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## DARE DE SEAMĂ PE ANUL 2010

### Cărți în Editura Academiei

1. **Vasile Preda**, Balcau C, *Entropy optimization with applications*, 2010, 370 pp.

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5. **H. Dumitrescu**, **V. Cardos**, *Analysis of leading-edge separation bubbles on rotating blades*, Journal of Aircraft, Vol. 47, No. 5, pp. 1815-1819, 2010. FI 0.456
6. **M. Iosifescu**, *A new limit theorem for the continued fraction expansion*, pp. 247 – 252, in Walter Philipp Volume, Kendrick Press, 2010. (ISI, Impact Factor: 0.960)

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19. **Aurel Spătaru**, *Series of tail distributions of finitely inhomogeneous random walks*, J. Math. Anal. Appl. 369, 312-316 (2010). (ISI, Impact Factor: 1.225).
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2. Pîslaru-Danescu L., **Morega A.M.**, Telipan G., Stoica V., *Nanoparticles of ferrofluid Fe<sub>3</sub>O<sub>4</sub> synthesised by coprecipitation method used in microactuation process*, Optoelectronics and Advanced Materials-Rapid Communications, 4, 8, pp. 182-1186, Published: Aug. 2010 (ISI).
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2. **H. Dumitrescu, V. Cardos**, *The turbulent boundary layer on wind turbine blades*, Proceedings of the Romanian Academy, Series A, Vol.11, No.2, 2010, pp. 125-136.
3. **H. Dumitrescu, V. Cardos, Al. Dumitrache, F. Frunzulica**, *Low frequency noise prediction of vertical axis wind turbines*, Proceedings of the Romanian Academy, Series A, Vol.11, No.1, 2010, pp. 47-54. (indexat ISI)
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  10. **D. Popescu**, A. G. Popescu, B. Amuzescu, Pulsatory liposome – *A possible biotechnological device for controlled drugs delivery*. I. The liposome swelling, Romanian J. Biophys. 20 (1), 2010, 37-46.
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  18. **Udrea Paun**,  $G_{A1,A2}$  in action, Rev. Roumaine Math. Pures Appl. 55 (2010), no. 5

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1. **Bogdan Alexe**, Thomas Deselaers, Vittorio Ferrari, *What is an object ?* Proceedings of the 2010 IEEE Computer Society Conference on Computer Vision and Pattern Recognition, San Francisco, USA, June 2010, ISSN 1063-6919, ISBN 978-1-4244-6983-3.
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10. **F. Frunzulica, Al. Dumitrache, H. Dumitrescu, V. Cardos**, *Numerical simulations of two-dimensional turbulent wall jet along a circular cylinder*, Proceedings of the 34<sup>th</sup> Annual Congress of the American Romanian Academy of Arts and Sciences (ARA), Bucharest, Romania, May 18<sup>th</sup> -23<sup>rd</sup>, 2010, pp. 469-473.
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### Comunicări la conferințe internaționale

1. **Alexandru Agapie**, *Application of Markov chains to the Voter Model*, Romanian-American Workshop "Applications in Statistics", desfășurat la Institutul de Statistică Matematică și Matematică Aplicată "Gheorghe Mihoc – Caius Iacob", 13 Mai 2010, București, România
2. **Bogdan Alexe**, Thomas Deselaers, Vittorio Ferrari, *What is an object?* IEEE Computer Society Conference on Computer Vision and Pattern Recognition, San Francisco, USA, June 2010.
3. **Bogdan Alexe**, Thomas Deselaers, Vittorio Ferrari, *ClassCut for Unsupervised Class Segmentation*, IEEE European Conference on Computer Vision, Heraklion, Crete, Greece, September 2010.
4. Thomas Deselaers, **Bogdan Alexe**, Vittorio Ferrari, *Localizing objects while learning their appearance*, IEEE European Conference on Computer Vision, Heraklion, Crete, Greece, September 2010.
5. **Luiza Badin**, *Statistical Inference using Bootstrap*, Romanian-American Workshop "Applications in Statistics", desfășurat la Institutul de Statistică Matematică și Matematică Aplicată "Gheorghe Mihoc – Caius Iacob", 13 Mai 2010, București, România
6. C. Udriste, **R. Bercia**, *Complex Analytic Flows*, The 3-rd Conference on Nonlinear Science and Complexity NSC-3, 28-31 Iulie 2010, Ankara, Turkey

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9. **Voicu Boscaiu**, *Comment on multinomial output in biostatistics*, Romanian-American Workshop "Applications in Statistics", desfășurat la Institutul de Statistică Matematică și Matematică Aplicată "Gheorghe Mihoc – Caius Iacob", 13 Mai 2010, București, România
10. **Voicu Boscaiu**, *The structure of alpine plant communities: a data mining approach*, 10ème Colloque Franco-Roumain de Mathématiques Appliquées, 26-31 Août 2010, Poitiers, France.
11. **Voicu Boscaiu**, *Statistics on biological agents carried by avian vectors*, Conferinta Diaspora in Cercetarea Stiintifica si Invatamantul Superior din Romania, Workshop Exploratoriu "Solutii Durabile la Provocari Emergente in Agricultura-Alimentatie cu Implicatii in Medicina Umana", 22-23 septembrie 2010, Bucuresti
12. **Adrian Carabineanu** and Stelian Gradinaru, *The Study of the Drainage of Ground Water by the Boundary Element Method*, Conference on Water Observation and Information System for Decision Support BALWOIS 2010, Ohrid, Macedonia, 25-29 May 2010.
13. **Adrian Carabineanu, Stefan Gicu Cruceanu**, *The Study of Free Boundary Flow by Means of Integral Equations Method*, ICAM7 - 7th International Conference on Applied Mathematics, Baia Mare, Romania, 1-4 Septembrie 2010.
14. **Adrian Carabineanu, Stefan Gicu Cruceanu**, *Numerical Investigation of the Free Boundary Flow past an Obstacle*, International Conference of Aerospace Sciences "AEROSPATIAL 2010", Bucharest, 20-21 October 2010
15. **V. Cardos, H. Dumitrescu, Al. Dumitrache**, *A model of the rotational stall-delay*, GAMM 2010, March 22-26 Karlsruhe, Germany.
16. **Stefan Cruceanu, Ana Maria Raducan**, *Numerically tracing homotopy paths for nonlinear systems*, CAIM 2010, Iași, Romania, 15-17 Octombrie 2010
17. **Stefan Cruceanu, Ana Maria Raducan**, *Arclength continuation to determine equilibrium points in dynamical systems*, 8<sup>th</sup> Workshop on Mathematical Modelling of Environmental and Life Sciences Problem, Constanta, Romania, Octombrie 2010

18. **Stefan Cruceanu, Dorin Marinescu**, *Cellular exclusion algorithm for parameter estimation with applications in biology models*, 8<sup>th</sup> Workshop on Mathematical Modelling of Environmental and Life Sciences Problem, Constanta, Romania, Octombrie 2010.
19. **Stefan Cruceanu, Dorin Marinescu**, *Applications of cellular exclusion methods to locate solutions of nonlinear systems of equations*, CAIM 2010, Iași, Romania, 15-17 Octombrie 2010
20. **Al. Dumitrache, H. Dumitrescu, F. Frunzulica, V. Cardos**, *An unsteady free-wake vortex particle model for prediction of the aerodynamic loads of HAWT rotor blades*, 16th European Conference on Mathematics for Industry, Wuppertal, Germany, July 26-30, 2010.
21. **Al. Dumitrache, H. Dumitrescu, O. Preotu, F. Frunzulica**, *Blowing jet as an active circulation enhancement for HAWTs*, Aerospacial 2010, Bucharest, 20-21 October, 2010
22. **Al. Dumitrache, F. Frunzulica and H. Dumitrescu**, *Analysis of Combustion and Turbulence Models in a Cylindrical Combustion Chamber*, 13<sup>th</sup> European Conference on Mathematic for Industry - ECMI, July 26-30, 2010, Wuppertal, Germany.
23. **O. Preotu, Al. Dumitrache**, *Common aspects and differences in the behaviour of classical configuration versus canard configuration aircraft in the presence of vertical gusts, assuming the hypothesis of an elastic fuselage*, Aerospacial 2010, Bucharest, 20-21 October 2010
24. **H. Dumitrescu, Al. Dumitrache, V. Cardos**, *Delayed stall modelling of the rotating blades*, International Conference of Numerical Analysis and Applied mathematics ICNAAM 2010, 19-25 septembrie 2010, Rhodos, Greece
25. **H. Dumitrescu, V. Cardos**, *In board stall-delay for wind turbine blades*, The 34<sup>th</sup> Annual Congress ARA 2010, 18-23 mai 2010, Bucuresti
26. **H. Dumitrescu, R. Bogateanu, V. Cardos**, *An improved BEM model for the power prediction of vertical axis wind turbines*, International Conference of Aerospace Sciences Aerospacial 2010 Bucharest, 20-21 October 2010.
27. **Cornelia Enăchescu, Denis Enăchescu**, *Kernels techniques for testing in vitro similarity of drug dissolution profiles*, XXV<sup>th</sup> International Biometric Conference, December 5-10, Federal University of Santa Catarina Florianópolis-SC, Brazil, 2010
28. **Cornelia Enăchescu**, *Exploratory Data Analysis methods for comparison of drug dissolution profiles*, Romanian-American Workshop "Applications in Statistics",

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29. **Denis Enăchescu**, *Kernels techniques for comparision of drug dissolution profiles*, Romanian-American Workshop “Applications in Statistics”, desfășurat la Institutul de Statistică Matematică și Matematică Aplicată “Gheorghe Mihoc – Caius Iacob”, 13 Mai 2010, București, România
30. **F. Frunzulica, Al. Dumitrache, H. Dumitrescu, V. Cardos**, *Computational studies of the effects of turbulent wall jet over a curved surface*, International Conference of Aerospace Sciences Aerospacial 2010 Bucharest, 20-21 October 2010.
31. M. Stoia-Djeska, **F. Frunzulica and A. Dumitrache**, *Numerical Analysis of the Panel Flutter Phenomenon*, 13 th European Conference on Mathematic for Industry - ECMI, July 26-30, 2010, Wuppertal, Germany
32. **F. Frunzulica, H. Dumitrescu, Al. Dumitrache, O. Preotu**, *Active control of separating boundary layer*, GAMM 2010, Karlsruhe, Germany, March 22-26, 2010
33. **Anca Veronica Ion**, *An unconventional method of solving the Navier-Stokes equation*, CAIM 2010, Iasi, Romania, 15-17 Octombrie 2010.
34. **Stelian Ion and Anca Veronica Ion**, *Cellular automaton model of the soil erosion*, 8<sup>th</sup> Workshop on Mathematical Modelling of Environmental and Life Sciences Problem, Constanta, Romania, Octombrie 2010
35. **Stelian Ion**, *Parameter Estimation of the ODE Model of Distribution of Metals in a Food Web*, ICAM7 - 7th International Conference on Applied Mathematics, Baia Mare, Romania, 1-4 Septembrie 2010.
36. **Stelian Ion**, *Mathematical modelling of metals mobility in the soil root zone*, CAIM 2010, Iasi, Romania, 15-17 Octombrie 2010
37. **Stelian Ion**, *Exploratory data analysis tools*, 8<sup>th</sup> Workshop on Mathematical Modelling of Environmental and Life Sciences Problem, Constanta, Romania, Octombrie 2010
38. **G. Marinoschi**, *Epidermis growth from biology to mathematics and vice versa*, Conferinta Teme de actualitate in matematica aplicata, "Diaspora în cercetarea stiintifica si invatamantul superior din Romania" Bucuresti, 21-24 septembrie 2010 – conferinta plenara
39. **G. Marinoschi**, *A duality variational approach to time-dependent nonlinear diffusion Equations*, 10ème Colloque Franco-Roumain de Mathématiques Appliquées, 26-31 Août 2010, Poitiers, France – conferinta plenara

40. **G. Marinoschi**, *Numerical approach to the population dynamics model*, 8th Workshop Mathematical Modelling of Environmental and Life Sciences Problems, Constanta, October 21-24, 2010
41. **Morega, A.M.**, Dobre, A.A., Morega, M., *Computational domains out of medical imaging reconstruction for more realistic, patient-related numerical simulations in medical physics*, 8<sup>th</sup> Workshop Mathematical Modeling of Environmental and Life Sciences Problems, Constanta, 21-24 October, 2010
42. **Morega, A.M.**, Dobre, A.A., M.C. Ipate, Morega, M., *Electrical activity of the heart by numerical simulation*, 8<sup>th</sup> Workshop Mathematical Modeling of Environmental and Life Sciences Problems, Constanta, 21-24 October, 2010
43. **C. Popa**, A. Nicola, U. Ruede, *Coarse grid correction by aggregation/disaggregation with application in image reconstruction*, International Congress GAMM 2010, Karlsruhe, Germany, March 22 - 26, 2010
44. H. Koestler, **C. Popa**, T. Preclik, U. Ruede, *On Kaczmarz's projection iteration as a direct solver for linear least squares problems*, Applied Linear Algebra (ALA 2010) Conference, In honor of Hans Schneider, Novi Sad, Serbia, May 24-28, 2010
45. **C. Popa**, *Direct and iterative projection-based linear solvers*, ICAM7 - 7th International Conference on Applied Mathematics, Baia Mare, Romania, 1-4 Septembrie 2010
46. **Dumitru Popescu**, Alin Gabriel Popescu. *The dynamic modeling of a pulsatory lipid vesicle*, International Conference on Analytical and Nonanalytical Methods for Biomedical and Environmental Sciences, IC-ANMBES 2010, June 18-20, 2010. Brasov, Romania.
47. **Dumitru Popescu**. *The critical parameters in the working of the pulsatory lipid vesicle*, International Conference on Analytical and Nonanalytical Methods for Biomedical and Environmental Sciences, IC-ANMBES 2010, June 18-20, 2010. Brasov, Romania.
48. **Dumitru Popescu** and A.G. Popescu, *The determination of the parameters characterizing a cycle of the pulsatory vesicle*, International Conference of Aerospace Sciences "AEROSPATIAL 2010", 20-21, Bucuresti, 20-21 Octombrie 2010
49. **Dumitru Popescu**, *The modeling of the first cycle of a pulsatory lipid vesicle*. 8th Workshop Mathematical Modelling of Environmental and Life Sciences Problems, Constanta, October 21-24, 2010

50. **M. Popescu**, *The analysis of optimal control in Hilbert spaces for exact controllable systems*, 34th Annual Congress of American Romanian Academy, Bucharest 18-23 May, 2010.
51. **M. Popescu**, *Minimum time control and minimum energy problem for linear systems in Hilbert space*, International Conference of Aerospace Sciences "Aerospatial 2010", Bucharest 20-21 October 2010.
52. **Vasile Preda**, Sudradjat S., Panaitescu E., Constantinescu A., *Bayesian estimations and predictions using record statistics from the modified Weibull model*, 2nd World Multiconference on Applied Economics, Business and Development (AEBD '10), Tunisia, May 3-6, 2010 (Best Paper for the 2nd World Multiconference on APPLIED ECONOMICS, BUSINESS AND DEVELOPMENT (AEBD '10))  
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55. **Vasile Preda**, Panaitescu E., Popa M., *Inference of modified-inverse Weibull parameters based on record values*, The 2-nd International Conference on Operational Research - ICOR 2010, September 9-11, 2010.
56. **Ana Răducan**, *Numerical tracing homotopy paths for nonlinear systems* prezentata la a 18-a Conferinta de Matematica Aplicata si Industriala CAIM 2010, 14-17 octombrie 2010, Iasi
57. **Marius Rădulescu**, Radulescu S., *Algebraic criteria for ergodicity of arbitrary matrices*, Applications to finite Markov chains, 10ème Colloque Franco-Roumain de Mathématiques Appliquées, 26-31 Août 2010, Poitiers, France.
58. **Mariana Sibiceanu**, *Large deviations for occupations measures associated with mixed Markov chains*, International Conference Modern Stochastics: Theory and Applications II, 7-11 Septembrie 2010, Kiev, Ukraina
59. **O. Simionescu-Panait**, *Electromechanics of solid continua subject to a bias*, 8th Workshop Mathematical Modelling of Environmental and Life Sciences Problems, Constanta, October 21-24, 2010
60. **Andreea Mădălina Stancu, Ioan M. Stancu-Minasian**, *Sufficient efficiency conditions for multiobjective fractional programming with generalized type-I*



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61. **Andreea Mădălina Stancu, Ioan M. Stancu-Minasian**, *Sufficient efficiency conditions and duality for multiobjective fractional programming with generalized type-I-univexity*. The 2<sup>th</sup> International Conference on Operational Research – ICOR2010, September 9-11, 2010, Constanța, Romania.
62. **Florentina Suter**, *Methods of Random Variate Generation*, Romanian-American Workshop “Applications in Statistics”, desfășurat la Institutul de Statistică Matematică și Matematică Aplicată “Gheorghe Mihoc – Caius Iacob”, 13 Mai 2010, București, România
63. **Aida Toma**, *Robust statistical methods*, Romanian-American Workshop “Applications in Statistics”, desfășurat la Institutul de Statistică Matematică și Matematică Aplicată “Gheorghe Mihoc – Caius Iacob”, 13 Mai 2010, București, România.
64. **Silviu Laurentiu Vasile**, *Distribution of result sets cardinalities in heterogeneous random databases*, Romanian-American Workshop “Applications in Statistics”, desfășurat la Institutul de Statistică Matematică și Matematică Aplicată “Gheorghe Mihoc – Caius Iacob”, 13 Mai 2010, București, România.
65. **Silviu Laurentiu Vasile**, *Une application de la statistique dans l’optimisation des bases de donnees*, 10<sup>ème</sup> Colloque Franco-Roumain de Mathématiques Appliquées, august 26-31, 2010, Poitiers, Franța.
66. Alexandru Asimit, Edward Furman, **Raluca Vernic**, *On a multivariate Pareto distribution: estimation methods*. 14th International Congress on Insurance: Mathematics and Economics, June 17- 19, 2010, University of Toronto, Canada.
67. Alexandru Asimit, Edward Furman, Qihe Tang, **Raluca Vernic**, *Tail-based risk capital allocations: an asymptotic approach*. 14th International Congress on Insurance: Mathematics and Economics, June 17- 19, 2010, University of Toronto, Canada.
68. Qihe Tang and **Raluca Vernic**, *The finite time ruin probability with heavy-tailed and dependent return rates*. 3rd International Gerber-Shiu Workshop, University of Waterloo, Canada, June 14-16, 2010.
69. Qihe Tang and **Raluca Vernic**, *The finite time ruin probability in the presence of heavy-tailed claims and dependent return rates on risky investment*. 6th Conference in Actuarial Science&Finance in Samos, Greece, June 3-6, 2010.
70. **Raluca Vernic**, *Portfolio Optimization in the Presence of Pareto-like Claims and Dependent Return Rates on Investment*, Romanian-American Workshop

71. **Gheorghiu Zbăganu**, *On iterated integrated tail*, 10ème Colloque Franco-Roumain de Mathématiques Appliquées, 26-31 Août 2010, Poitiers, France.

### **Comunicări la conferințe naționale**

1. **Voicu Boscaiu**, Gheorghe Coldea, *Modificările climatice și dinamica comunităților de plante alpine*, A 13-a Conferință a Societății de Probabilități și Statistică din România, Aprilie 2010, Bucuresti, România.
2. Adina Baci, Adina, **Boșcaiu, V.**, Dumitrașcu, Anda, Ciuhuța, M., *O interpretare antro-po-medicală asupra distribuției calcificării glandei pineale și plexurilor coroide*, Simpozionul „Zilele Fr. I. Rainer”, 23 aprilie 2010, rezumat, pag. 14
3. **Mioara Buiculescu**, *On Tweedie's construction of an invariant measure*, A 13-a Conferință a Societății de Probabilități și Statistică din România, Aprilie 2010, Bucuresti, România.
4. **Cornelia Enăchescu**, *Multivariate data techniques for testing "similarity" of drug dissolution profiles*, A 13-a Conferință a Societății de Probabilități și Statistică din România, Aprilie 2010, Bucuresti, România.
5. A. M. **Marinov**, T Petrovici, V. Nistoreanu, *Monitoring system for unsaturated soils hydraulic parameters*, A 6-a Conferința a Hidroenergeticienilor, Dorin Pavel, Bucuresti, 2010 . si in curs de publicare la Buletinul St. UPB (in luna decembrie 2010), 8 pagini
6. **Vasile Preda**, Panaitescu E., Constantinescu A., *Bayes estimators of Modified Weibull distribution parameters using Lindley's approximation*, A 13-a Conferință a Societății de Probabilități și Statistică din România, Aprilie 2010, Bucuresti, România.
7. **Vasile Preda**, Balcau C., *Convex quadratic semi-infinite programming with entropic perturbation*, A 13-a Conferință a Societății de Probabilități și Statistică din România, Aprilie 2010, Bucuresti, România.
8. **Vasile Preda**, Niculescu C., *On a generalized multifacility location problem* A 13-a Conferință a Societății de Probabilități și Statistică din România, Aprilie 2010, Bucuresti, România.
9. **Ana Răducan**, *Compound sums. Examples and remarks*, A 13-a Conferință a Societății de Probabilități și Statistică din România, Aprilie 2010, Bucuresti, România

10. **Ana Răducan**, *Arclenght continuation to determine equilibrium points in dynamical systems*, Eighth Workshop of Mathematical Modelling of Environment and Life Sciences Problems, 21-24 octombrie 2010, Constanta
11. **Mariana Sibiceanu**, *Large deviations for occupations measures associated with mixed Markov chains*, A 13-a Conferință a Societății de Probabilități și Statistică din România, Aprilie 2010, Bucuresti, România
12. **Aurel Spătaru**, *Renewal processes with finite set of interarrival distributions*, A 13-a Conferință a Societății de Probabilități și Statistică din România, Aprilie 2010, Bucuresti, România
13. **Ioan M. Stancu-Minasian**, Narcisa Teodorescu, **Andreea Mădălina Stancu**, *On Dinkelbach-type algorithm for solving generalized fractional programming*. A 13-a Conferință a Societății de Probabilități și Statistică din România, 16-17 Aprilie 2010, Bucuresti, Romania
14. **Aida Toma**, *Optimal robust M-estimators using Renyi pseudodistances*, A 13-a Conferință a Societății de Probabilități și Statistică din România, 16 Aprilie 2010, Bucuresti, România.
15. **Udrea Paun**, *A structure theorem*, A 13-a Conferință a Societății de Probabilități și Statistică din România, 16 Aprilie 2010, Bucuresti, România.
16. **Raluca Vernic**, *On estimating the parameters of a bivariate Pareto distribution by the EM algorithm*. A 13-a Conferință a Societății de Probabilități și Statistică din România, 16-17 Aprilie 2010, Bucuresti, Romania.
17. **Gheorghiță Zbăganu**, *Moments of the iterated integrated tail*, A 13-a Conferință a Societății de Probabilități și Statistică din România, 16 Aprilie 2010, Bucuresti, România.

### **Lista studiilor (rapoartelor) publicate pe internet**

1. **Bogdan Alexe**, T. Deselaers, M. Eichner, V. Ferrari, P. Gehler, A. Lehmann, S. Pellegrini, A. Prest, *Which Energy Minimization for my MRF/CRF ? A Cheat-Sheet*, Computer Vision Laboratory, ETH Zurich, Technical Report 273  
<http://www.vision.ee.ethz.ch/~calvin/Publications/recluse-energymin.pdf>
2. **C. P. Grunfeld**, *Asupra unicitatii solutiilor unei clase de ecuatii neliniare de*  
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3. **Stelian Ion, Anca Veronica Ion**, *Mathematical modelling of the soil erosion*,  
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4. **Stelian Ion**, *Mathematical modelling of metals mobility in the soil root zone*, [http://www.ima.ro/PNII\\_programme/FITORISC/publicatii/rth\\_31012\\_02.pdf](http://www.ima.ro/PNII_programme/FITORISC/publicatii/rth_31012_02.pdf)
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6. **Stelian Ion**, *Exploratory data analysis tools*, [http://www.ima.ro/PNII\\_programme/PECOTOX/publicatii/rth\\_31043\\_02.pdf](http://www.ima.ro/PNII_programme/PECOTOX/publicatii/rth_31043_02.pdf)
7. **Aurel Spataru**, *A CLT for renewal processes with a finite set of interarrival distributions* is available at <http://dx.doi.org/10.1016/j.spl.2010.07.012>
8. **Aurel Spataru**, *Upper bounds for series involving moderate and small deviations* is available at <http://www.ams.org/myoffprints>
9. **Aurel Spataru**, *Generalizing a theorem of Katz* is available at <http://dx.doi.org/10.1016/j.spl.2010.03.008>
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## Preprinturi naționale

1. **C. P. Grunfeld, D. Marinescu**, *Uniform Error Bound for a Discretized Approximation of the Boltzmann Equation in the Whole Space*, preprint ISS nr 1/18 octombrie 2010, Institute for Space Sciences, Bucharest

## Lista granturilor obținute în acest an din străinătate

1. **Alexandru Agapie**, DAAD (German Academic Exchange Service) Research Stay and Study Visit, la Technical University Dortmund, Germania, decembrie 2010-ianuarie 2011, titlul proiectului: *Stochastic Analysis and Convergence Time for Continuous Evolutionary Algorithms*.
2. **Denis Enăchescu** (member in the Management Committee), **Marius Popescu**, **Cornelia Enăchescu**, **Ion Iancu**, **Alexandru Agapie**, **Liviu Ciortuz**, *Cognitive*

*Radio and Networking for Cooperative Coexistence of Heterogeneous Wireless Networks, COST Action I0902,*  
[http://w3.cost.esf.org/index.php?id=177&action\\_number=IC0902](http://w3.cost.esf.org/index.php?id=177&action_number=IC0902)

3. **Denis Enăchescu** (member in the Management Committee), **Cornelia Enăchescu**, Marius Popescu, Lixăndroiu Dorin, **Alexandru Agapie**, Dalia Simona Miron, **Andreea Luiza Bădin**, Flavian Ștefan Rădulescu, *Knowledge Discovery from Moving Objects (MOVE), COST Action I0903* member in the Management Committee  
[http://w3.cost.esf.org/index.php?id=177&action\\_number=IC0903](http://w3.cost.esf.org/index.php?id=177&action_number=IC0903)

### **Lista granturilor în curs de derulare în acest an în țară (MEC)**

1. **V. Boșcaiu** (responsabil ISMMA), Proiect PNCDI2 91-052/2007, PERIOADA 2007-2010, *Modelarea si evaluarea impactului investitiilor directe nationale si internationale asupra pietii muncii si evolutiilor macroeconomice din Romania*, coordonator ASE , (buget ISMMA 2010 : 15600lei)
2. **Al. Dumitrache**, *Analiza si controlul instabilitatilor acustice din camera de ardere a motoarelor aeroreactoare*, Contract 81-027/2007, valoare 7 000lei
3. **Horia Dumitrescu**, *Modelarea intarzierii desprinderii aerodinamice datorita rotatiei*, Contract 152/2007- Programul Idei, valoare 33000 lei
4. **Horia Dumitrescu**, *Platforma aeriana multirotor cu decolare- aterizare verticala* Contract 81-055/2007.P2, valoare 5 000 lei
5. **Cornelia Enăchescu** (responsabil contract din partea ISMMA al unui proiect în cadrul programului PARTENERIATE IN DOMENIILE PRIORITARE, contract 42135-01-10-2008, Act Adițional 1-26-11-2008 HIDROFOB) Denis Enăchescu, Vasile Silviu Laurențiu, Florentina Suter, Bogdan Alexe, (2008-2011) *Criterii biofarmaceutice de optimizare a profilului de siguranță și eficacitate pentru medicamente hidrofobe*, (suma. 2010: 30.000 lei).
6. **Stelian Ion**, *Procedura de fitoremediere si evaluare a riscului in zone contaminate cu metale* (FITORISC), Contract 31012/2007-Parteneriat in domenii prioritare PNII, valoare 39 000lei
7. **Stelian Ion**, *Procedura de evaluare economica a retentiei poluantilor toxici stabili in sisteme fluviale* (PECOTOX), Contract 31043/2007-Parteneriat in domenii prioritare PNII, valoare 50 000 lei

8. **Gabriela Marinoschi**, *Ecuatii neliniare de difuzie in teoria mediilor poroase, biometrie si restaurarea imaginilor*, Contract PN II IDEI ID\_70/2008, valoare 75 000 lei
9. **Vasile Preda** (director proiect), **Miruna Beldiman**, **Proiect PN-II-ID-PCE-2007 tip IDEI**. Tema : Aplicatii ale unor clase speciale de inegalitati variationale si probleme de echilibru in finante si nanoindentare, 2007-2010.
10. **Vasile Preda** (responsabil proiect), Proiect Parteneriat 4 EUROMUNCA, 2007-2010

### **Manifestări științifice organizate de institut**

1. **A 13-a Conferință a Societății de Probabilități și Statistică din România**, 16 Aprilie 2010, Bucuresti, România.
2. Secțiunea speciala „**Statistique et probabilites appliquees**” în cadrul Colocviului Franco-Român de Matematică Aplicată, Poitiers, Franța, 26-31 August 2010, organizator **Aida Toma**.
3. Romanian-American Workshop “**Applications in Statistics**”, desfășurat la Institutul de Statistică Matematică și Matematică Aplicată “Gheorghe Mihoc – Caius Iacob”, 13 Mai 2010, București, România, organizator **Cornelia Enăchescu**
4. **8<sup>th</sup> Workshop on Mathematical Modelling of Environmental and Life Science Problems**, October, Constanta, 2010, 21 comunicari, 30 participanti, din care 4 din strainatate.
5. Sesiune stiintifica **Mecanica mediilor continue**, 8.12.2010, ISMMA

### **Doctorate sustinute in 2010**

1. **Cornelia Andreea Ciutoreanu**, *Numerical Methods for Nonlinear Diffusion Equations*, Institutul de Statistica Matematica si Mathematica Aplicata, cond. st. dr. Gabriela Marinoschi
2. Dan Lascu, *Procese Markov in teoria probabilista a numerelor*, cond. st. acad. Marius Iosifescu
3. George Ureche, *Modele de serii dinamice. Filtrul Kalman*, cond. st. acad. Marius Iosifescu
4. **Romeo Bercia**, Universitatea Politehnica

## Lucrări în curs de publicare sau trimise spre publicare

1. **Luiza Bădin**, Cinzia Daraio, Explaining Efficiency with Nonparametric Frontier Models. Recent developments in statistical inference, forthcoming in *Exploring Research Frontiers in Contemporary Statistics and Econometrics*, Festschrift in Honor of Léopold Simar, Eds. Ingrid Van Keilegom and Paul Wilson, Springer Publishing, New York.
2. **Miruna Beldiman**, *Some results on equilibrium problems*, va apare in **Nonlinear Studies**, 2011.
3. **V. Boscaiu**, *Minimax approach to some constraint statistical decision models*, Mathematical Reports acceptata, va apare, nr 1, 2011.
4. **Mioara Buiculescu**, Petrehus V, **Gheorghică Zbăganu**, *Iterated integrated tail with periodic hazard rate*, in curs de aparitie la Mathematical Reports
5. **Mioara Buiculescu**, *On Tweedie's construction of an invariant measure*, acceptata spre publicare la Revue de Mathematiques Pures et Appliquees
6. **Adrian Carabineanu** and **Stefan Cruceanu**, *The Study of Free Boundary Flow by Means of Integral Equations Method*; Carpathian Journal of Mathematics
7. **C. Ciutoreanu**, *A control problem for the saturated-unsaturated infiltration model*, Mathematical Reports, sub tipar, ISI.
8. **Anca Veronica Ion**, *New results in the stability study of non-autonomous evolution equations in Banach spaces*, Journal of Mathematics and Application, (acceptata).
9. **Stelian Ion** , **Anca Veronica Ion**, *A Finite Volume Method for Solving Generalized Navier-Stokes Equations*, Mathematics and its Applications, Annals of AOSR (acceptata).
10. **Valentin Ionescu**, *Amalgamated conditionally free products and additive convolution in operator-valued conditionally free probability theory*
11. **Valentin Ionescu**, *Amalgamated Boolean multivariate cumulants, unsymmetrized R-transform and additive convolution for operator-valued joint-distributions*
12. **Valentin Ionescu**, *Realization of infinitely divisible distributions with respect to the operator-valued additive Boolean convolution on a Boolean Fock bimodule*
13. **Valentin Ionescu**, *Amalgamated c-Boolean products and additive convolution in c-Boolean probability theory*

14. A. Gandolfi, M. Iannelli, **G. Marinoschi**, *An age-structured model of epidermis growth*, J. Math. Biology, in press.
15. **G. Marinoschi**, *A duality variational approach to time-dependent nonlinear diffusion equations*, submitted, 2010.
16. M. Iannelli, **G. Marinoschi**, *Numerical solution to the population dynamics model by parabolic regularization*, submitted, 2010.
17. **G. Marinoschi**, *Identification of a singular coefficient in a parabolic degenerate equation with transport*, submitted 2010.
18. A. M. **Marinov** , T petrovici, V. nistreanu, *Monitoring system for unsaturated soils hydraulic parameters*, A 6-a Conferinta a Hidroenergeticienilor, Dorin Pavel, Bucuresti, 2010 . si in curs de publicare la Buletinul St. UPB (in luna decembrie 2010, 8 pagini
19. **Morega, A.M.**, Dobre, A.A., Morega, M., *Numerical simulation of magnetic drug targeting with flow–structural interaction in an arterial branching region of interest*, European COMSOL Conference, Palais des Congrès de Versailles 17-19 Nov. 17-19, 2010.
20. Dobre, A.A., **Morega, A.M.**, Morega, M., *The Investigation of flow–structural interaction in an arterial branching by numerical simulation*, ITAB – 201, Emerging Technologies for Patient Specific Health Care, 10<sup>th</sup> International Conference on Information Technology and Applications in Biomedicine, IEEE Conference, 2-5 Nov. 2010, Aquis Corfu Holiday Palace Hotel, Corfu, Greece; CD/DVD ISBN 978-1-4244-6561-3/10 (ISI)
21. Dobrin, I., **Morega, A.M.**, Popescu, M., *The development of a small power, high temperature superconductor (HTS) synchronous motor*”, ICATE 2010 – 10<sup>th</sup> International Conference on Applied and Theoretical Electricity, SCC 12 – 12-th Symposium on Cryoelectrotechnics and Cryogenics, 8-9 October, 2010, Craiova, Romania.
22. **Morega, A.M.**, Dobrin, I., Popescu, M., Morega, M., *Heat Transfer Analysis In The Design Phase of A High Temperature Superconductor Motor*, OPTIM 2010, 12<sup>th</sup> Conference, 22-24 May 2010, Braşov, Romania (ISI)
23. **Morega, A.M.**, Morega, M., Pâslaru-Dănescu, Stoica, V., L., Nouraş, F., Stoian, F.D., *A Novel, Ferrofluid-Cooled Transformer. Electromagnetic Field and Heat Transfer by Numerical Simulation*, OPTIM 2010, 12<sup>th</sup> Conference, 22-24 May 2010, Brasov, Romania (ISI).



24. Morega, M., Marinescu, A., **Morega, A.M.**, *Mobile Phone SAR Analysis through Experimental and Numerical Simulation*, OPTIM 2010, 12<sup>th</sup> Conference, 22-24 May 2010, Brasov, Romania Romania (ISI).
25. Morega, M., **Morega, A.M.**, *Dosimetric Study on Human Exposure to Microwave Radiation from Mobile Phone Devices*, EMF Bordeaux Event – COST BM0704 workshop: Research strategies related to RF emerging technologies, Bordeaux, France, May 27-28, 2010.
26. Dobre, A., **Morega, A.M.**, *Numerical Simulation In Magnetic Drug Targeting*, The 12<sup>th</sup> Mediteranean Conference on Medical and Biological Engineering and Computing, MEDICON 2010, Porto Carras, Chalkidiki, Greece, May 27-30, 2010.
27. **Dumitru Popescu** and A. G. Popescu, *Mathematical modeling of the pulsatory liposome dynamics*, Analytical Letters (in press).
28. **Mihai Popescu**, *Stabilization of feedback control and stabilizability optimal solution for nonlinear quadratic problems*, Commun Nonlinear Sci Numer Simulat (in press)
29. **M. Popescu**, *Optimal transfer trajectories from libration collinear points of the Earth-Moon systems with parameters*, Mathematics in Engineering Science and Aerospace, Cambridge Scientific Publishers, UK, Florida, USA, vol. 1, no. 4, 2010, (article in press).
30. **Vasile Preda**, Panaitescu E., Ciumara R., *Comparison of Bayesian and non-Bayesian Estimates using Record Statistics from Modified Exponential Model*, va apare in Romanian Journal of Economic Forecasting, 2010
31. **Vasile Preda**, Mierlus-Mazilu I., *Inferences for the exponentiated Weibull distribution based on record statistics*, va apare in Mathematical Reports
32. **Vasile Preda, Ioan Stancu-Minasian, M. Beldiman, Andreea Madalina Stancu**, *On a general duality model in multiobjective fractional subset programming with  $n$ -set functions*.
33. **Gheorghe Rautu**, *Functionale multiplicative asociate evolutiilor in tim ale preturilor*
34. **Marius Radulescu**, Radulescu C.Z., **Gheorghita Zbaganu.**, *A portfolio theory approach to crop planning under environmental constraints*, Annals of Operations Research
35. Radulescu S., **Marius Radulescu.**, Diaz Barrero J. L., Alexandrescu P., *Two Families of Cyclic Inequalities, Mathematical Inequalities and Applications*.

36. **Ana Răducan, Stefan Gicu Cruceanu**, *Numerical tracing homotopy paths for nonlinear systems*, ROMAI Journal
37. **Ana Răducan, Stefan Gicu Cruceanu**, *Arclenght continuation to determine equilibrium points in dynamical systems*, Proceeding al "Eighth Workshop of Mathematical Modelling of Environment and Life Sciences Problems" ( Editura Academiei Romane ).
38. **Mariana Sibiceanu**, *Large deviations for occupations measures associated with mixed Markov chains*, trimisa la Communications in Statistics – Theory and Methods.
39. Anurag Jayswal, **Ioan Stancu-Minasian**, *Higher-order duality for nondifferentiable minimax programming problem with generalized convexity*, trimisa spre publicare la Nonlinear Analysis.
40. **O. Simionescu-Panait, I. Ana**, *Guided waves propagation in an isotropic solid subject to a bias*, Math. and Mech. of Solids, apărut on-line doi:10.1177/1081286510379149, nov. 2010.
41. **Aida Toma**, Michel Broniatowski, *Dual divergence estimators and tests: robustness results*, Journal of Multivariate Analysis, 2011. (ISI journal, Impact Factor: 1.017), doi:10.1016/j.jmva.2010.07.010
42. **Udrea Paun**, *General  $\Delta$ -ergodic theory, with some results on simulated annealing*, Math. Rep. (Bucur.) 13 (63) (2011), no. 2.
43. **Udrea Paun**, *A hybrid Metropolis-Hastings chain*

### **Lista lucrărilor elaborate în cursul anului 2010 în cadrul fiecărei teme de cercetare**

**Programul de cercetare nr. 1: Ananliza stocastică: probleme speciale de convergență a variabilelor aleatoare, de teoria probabilistă a numerelor, de teoria proceselor Markov și calcul stocastic.**

1. **Mioara Buiculescu**, *Proprietăți de convergență asociate proceselor Feller cu explozie rapidă.*
2. **Valentin Ionescu**, *On Boolean product of completely positive maps II.*
3. **Valentin Ionescu**, *Boolean independence and Boolean cumulants in operator-valued case.*
4. **Valentin Ionescu**, *Produse amalgamate de nuclee Markov necomutative generalizînd construcții ale lui Biane - Cabanal-Duvillard, Boca, Bozejko-Speicher, Haagerup si Voiculescu.*
5. **Udrea Păun**, *Perturbed finite Markov chains.*
6. **Udrea Păun**,  *$\Delta$ -ergodic theory and simulated annealing.*

7. **Aurel Spătaru**, *Upper bounds for series involving moderate and small deviations.*
8. **Aurel Spătaru**, *Series of Tail Distributions of Finitely Inhomogeneous Random Walks.*
9. **Aurel Spătaru**, *The law of the iterated logarithm for finitely inhomogeneous random walks*

**Programul de cercetare nr. 2: Modele statistice multidimensionale, liniare și neliniare, cu aplicații**

1. **Alexandru Agapie**, *Teoria algoritmilor evoluționari. Modelare stohastică.*
2. **Bogdan Alexe**, *Object detection/ Object recognition*
3. **Luiza Bădin**, *Metoda bootstrap și aplicații în modele de frontieră, metode de estimare neparametrică a frontierelor de producție, simulări Monte Carlo*
4. **Voicu Boșcaiu**, *Modele statistice în bioinformatică*
5. **Cornelia Enăchescu**, *Mixed models analysis. Applications to the medical data.*
6. **Cornelia Enăchescu**, *Modele statistice pentru studiul bioechivalenței medicamentelor*
7. **Cornelia Enăchescu**, *Kernel for in vitro dissolution profile comparison*
8. **Denis Enăchescu**, *Data Mining. Metode și aplicații*
9. **Denis Enăchescu**, *Methods for approximating the distribution of a randomly weighted sum of random variables using kernel and neural network methods*
10. **Florentina Suter**, *Simulare stohastică, Probabilități aplicate*
11. **Aida Toma**, *Metode statistice robuste utilizând divergențe*
12. **Laurențiu Vasile**, *Contributii in criptografie si teoria codurilor*
13. **Raluca Vernic**, *Matematici actuariale.*

**Programul de cercetare nr. 3: Modele speciale de programare matematică și optimizare neliniară cu aplicații**

1. **Miruna Beldiman**, *Teoria echilibrului, Inegalități variaționale, Optimizare matematica, Programare neliniara, Mecanica solidelor.*
2. **Marius Rădulescu**, *Modelare matematica, cercetari operationale, teoria portofoliilor, programare matematica.*
3. **Vasile Preda**, *Optimizare matematica, Programare neliniara, Teoria echilibrului, Inegalitati variationale, Actuariat, Teoria informatiei.*
4. **Ioan M. Stancu-Minasian**, *Optimality and duality in nonlinear programming involving semilocally  $b$ -preinvex and related functions.*
5. **Ioan M. Stancu-Minasian**, *Optimality conditions for nonlinear programming with mixed constraints and  $\rho$ -locally arcwise connected functions.*
6. **Andreea Mădălina Stancu**, *Optimality and duality in nonlinear programming involving  $\rho$ -semilocally  $b$ -preinvex and related functions.*

**Programul 4: Studiul teoretic(calitativ si cantitativ) si numeric pentru sistemele dinamice**

1. **Mihai Popescu**, *The analysis of optimal control in Hilbert spaces for exact controllable systems*, 34th Annual Congress of American Romanian Academy, Bucharest 18-23 May, 2010.
2. **M. Popescu**, *Minimum time control and minimum energy problem for linear systems in Hilbert space*, International Conference of Aerospace Sciences "Aerospatial 2010", Bucharest 20-21 October 2010.
3. **O. Simionescu-Panait**, *Electromechanics of solid continua subject to a bias*, 8th Workshop Mathematical Modelling of Environmental and Life Sciences Problems, Constanta, October 21-24, 2010
4. **C. P. Grunfeld, D. Marinescu**, *Uniform Error Bound for a Discretized Approximation of the Boltzmann Equation in the Whole Space*, preprint ISS nr 1/18 octombrie 2010, Institute for Space Sciences, Bucharest

**Programul 5: Metode numerice si analitice in studiul miscarii fluidelor.**

1. **Adrian Carabineanu and Stelian Gradinaru**, *The Study of the Drainage of Ground Water by the Boundary Element Method*, Conference on Water Observation and Information System for Decision Support BALWOIS 2010, Ohrid, Macedonia, 25-29 May 2010.
2. **Al. Dumitrache, H. Dumitrescu, F. Frunzulica, V. Cardos**, *An unsteady free-wake vortex particle model for prediction of the aerodynamic loads of HAWT rotor blades*, 16th European Conference on Mathematics for Industry, Wuppertal, Germany, July 26-30, 2010.
3. **Al. Dumitrache, H. Dumitrescu, O. Preotu, F. Frunzulica**, *Blowing jet as an active circulation enhancement for HAWTs*, Aerospatial 2010, Bucharest, 20-21 October, 2010
4. **Al. Dumitrache, F. Frunzulica and H. Dumitrescu**, *Analysis of Combustion and Turbulence Models in a Cylindrical Combustion Chamber*, 13th European Conference on Mathematics for Industry - ECMI, July 26-30, 2010, Wuppertal, Germany.
5. **O. Preotu, Al. Dumitrache**, *Common aspects and differences in the behaviour of classical configuration versus canard configuration aircraft in the presence of vertical gusts, assuming the hypothesis of an elastic fuselage*, Aerospatial 2010, Bucharest, 20-21 October 2010
6. **H. Dumitrescu, Al. Dumitrache, V. Cardos**, *Delayed stall modelling of the rotating blades*, International Conference of Numerical Analysis and Applied mathematics ICNAAM 2010, 19-25 septembrie 2010, Rhodes, Greece
7. **H. Dumitrescu, V. Cardos**, *In board stall-delay for wind turbine blades*, The 34th Annual Congress ARA 2010, 18-23 mai 2010, Bucuresti
8. **H. Dumitrescu, R. Bogateanu, V. Cardos**, *An improved BEM model for the power prediction of vertical axis wind turbines*, International Conference of Aerospace

9. **F. Frunzulica, Al. Dumitrache, H. Dumitrescu, V. Cardos**, *Computational studies of the effects of turbulent wall jet over a curved surface*, International Conference of Aerospace Sciences Aerospacial 2010 Bucharest, 20-21 October 2010.

#### **Programul 7: Modelare matematica in stiintele vietii si mediului**

1. **Stefan Cruceanu and Dorin Marinescu**, *Cellular exclusion algorithm for parameter estimation with applications in biology models*, 8<sup>th</sup> Workshop on Mathematical Modelling of Environmental and Life Sciences Problem, Constanta, Romania, Octombrie 2010.
2. **C. Ciutoreanu**, *A control problem for the saturated-unsaturated infiltration model*, Mathematical Reports, sub tipar, ISI.
3. **Anca Veronica Ion**, *An unconventional method of solving the Navier-Stokes equation*, CAIM 2010, Iasi, Romania, 15-17 Octombrie 2010,
4. **Stelian Ion**, *Parameter Estimation of the ODE Model of Distribution of Metals in a Food Web*, ICAM7 - 7th International Conference on Applied Mathematics, Baia Mare, Romania, 1-4 Septembrie 2010.
5. **G. Marinoschi**, *Epidermis growth from biology to mathematics and vice versa*, Conferinta Teme de actualitate in matematica aplicata, "Diaspora în cercetarea stiintifica si invatamantul superior din Romania" Bucuresti, 21-24 septembrie 2010 – conferinta plenara
6. **Morega, A.M.**, Dobre, A.A., M.C. Ipate, Morega, M., *Electrical activity of the heart by numerical simulation*, 8<sup>th</sup> Workshop Mathematical Modeling of Environmental and Life Sciences Problems, Constanta, 21-24 October, 2010
7. **C. Popa**, A. Nicola, U. Ruede, *Coarse grid correction by aggregation/disaggregation with application in image reconstruction*, International Congress GAMM 2010, Karlsruhe, Germany, March 22 - 26, 2010,
8. **Dumitru Popescu**, *The modeling of the first cycle of a pulsatory lipid vesicle*. 8th Workshop Mathematical Modelling of Environmental and Life Sciences Problems, Constanta, October 21-24, 2010