

CURRICULUM VITAE

Daniela Zaharie

Professor

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Education:

1992-1997: PhD in Mathematics (Probability and Statistics) at West University of Timisoara, Romania, Thesis title: Stochastic Models of Neural Networks and Applications

1983-1987: BSc in Computer Science at West University of Timisoara, Romania

Professional experience:

2009-present: Professor at the Department of Computer Science, Faculty of Mathematics and Computer Science, West University of Timisoara.

1999-2009: Associate professor at the Chair of Probability Theory and Applied Mathematics (1999 - 2000) and Department of Computer Science (2001-2009), Faculty of Mathematics and Computer Science, West University of Timisoara.

1992-1999: Lecturer at the Chair of Probability Theory and Applied Mathematics, Faculty of Mathematics and Computer Science, West University of Timisoara.

1990-1992: Assistant professor at the Chair of Informatics, Faculty of Mathematics and Computer Science, West University of Timisoara

1987-1990: Computer programmer, Computing Centre, IAEM Timisoara.

Languages: english (good), french (satisfactory).

Programming languages: C/C++, Java, Fortran, Python, Mathematica, MatLab/SciLab, R

Research experience:**Topics of interest:**

- evolutionary computing and other nature inspired metaheuristics
- artificial neural networks
- data mining
- machine learning
- image processing
- high performance computing
- computational statistics
- computational modeling in systems biology

Research projects: 3 (team leader), 16 (team member)

Papers: 80 (see Appendix for a list of selected papers)

Citations of the papers:

- [Scholar Google](#) (h-index=13, i10-index=25, around 1000 citations),
- [Research Gate](#) (RG score: 17.68, around 500 citations)

Invited talks:

- [Workshop on Stochastic Geometry and Big Data](#), INRIA – Sophia Antipolis, 24 November, 2015
- [Scientific seminar of the Computer Vision Center](#), University Autònoma de Barcelona, 18 April, 2013
- 18th [International Conference on Soft Computing](#), Brno, June 27-29, 2012
- [IDEAS Research Seminar](#), Robert Gordon University Aberdeen, 17 May, 2011
- [Doctoral Summer School](#) “Evolutionary Computing Optimization and Data Mining”, Iasi, 2010-2014

Awards: “[Professor Zdzisław Pawlak Best Paper Award](#)” awarded by the Polish Information Processing Society at the Symposium “Advances in Artificial Intelligence and Applications (AAIA)”, 2007

Academic services:

2012-2015: member of the Senate of the West University of Timisoara

2004-present: member of the consultative council of the Faculty of Mathematics and Computer Science

2008-present: responsible of the undergraduate studies programme in Applied Informatics

2011-2012: member of the national committee for PhD studies evaluation

2004-2012: Chancellor of the Computer Science Department

Professional associations:**Member of:**

[Romanian Association for Artificial Intelligence](#)
[IEEE CIS Task Force on Differential Evolution](#)

Editorial activities:

Co-editor:

- [Annals of West University of Timisoara](#) (series on Mathematics and Computer Science)
- Proceedings of the Symposium of Symbolic and Numeric Algorithms for Scientific Computing – [SYNASC](#) series

Member of the Editorial board:

- [Soft Computing. A Fusion of Foundations, Methodologies and Applications](#)
- [Swarm and Evolutionary Computing](#)
- [Acta Universitatis Sapientia - Informatica, Romania](#)
- [Journal of Knowledge, Communication and Computing Technologies, Romania](#)

Reviewing activities:

Journals: IEEE Transactions on Evolutionary Computing, IEEE Transactions on Systems, Man and Cybernetics, Applied Soft Computing, Information Sciences, Applied Mathematics and Computation, Soft Computing, Neurocomputing, Memetic Computing, Journal of Global Optimization, Computational Intelligence, Evolutionary Computation, Computational Optimization and Applications, Patterns Analysis and Applications, Central European Journal on Computer Science etc.

Conferences: at least 10 international conferences/year (including CEC, GECCO, FOGA, ANTS, IEEE SMC, IEEE SSCI, HAIS, NCSO, NaBIC, SOCO, FedCSIS, SACI, CompStat, IADIS-Data Mining etc.)

Research activity evaluation:

- Evaluation of research projects submitted to the Romanian Agency for Scientific Research
- Review of research applications submitted to the National Research Foundation from South Africa

PhD theses: reviewer of 40 theses in Romania (from 6 universities), 3 theses in France, 4 theses in Finland, 1 thesis in Netherlands, 1 thesis in Spain and 1 thesis in South Africa

APPENDIX:

SELECTED PAPERS (2002-2015)

2015

1. J. Li, A. Agathos, D. Zaharie, J.M. Bioucas-Dias, A. Plaza, X. Li, Minimum Volume Simplex Analysis: A Fast Algorithm for Linear Hyperspectral Unmixing, IEEE Transactions on Geoscience and Remote Sensing, 10.1109/TGRS.2015.2417162, 2015.
2. R. Dogaru, F. Micota, D. Zaharie, Searching for Taxonomy-based Similarity Measures for Medical Data, 7th Balkan Conference in Informatics, BCI 2015, Craiova 2-4 September, DOI:10.1145/2801081.2801102, 2015.
3. R. Dogaru, F. Micota, D. Zaharie, Taxonomy-based dissimilarity measures for profile identification in medical data. 2015 IEEE 13th International Symposium on Intelligent Systems and Informatics (SISY), Subotica 17-19 September, 10.1109/SISY.2015.7325369, pg 149-154, 2015

2014

4. R.D. Moleriu, D. Zaharie, L.C. Moatar-Moleriu, A.T. Gruia, A.A. Mic, F.A. Mic; Insights into the mechanisms of thymus involution and regeneration by modeling the glucocorticoid-induced perturbation of thymocyte populations dynamics, Journal of Theoretical Biology, Volume 348, pp. 80-99, 2014.
5. G. Iuhasz, V. Negru, D. Zaharie, Neuroevolution based multi-agent system with ontology based template creation for micromanagement in real-time strategy games, Information Technology and Control , Volume 43, Issue 1, pp. 98-109, 2014.

2013

6. L. Moatar-Moleriu, V. Negru, D. Zaharie; Evolutionary Estimation of Parameters in Computational Models of Thymocyte Dynamics, LSSC'13, June, Sozopol, Springer LNCS 8353, pg. 264-271, 2014.
7. D. Zaharie, L. Moatar-Moleriu, V. Negru; Particularities of Evolutionary Parameter Estimation in Multi-stage Compartmental Models of Thymocyte Dynamics, GECCO'13, July 6–10, Amsterdam, po. 303-310, 2013.

2012

8. A. Toma, S. Panica, D. Zaharie, D. Petcu; Computational Challenges in Processing Large Hyperspectral Images, Procs. RO-LCG 2012, ISBN 978-973-662-701-1, Cluj-Napoca, Oct. 2012, pp. 111-114, 2012.
9. D. Zaharie; Differential Evolution: from theory to practical insights, invited talk at the 18th Conference on Soft Computing, Procs. Mendel 2012, Brno, 27-29 June 2012, pp. 126-131, 2012.
10. G.Iuhasz, V. Negru, D. Zaharie; Neuroevolution based multi-agent system for micromanagement in real-time strategy games, Proceedings of the Fifth Balkan Conference in Informatics, pp. 32-39, 2012

11. A.C. Zăvoianu, G. Kronberger, M. Kommenda, D. Zaharie, M. Affenzeller; Improving the Parsimony of Regression Models for an Enhanced Genetic Programming Process, LNCS 6927, pp. 264-271, 2012.
12. D. Petcu, S. Panica, M. Frîncu, M. Neagul, D. Zaharie, G. Macariu, D. Gorgan, T. Ștefănuț; Experiences in building a Grid-based platform to serve Earth observation training activities, Computer Standards & Interfaces, Volume 34, Issue 6, Pages 493-508, 2012.

2011

13. L.O. Maftciu Scai, V. Negru, D. Zaharie, O. Aritioni; Average Bandwidth Reduction in Sparse Matrices using Hybrid Heuristics, Studia Univ. Babes Bolyai, Informatica, Volume LVI, Number 3, 2011.
14. D. Petcu, D. Zaharie, S. Panica, A. S. Hussein, A. Sayed and H. El-Shishiny; Fuzzy clustering of large satellite images using high performance computing, Proc. SPIE 8183, 818302 (2011); doi:10.1117/12.898281, 2011.
15. D. Zaharie, L. Perian, V. Negru; A View Inside the Classification with Non-Nested Generalized Exemplars, IADIS European Conference on Data Mining, 24-26 July 2011, Rome, Italy, IADIS Proceedings, pg 19-26, ISBN: 978-972-8939-53-3, 2011.
16. D. Zaharie, L. Perian, V. Negru, F. Zamfirache; Evolutionary pruning of non-nested generalized exemplars, in Proc. of the 6th IEEE International Symposium on Computational Intelligence and Informatics, Timisoara, 19-21 May 2011, pg 57-62, 2011.
17. F. Zamfirache, M. Frincu, D. Zaharie; Population based Metaheuristics for Tasks Scheduling in Heterogenous Distributed Systems, in I. Dimov, S. Dimova, N. Kolkovska (eds), Proc. of NMA 2010 Conference, LNCS 6046, pg. 321-327, 2011.

2010

18. D. Petcu, S. Panica, M. Neagul, M. Frincu, D. Zaharie, R. Ciorba, A. Dinis; Earth observation data processing in distributed systems, Informatica. An International Journal of Computing and Informatics, Slovenian Society Informatika, vol. 34 (4), pg. 463-476, 2010.
19. D. Zaharie, D. Lungeanu, F. Zamfirache; An interactive Search of Rules in Medical Data Using Multiobjective Evolutionary Algorithms, chapter in Genetic and Evolutionary Computation: Medical Applications, Stephen Smith and Stefano Cagnoni (eds), John Wiley & Sons, pp 133-148, 2010.
20. Dumitru Dumitrescu, Rodica Ioana Lung, Réka Nagy, Daniela Zaharie, Attila Bartha, Doina Logofatu; Evolutionary Detection of New Classes of Equilibria: Application in Behavioral Games. PPSN (2)'2010. pp.432~441, 2010.
21. Dumitrescu, D., Lung, R.I., Nagy, R., Zaharie, D., Bartha, A.; Exploring evolutionary detected fuzzy equilibria: A link between normative theory and real life, Proceedings of the 12th Annual Genetic and Evolutionary Computation Conference, GECCO '10 , pp. 539-540, 2010
22. Zamfirache, F., Zaharie, D., Crăciun, C.; Evolutionary task scheduling in static and dynamic environments, ICC-CONTI 2010 - IEEE International Joint Conferences on Computational Cybernetics and Technical Informatics, Proceedings , art. no. 5491336, pp. 619-624, 2010.
23. I. Zaharie, D. Zaharie; On The Non-Isothermal Crystallization of Fe₆₀Gd₅Cr₁₅B₂₀ Amorphous Alloys, in A. Angelopoulos, T. Fildis (eds), AIP Conference Proceedings Volume 1203, 7th International Conference of the Balkan Physical Union pp. 335-340, 2010.
24. C. Craciun, M. Nicoara, D. Zaharie; Enhancing the Scalability of Metaheuristics by Cooperative Coevolution, Proc. of LSSC 2009, LNCS 5910, pg.323-330, 2010.

25. F. Zamfirache, D. Zaharie, C. Craciun; Nature inspired metaheuristics for task scheduling in static and dynamic computing environments, Scientific Bulletin of Politehnica University of Timisoara, Transactions on Automatic Control and Computer Science, vol 55(69), nr. 3, pp. 133-142, 2010.

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26. D. Petcu, D. Zaharie, M. Neagul, D. Gorgan, T. Stefanut, V. Bacu; Remote Sensed Image Processing on Grids for Training in Earth Observation, in Image Processing, ISBN 978-3-902613-44-8, In-Tech, 2009.
27. D. Zaharie – Influence of crossover on the behavior of the Differential Evolution Algorithm, Applied Soft Computing, vol 9, issue 3, pg. 1126-1138, 2009.
28. Neagul, M., Panica, S., Petcu, D., Zaharie, D., Gorgan, D.; Web and grid services for training in Earth observation, Proceedings of the 5th IEEE International Workshop on Intelligent Data Acquisition and Advanced Computing Systems: Technology and Applications, IDAACS'2009 , art. no. 5342986, pp. 241-246, 2009.

2008

29. D. Petcu, D. Gorgan, F. Pop, D. Tudor, D. Zaharie; Satellite Image Processing on a Grid-Based Platform, International Journal of "Computing", 2008, Vol. 7, Issue 2, pg. 51-58, 2008.
30. D. Lungeanu , D. Zaharie, S. Holban, E. Bernad, M. Bari, R. Noaghiu; Exploratory Analysis of Medical Coding Practices: the Relevance of Reported Data Quality in Obstetrics-Gynaecology, in Stud Health Technol Inform. Amsterdam: IOS Press, ISBN 978-1-58603-864-9, ISSN 0926-9630, pg. : 839-844, 2008.
31. C. Chira, A. Gog, D. Zaharie, D. Dumitrescu; Complex Dynamics in a Collaborative Evolutionary Search Model, Creative Mathematics and Informatics, vol. 17, nr. 3, 2008, pg. 346-356
32. A. Gog, C. Chira, D. Dumitrescu, D. Zaharie; Analysis of Some Mating and Collaboration Strategies in Evolutionary Algorithms, Proc of 10th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing, pp.538-542, 2008.
33. D. Zaharie; Statistical properties of differential evolution and related random search algorithms, invited paper, in Paula Brito (ed.) Proceedings of International Conference on Computational Statistics Porto, Portugal, August 24-29, Physica-Verlag HD, ISBN978-3-7908-2083-6, pg. 473-485, 2008.
34. D. Zaharie, D. Petcu, S. Panica; A Hierarchical Approach in Distributed Evolutionary Algorithms for Multiobjective Optimization, in I. Lirkov, S. Margenov, J. Wasniewski (eds) Proc. of LSSC 2007 – 6th International Conference on Large Scale Computing, LNCS 4818, ISBN-10 3-540-78825-5 Springer, pp. 505-514, 2008.
35. D. Zaharie, D. Lungeanu, F. Zamfirache; Interactive Search of Rules in Medical Data Using Multiobjective Evolutionary Algorithms, in Proceedings of the 2008 GECCO Conference Genetic and Evolutionary Computation (workshop MedGEC--medical applications of genetic and evolutionary computation), Atlanta August 2008, ISBN:978-1-60558-131-6, pg. 2065-2072, 2008.
36. D. Lungeanu, D. Zaharie, F. Zamfirache; Influence of Missing Values Treatment on Classification Rules Evolved from Medical Data. In I. Bichindaritz, P. Perner, L. G. Shapiro (Eds.): Advances in Data Mining. 8th Industrial Conference, ICDM 2008, Leipzig, Germany, July 2008, Poster and Workshop Proceedings. IbaI Publishing 2008, ISBN 978-3-940501-03-5, pg. 86-95, 2008.
37. S. Panica, D. Petcu, D. Zaharie; Evolutionary multi-objective optimization on Grid environments, in H. Burkhart (ed.), Procs. PDCN 2008, Parallel and Distributed Computing

and Networks - 2008, Innsbruck, 11-14 Feb., Acta Press, ISBN 978-0-88986-713-0, editor H. Burkhart, pg. 81-86, 2008.

2007

38. D. Petcu, D. Zaharie, D. Gorgan et al.; MedioGrid: A grid-based platform for satellite image processing in Proc. of 4th IEEE International Workshop on Intelligent Data Acquisition and Advanced Computing Systems, Sept 06-08, 2007 Dortmund, pg: 137-142, 2007.
39. D. Zaharie, S. Holban, D. Lungeanu, D. Navolan; A computational Intelligence Approach for Ranking Risk Factors in Preterm Birth. In: Szakal A. (ed.). Proceedings of 4th International Symposium on Applied Computational Intelligence and Informatics - SACI2007, mai 2007, Timisoara, ISBN: 1-4244-1234-X, pg. 135-140, 2007.
40. H. Popa, D.Pop, V. Negru, D. Zaharie; A Multi-Agent System for Knowledge Discovery from Databases, Proc. of SYNASC'07, IEEE Computer Society, ISBN 0-7695-3078-8, pg. 275-281, 2007.
41. D. Zaharie, D. Lungeanu, S. Holban; Feature ranking based on weights estimated by multiobjective optimization. In: J.Roth, J.Gutiérrez, A.P. Abraham (eds.), Proceedings of IADIS First European Conference on Data Mining, 5-7 July2007, Lisabona, ISBN 978-972-8924-40-9, pg. 124-128, 2007.
42. D. Zaharie; A comparative analysis of crossover variants in differential evolution, M. Ganzha, M. Paprzycki, T. Pelech-Pilichowski (eds), Proc. of International Multiconference on Computer Science and Information Technology IMCSIT 2007, 15-17 Oct., Wisla, Poland, ISSN 1896-7094, pg. 171 – 181, 2007.

2006

43. D. Zaharie, G. Ciobanu; Distributed Evolutionary Algorithms Inspired by Membranes in Continuous Optimization Problems, in H.J. Hoogeboom, G. Paun, G. Rozenberg (eds), Proceedings of 7th Workshop on Membrane Computing, Leiden, 17-21 July, LNCS 4361, ISBN 978-3-540-69088-7, pg. 536-553, 2006.
44. D. Zaharie; Distributed Clustering Based on Representatives Evolved by Crowding Differential Evolution , in R. Matousek, P. Osmera (eds), Proc. of 12th International Conference on Soft Computing, Brno, may 31 - June 2, ISBN 80-214-3195-4, pg. 51-56, 2006.
45. D. Zaharie, D. Petcu; Communication Strategies in Distributed Evolutionary Algorithms for Multi-objective Optimization , Proc. of 7th International Conference on Technical Informatics, Timisoara, June 8-9,2006, vol. 1, pg. 145-150, 2006.
46. D. Zaharie, F. Zamfirache; Diversity Enhancing Mechanisms for Evolutionary Optimization in Static and Dynamic Environments , Proc. of 3rd Romanian-Hungarian Joint Symposium on Applied Computational Intelligence,Timisoara, May 25-26, ISBN 963-7154-46-9, pg. 460-471, 2006.

2005

47. D. Zaharie, D. Petcu; Parallel Implementation of Multi-population Differential Evolution. In A. Nicolau, D. Grigoras (eds), Concurrent Information Processing and Computing, IOS Press, ISBN 1-58603-502-9, pg. 223-231,2005.

48. D. Zaharie, F. Zamfirache; Dealing with noise in ant-based clustering, Proc. IEEE Congress of Evolutionary Computation 2005, Edinburgh, 2-5 Sept, ISBN 0-7803-9363-5, pg. 2395-2402, 2005.
49. D. Zaharie; Density-based clustering with crowding differential evolution, Proc. 7th Symposium on Symbolic and Numeric Algorithms for Scientific Computing, Timisoara, 25-29 Sept. 2005, IEEE Computer Science Press, ISBN 0-7695-2453-2, pg. 343-350, 2005.
50. D. Zaharie, F. Zamfirache; Ant-based clustering of medical data, in F. Gorunescu, E. El-Darzi, M. Gorunescu (eds), Proc. of HCMC 2005, First East European Conference on "Health Care Modelling and Computation, ISBN 973-7757-67-X, pg. 332-343, 2005.
51. I. Zaharie, D. Zaharie; Evolutionary optimization of molecular clusters, Proc. of 4th Conference on Isotopic and Molecular Processes, Cluj-Napoca, Sept. 22-24, 2005 STUDIA UNIVERSITATIS BABES-BOLYAI, PHYSICA, L, 4a, pg. 447-450, 2005

2004

52. D. Zaharie, D. Petcu ; Adaptive Pareto Differential Evolution and its Parallelization, in LNCS 3019, pg. 261-268, 2004.
53. D. Zaharie; A Multi-population Differential Evolution Algorithm for Multimodal Optimization, in R. Matousek, P. Osmera (eds) Proc. of Mendel'04, 10th International Conference on Soft Computing, Brno, June 16-18, ISBN 80-214-2676-4, pg. 17-22, 2004.
54. C. Grosan, D. Zaharie; Base Changing Strategies in an Adaptive Representation Evolutionary Algorithm, Proc. of SACI'04 (1st Symposium on Applications of Computational Intelligence), ISBN 963 7154 26 4, pg. 79-88, 2004.
55. D. Zaharie; Extensions of Differential Evolution Algorithms for Multimodal Optimization, Analele Univ. Timisoara vol. XLII, ISSN 1224-970X, Timisoara, pg. 331-345, 2004

2003

56. D. Zaharie; Control of Population Diversity and Adaptation in Differential Evolution Algorithms, in R. Matousek, P. Osmera (eds), Proc. of Mendel 2003, 9th International Conference on Soft Computing, ISBN 80-214-2411-7, pg. 41--46, 2003.
57. D. Zaharie; Multi-objective Optimization with Adaptive Pareto Differential Evolution, Memoriile Sectiilor Stiintifice, Ed. Academiei Romane. Seria IV, Tomul XXVI, pp. 223-239, 2003
58. D. Zaharie; On migration strategies in multi-population evolutionary algorithms, Proc. of the 10th International Symposium of Mathematics and its Applications, Univ. "Politehnica" din Timisoara, 6-9 Nov., ISSN 1224-6069, pg. 540—549, 2003.

2002

59. D. Zaharie; Recombination operators for evolutionary algorithms, in D. Ivanchev and M.D. Todorov (eds.), Proc. of Applications in Engineering and Economics'27, Sozopol, June, 2001, Heron Press Science Series, Sofia, ISBN: 954-580-115-8, pg. 615-627, 2002.
60. D. Zaharie; Critical values for the control parameters of differential evolution algorithms, in P. Osmera, R. Matousek (eds), Proc. of MENDEL'2002 – 8th Conference on Soft Computing, Brno, 5-7 June, ISBN: 80-214-2135-5, pg. 62-67, 2002.
61. D. Zaharie; Parameter adaptation in differential evolution by controlling the population diversity, Analele Univ. Timisoara vol. XL, ISSN 1224-970X, Timisoara, 385-397, 2002.