design Approach of Software Architectures*, acceptat pentru publicare in Proceedings of the 10th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing, Timisoara, Romania, 2008.
2. A. Bautu, **E. Bautu**, H. Luchian - *Searching Ground States of Ising Spin Glasses with a Tree Bond-based Representation*, acceptat pentru publicare in Proceedings of the 10th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing, Timisoara, Romania, 2008.

3. **E.Bautu**, A. Bautu, H. Luchian - *An Evolutionary Approach for Modelling Time Series*, acceptat pentru publicare in Proceedings of the 10th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing, Timisoara, Romania, 2008.
4. **A. Bărbulescu, E. Pelican** – *On the Sulina Precipitation Data Analysis using the ARMA and a neural network technique*, Recent Advances in Mathematical and Computational Methods in Science and Engineering, Proceedings of the 10th WSEAS International Conference on Mathematical and Computational Methods in Science and Engineering, MACMESE'08, Part II, WSEAS Press, 2008, pp.508-511 (ISSN: 1790 - 2769).

#### **Alte proceedings-uri**

5. **O. Chelai** - *A Web-Based Application for Water Pressure Control*. Proceedings of the 8th International Conference on Technical Informatics, Timișoara, iunie 2008, vol. 1, pp. 139-142.
6. **Bogdan C.**, Serbanati LD., Shishmanian D. - *Understanding Concerns with Ontologies*, Proceedings of the 14th International Conference on Concurrent Enterprising, Lisabona, Portugalia, 2008 (ISBN 978 0 85358 244 1).
7. Shishmanian D., **Bogdan C.** - *Defining Performance Indicators for Industrial and Logistic Cross-enterprise Processes: Theoretical and Empirical Considerations*, Proceedings of the 14th International Conference on Concurrent Enterprising, Lisabona, Portugalia, 2008 (ISBN 978 0 85358 244 1).
8. **Bogdan C., Popovici D.M.** - *Authoring Tool for Narrative-oriented Educational Virtual Environments Using Ontologies*. Proceedings of VRIC 2008: 10<sup>th</sup> Virtual Reality International Conference, 2008, Laval, Franța.
9. **Bogdan C.**, Serbanati L.D. - *Concern-Oriented and Ontology Based Analysis of Information Systems*, acceptat pentru publicare in Proceedings of the 5th Conference of the Italian Chapter of AIS, Paris, Franta, 2008.
10. **Bogdan C.** - *Concern-oriented and Ontology-based Modular Architectural Design of Software Systems*, acceptat pentru publicare in Proceedings of the 1st Conference on Economics and Information Technology - e-Society-Knowledge & Innovation, Bucharest, Romania, 2008.
11. **Popa C.**, Zdunek R. - *On some constraining strategies in image reconstruction from projections*, in Proceedings of the 5th Workshop on Mathematical Modelling on Environmental and Life Sciences Problems, September 10-13, 2006 Constanta, Romania; Editura Academiei Romane, Bucuresti 2008, 173-180.
12. Koestler H., **Popa C.**, Pruemmer M., Ruede U. - *Algebraic full multigrid in image reconstruction*, in Proceedings of the 5th Workshop on Mathematical Modelling on Environmental and Life Sciences Problems, September 10-13, 2006 Constanta, Romania; Editura Academiei Romane, Bucuresti 2008, 123-130.
13. Duluman T., **Popa C.**- *Algebraic reconstruction technique versus conjugate gradient in image reconstruction from projections*, in Proceedings of the 5th Workshop on Mathematical Modelling on Environmental and Life Sciences Problems, September 10-13, 2006 Constanta, Romania; Editura Academiei Romane, Bucuresti 2008, 67-78.
14. Bautu A., **Bautu E., Popa C.**- *A weighted Kaczmarz algorithm in image reconstruction*, in Proceedings of the 5th Workshop on Mathematical Modelling on

- Environmental and Life Sciences Problems, September 10-13, 2006 Constanta, Romania; Editura Academiei Romane, Bucuresti 2008, 43-50.
15. A.Bocoi, **E. Pelican**, *Optical Flow*, in Proceedings of the 5th Workshop on Mathematical Modelling on Environmental and Life Sciences Problems, September 10-13, 2006 Constanta, Romania; Editura Academiei Romane, Bucuresti 2008, 51-56.
  16. **A. Alexandrescu** - *A Component Specification Language for the Enterprise Software*, The Second International Conference on Business and Information Technologies. New Approaches, Univ. Spiru Haret Facultatea de Contabilitate si Management Financiar, Craiova, 24-25 oct. 2008 ISBN 978-973-671-162-6.
  17. **D.M.Popovici**, J.P.Gerval, F.Hamza-Lup, N.Popovici, M.Polceanu, R.Zagan - *Learnign distributed activities inside 3D Virtual Spaces*, Proc. of ICVL 2008, pg. 289-296, Ed. Univ. Bucuresti, 2008, ISSN: 1844-8933.
  18. **D.M.Popovici**, M.Polceanu - *Interactive Informative Unit Based on Augmented Reality Technology*, Proc. of ICVL 2008, pg. 307-316, Ed. Univ. Bucuresti, 2008, ISSN: 1844-8933.
  19. A.Popovici, M.Polceanu, **D.M.Popovici** - *Catre un sistem de comunicare vizuala naturala om-calculator*, CNIV 2008, pg. 73-76, Ed.Univ.Bucuresti, 2008, ISSN: 1842-4708.
  20. **E. Zaharescu**, G.A. Zaharescu, *Hypermedia System for Online e-Learning and e-Testing in Project Management*, Proceedings of the 3rd International Conference On Virtual Learning, ICVL 2008 Constanța, October 31 – November 2, 2008, pag. 343-350 (ISSN 1844 – 8933). <http://www.icvl.eu/2008/files/icvl-contents.pdf>

#### **Participări la conferințe naționale**

1. **R. Vernic** - *Tail conditional expectation for the bivariate Pareto distribution of first kind*. A 11-a Conferință a Societății de Probabilități și Statistică din România, București, 18-19 Aprilie 2008.
2. **A. Leahu** - *Proiecția finită, reversibilitatea Lanțurilor Markov și dualitatea unor sisteme de așteptare*. A 11-a Conferință a Societății de Probabilități și Statistică din România, București, 18-19 Aprilie 2008.
3. **R. Vernic** - *On Sarmanov's distribution and the asymptotic ruin probability*. 7th Workshop on Mathematical Modeling of Environmental and Life Sciences Problems, October 22-25, 2008, Constanta.
4. G. Juncu, **A. Nicola**, **C. Popa** – *Nonlinear multigrid methods for water flow in variably satured porous media*. 7th Workshop on Mathematical Modeling of Environmental and Life Sciences Problems, October 22-25, 2008, Constanta.
5. **T. Udrescu**, T. Jahnke – *An adaptive method for the chemical master equation using hierarchical tiling*. 7th Workshop on Mathematical Modeling of Environmental and Life Sciences Problems, October 22-25, 2008, Constanta.
6. **E. Pelican**, A. Barbulescu – *Forecasting rainfalls in Dobroudgea area using wavelets and neural networks techniques*. 7th Workshop on Mathematical Modeling of Environmental and Life Sciences Problems, October 22-25, 2008, Constanta.
7. **A. Rusu** – *On algorithm deciding wheather a system of formulas containing paraconsistent negation in the modal logic S5 is functionally complete*. 7th Workshop on Mathematical Modeling of Environmental and Life Sciences Problems, October 22-25, 2008, Constanta.

8. A. Bautu, **E. Bautu** – *Simulation of marine oil pollution in a multi-agent framework*. 7th Workshop on Mathematical Modeling of Environmental and Life Sciences Problems, October 22-25, 2008, Constanta.
9. **A. Leahu**, C. Lupu – *Geometrically mixed bi-parametric exponential lifetime distribution*. 7th Workshop on Mathematical Modeling of Environmental and Life Sciences Problems, October 22-25, 2008, Constanta.
10. T. Duluman, **C. Popa** – *New developments on constrained projection algorithms for image reconstruction*. 7th Workshop on Mathematical Modeling of Environmental and Life Sciences Problems, October 22-25, 2008, Constanta.
11. **A. Nicola**, **C. Popa** - *Preconditioning by an extended matrix technique for convection-diffusion-reaction equations*; lucrare prezentata la International Conference Semicentennial "Tiberiu Popoviciu" Institute of Numerical Analysis, May 7-10, 2008, Cluj-Napoca, Romania; va apare in Revue d'Analyse Numerique et Theorie de l'Approximation.
12. **C. Popa**, **A. Rabaea** – *A regularization technique for a class of Kovarik-like algorithms*; lucrare prezentata la 6<sup>th</sup> International Conference on Applied Mathematics, September 18-21, 2008, North University, Baia Mare.
13. **A. Alexandrescu** - *A Methodology for Developing Enterprise Software Applications*, International Conference on Business and Economy (ICBE), Univ. Spiru Haret, Facultatea de Contabilitate si Management Financiar, Constanta 6-8 Noiembrie 2008.

### Internaționale

1. **Vernic, R.** – *Tail Conditional Expectation for the multivariate Pareto distribution of second kind*. Al 9-lea Colocviu Franco-Român, 28 August-2 Septembrie, Braşov, 2008.
2. **E. Pelican** - *On solving a first kind Fredholm and Volterra integral equations by means of hierarchical matrices*, 9ème Colloque Franco-Roumain de Mathématiques Appliquées, Brasov, 28 August – 2 Septembrie 2008.
3. **A. Bărbulescu, E. Pelican**, *Modeling the evolution of precipitation in a region of Romania*, 7th World Congress in Probability and Statistics – Singapore, 2008.
4. **C. Popa** - *On a stopping rule for iterative orthogonalization of symmetric matrices*; lucrare prezentata la International Congress GAMM 2008, March 31 - April 4, 2008, Bremen, Germany.
5. **E. Pelican** - *A Collocation-like Method for Solving a First Kind Volterra Integral Equation*, NumAn 2008 Book of Proceedings (Conference in Numerical Analysis NumAn 2008--Recent Approaches to Numerical Analysis; Theory, Methods and Applications), Kalamata, Greece, Septembrie 1-5, 2008, pp. 159-162.

### V. Cărți

1. **E. Zaharescu**, *Programare Web pentru comerț electronic* (2008), “EX PONTO” (ISBN: 973-9289-66-5) 259 pag.

### VI. Granturi de cercetare aflate în derulare

#### Naționale

1. Grant al Academiei Române GAR 24/2007- 22/17.04.2008, director: **Leahu Alexei**, titlu proiect: PROCESE STOCASTICE ȘI REPARTIȚII APLICATE ÎN FIABILITATE ȘI ACTUARIAT: SIMULAREA ȘI ANALIZA LOR STATISTICĂ.
2. Proiect PNCDI 2 – 11-041/18.09.2007, director: **D.M. Popovici**, titlu proiect: UTILIZAREA REALITĂȚII VIRTUALE ÎN RECONSTITUIREA MULTIMODALĂ 3D A SITE-URILOR ISTORICE (acronim TOMIS).
3. Proiect CEEEX nr 26/3.10.2005 - Integrarea bazata pe semantica a serviciilor publice in sprijinul mediului de afaceri (SEM A2B), director de proiect: Mat.dr. Alexandra Galatescu, 2005 -2008; membru **C. Bogdan**.
4. Contract CEEEX Nr. 2-CEX06-11-97/19.09.06, BIOMAT ; membru în echipa de cercetare IMAR : **D. Sburlan**.
5. Grant CNCSIS tip TD 199/2007 (octombrie 2007 - martie 2009) ; titlu: Programare genetica pentru probleme de optimizare in Inteligenta artificiala ; director : **E. Băutu**.
6. **E. Popescu** (executant): Proiectul PNCDI2, Programul 4, nr. 12-101/2008, Domeniul Tehnologia informației și comunicații. (Rezonatori de tip SAW și FBAR dedicați aplicațiilor pentru gama 2- 6 GHz și în domeniul senzorilor, obținuți prin tehnici de microprelucrare și nanoprocesare a semiconductorilor de bandă largă (GaN si AlN) - GIGASABAR), director: A. Muller, Institutul Național de Cercetare - Dezvoltare pentru Microtehnologie, în colaborare cu Institutul Național de Cercetare - Dezvoltare pentru Fizica Materialelor, Universitatea Politehnică București, Universitatea Ovidius Constanța, S.C. SITEX 45 SRL, 2008-2011.

### Internaționale

1. Proiect Phare CBC 2005 Romania-Bulgaria, Contract: RO 2005/017 – 535.01.01: responsabil: **D.M. Popovici**, titlu proiect: VENUS LA DUNAREA DE JOS – MOSTENIREA CULTURAL-ISTORICA – SURSA DE INVATARE SI INSPIRATIE PENTRU O DEZVOLTARE COMUNITARA ARMONIOASA; perioada 2007-2008.
2. Fonds Francophones des Inforoutes, PS/FF/cal/20071123-003: coordonator local **D.M. Popovici**, titlu proiect : "EMULACTION : Environnement Multimodal pour Activites Cooperatives Transnationales de formation" ; perioada 2007-2009.
3. Reteaua de Excelenta in Aplicatii ale Realitatii Virtuale si Mediilor Virtuale – INTUITION (FP6 - contract IST; [www.intuition-eunetwork.net](http://www.intuition-eunetwork.net) ) in cadrul grupurilor de lucru WG 2.9 – Education and Training using VR/VE si WG 2.11- Entertainment and culture, vice-leader al grupului W.G. 9: **D.M. Popovici**, 2004-2008.

### VII. Manifestări Stiințifice organizate

1. Seventh Workshop on Mathematical Modelling of Environmental and Life Sciences Problems, 22-25 octombrie 2008 (în colaborare cu Academia Română și Institutul de Statistică Matematică și Matematică aplicată "Gheorghe Mihoc - Caius Iacob).  
<http://esam.univ-ovidius.ro/7thworkshop/>.
2. A VI-a Conferință Națională de Învățământ Virtual, CNIV 2008 Constanța, 31 octombrie – 2 noiembrie 2008 (în colaborare cu Universitatea București și SIVECO SA). Domeniu tematic: e-Learning, Software educational. <http://cniv.ro/2008/>.
3. The 3rd International Conference on Virtual Learning, ICVL 2008 Constanța, October 31 – November 2, 2008 (in partnership with University of Bucharest and

SIVCO SA). Topics of interest: e-Learning, Educational software.  
<http://icvl.eu/2008/>.

Decan

Prof.dr.W.G. Boskoff