Curriculum Vitae

Andrei Paun,
Senior Researcher (CS I) and Head of
Department of Bioinformatics
National Institute or R&D for Biological Sciences (NIRDBS)
Splaiul Independenţei nr. 296, C.P. 17-16, sector 6, 060031 București (România)
Tel.: (4-021) 220.77.80, Fax: (4-021) 220.76 95, **E-mail:** andrei.paun@incdsb.ro

and

Professor of Computer Science
University of Bucharest
Department of Computer Science
Faculty of Mathematics and Computer Science
Str. Academiei nr.14, sector 1, C.P. 010014, Bucuresti, Romania
Tel.: (4-021) 314 3508, Fax: (4-021) 315 6990, **E-mail:** apaun@fmi.unibuc.ro

Education

Postdoctoral researcher: Rovira i Virgili Universitaty, Spain, 5/2003-9/2003, field: Computer Science
Ph.D.: University of Western Ontario, Canada, 9/1999-5/2003, field: Computer Science
Thesis title: "Unconventional models of computation: DNA and membrane computing",
Ph.D. supervisor: Prof. Dr. Sheng Yu
Master's: University of Western Ontario, Canada, 9/1998-8/1999, field: Computer Science
Bachelor's: University of Bucharest, Romania, 10/1994-6/1998, Faculty of Mathematics, Mathematics with major in CS

Work experience(21 years in university field, also 12 in a research institute in Romania)

10/2007-present: Senior researcher (CSI) in Bioinformatics, National Institute of R&D for Biological Sciences (NIRDBS), Bucuresti (in period 10/2007-08/2008: junior researcher: CS III, 08/2008-12/2009 CS II), **from 2009 I am the head of the Bioinformatics Department in NIRDBS**.
10/2009-present: Full Professor, Department of Computer Science, Faculty of Mathematics and Computer Science, University of Bucharest (Associate professor 2009-2012, full professor from 2012).
09/2003- 10/2007: Assistant Professor in Computer Science; concurrent employment with Institute for Micromanufacturing, Louisiana Tech University, Ruston, Louisiana, USA
05/2006-05/2007: Visiting Professor in Ramon y Cajal programme, Politechnical Universitaty of Madrid, Spain
05/2003-09/2003: Postdoctoral researcher with an NSERC (Canada) fellowship at Rovira i Virgili Universitaty, Spain
09/1998-05/2003: Research Assistant and Teaching Assistant at University of Western Ontario, Canada

Research Grants, Scholarships, Fellowships and Awards obtained

2019 • Research grant of type Horizon 2020, INFRAEOSC-04-2018, title: ENVironmental Research Infrastructures building Fair services Accessible for society, Innovation and Research (ENVRI-FAIR), 2019-2022, (Key person)

2018 • Best paper award for the Exact Sciences papers published in University of Bucharest (Chemistry, Computer Science, Mathematics and Physics) for the papers published during the academic year 2017-2018 (December 2018)

2016 • Research grant of type POC-A1-A1.1.4-E-2015-section E, title: Modelling Design and Analysis of Synthetic Systems based on the DNA-self assembly: MoDASyS, ANCSI, 2016-2020 (CO-PI)

• Research grant of type Horizon 2020, H2020-INFRADEV-2016-2, title: Preparatory phase for the pan-European research infrastructure DANUBIUS–RI "The international centre for advanced studies on river-sea systems, 2016-2019, (Senior Researcher).

2015 • The **Grigore C Moisil** prize of the **Romanian Academy of Science**, Mathematics section, December 2015 for a group of papers published in 2012

- Reviewer for the ARACIS agency (accreditation of university level programmes) in the national register of Computer Science evaluators

- Member (one of 7) of the Consiliul Naţional de Atestare a Titlurilor, Diplomelor si Certificatelor Universitare (CNATDCU) – Computer Science section – named 2012-2016, elected 2016-2020 and published in OM 4106/2016

2014 - Research grant of type Nucleu, title: Identificarea, caracterizarea si utilizarea bioresurselor pentru obtinerea de substante utile in scopul valorificarii acestora si conservarii biodiversitatii, BIODIV 109, (co-PI: Andrei Paun).

2013 - Research grant of type FP7, title: MACROREGION: CAPACITY BUILDING AND EXCELLENCE IN RIVER SYSTEMS (BASIN, DELTA AND SEA) –DANCERS, FP7-ENVIRONMENT, Seventh Framework Programme, #603805, 2013-2015, 99933 EURO . (Co-PI: Andrei Paun)

- Research grant of type Sectorial grant, title: Pregatirea propunerii de proiect ESFRI privind realizarea Centrului International "DUNAREA" DE STUDII AVANSATE PENTRU SISTEME FLUVII-DELTE-MARI", leader of consortium: GEOECOMAR, 2013-2014, amount 1. 800.000RON – (senior researcher: Andrei Paun)

2011 - Research grant of type Tinere Echipe financed by CNCSIS (now CNCS) TE-92: SIMULARE DE CELULE CU TEHNICI STOCHASTICE DISCRETE 08/2010-08/2013, total award amount: 750.000 RON.
- AWARD: I received the honorary title of **Professor Bologna in 2011** from the Romanian association of all students organizations ANOSR, at the moment I am the only professor from Faculty of Mathematics and Computer Science, University of Bucharest which obtained this distinction.

2009 - Research grant of type NUCLEU for Institutul National de Cercetare-Dezvoltare pe stiinte Biologice, Bucuresti. (Principal Inverstigator (phase 1/2009): Andrei Paun), title: **Biodiv**, total award amount: 142.052 RON (15 June-15 September 2009)

2007 - Research grant from CONSILIUL NATIONAL AL CERCETARII STIINTIFICE DIN INVATAMANTUL SUPERIOR (through PNII): **RP 13** (Principal Inverstigator: Andrei Paun), Title: **SISTEME DE MEMBRANE, AUTOMATE SI PROTEINE**, total award amount: 509.812 RON (2007-2009)
- Research grant from Centrul National de Management Programe (through PNII): PC-1284 (Principal Inverstigator: Andrei Paun), title: **Simulare de Celule cu Sisteme de Membrane,** total award amount: 2.000.000 RON (2007-2010)

2005 - Research grant from Institute for Micromanufacturing internal grants phase I competition:- Computational Genetic Networks, PI, total award amount 31806$, March-June 2005.
- Research grant from National Science Foundation (SUA) CCF-0523572(Principal Inverstigator: Andrei Paun), Title: "Bio Computing: Collaborative Research: P Systems Theory and Applications to Modeling and Simulation of Cells", total award amount: $150,000 (2005-2008).
- AWARD: The paper 25: "The Power of Communication: P Systems with Symport/Antiport" has been seleced by the **Thomson ISI Essential Science Indicators** as a highly influential/cited paper and it is ranked in the top 1% within the field. The exact phrase on the certificate received from ISI reads: *"This means that the number of citations your article received places it in the top 1% within its field according to Essential Science Indicators. Your work is highly influential, and is making a significant impact among your colleagues in your field of study." "Congratulations on your extraordinary career accomplishment!"*

2004 - Research grant from National Science Foundation DMR - Instrumentation for Materials Research, project title "Acquisition of a SGI Origin350 for Nano/Bio-Technology Computational Research and Student Training", CO-PI, total award amount $186,720 (2004-2007).
- Research grant from Board of Regents Research Competitiveness Subprogram, project title: "A New Method for Simulating Cells Globally", principal investigator, total award amount $120,800 (2004-2007).
- Research grant from CENIT at Louisiana Tech University start-up grant 18,000$

2003 - NSERC Post Doctoral Fellowship (PDF) (national scholarship) 35,000/yr.[1] for up to two years. (held for only 4 months because of full time employment at Louisiana Tech University)
- UWO Graduate Tuition Scholarship (Computer Science) (institutional scholarship) $5,000/yr.[1]

2002 • Ontario Graduate Scholarship (provincial scholarship) $15,000/yr.[1]
• UWO Graduate Tuition Scholarship (Computer Science) (institutional scholarship) $5,000/yr.[1]

2001 • UWO Graduate Tuition Scholarship (Computer Science) (institutional scholarship) $5,000/yr. [1]

2000 • NSERC PGS B Graduate Scholarship for PhD (national scholarship) 19,100/yr.[1] for up to two years.
• Ontario Graduate Scholarship (provincial scholarship) (declined; cannot be held concurrently with NSERC PGS B) $15,000/yr.[1]
• UWO Graduate Tuition Scholarship (Computer Science) (institutional scholarship) $5,000/yr.[1]

1999 • UWO President's Scholarship for Graduate Study (institutional scholarship) $18,000/yr.[1]
• IGSS Graduate Scholarship (Computer Science) (institutional scholarship) $5,000/yr.[1]

1998 • UWO President's Scholarship for Graduate Study (institutional scholarship) $18,000/yr.[1]
• IGSS Graduate Scholarship (Computer Science) (institutional scholarship) $5,000/yr.[1]

1994-1998 • University of Bucharest Scholarship
(all [1] amounts are in Canadian dollars)
UWO: *University of Western Ontario (Canada).*

Refereed papers in International Journals (almost all in ISI):
(in bold are shown my Master's or Ph.D. students)

1. Barad G, Czeizler E, Păun A. Chemical Reaction Networks Associated with the Hilbert's 16th Problem. Limit Cycles and Stability Analysis. MATCH Commun. Math. Comput. Chem. 81 (2019) 557-578 (ISI journal Q1)
2. Amarioarei A, Barad G, Czeizler E, Czeizler E, DOBRE A, Itcus C, Paun A, Paun M, Trandafir R, Tusa I. One Dimensional DNA Tiles Self Assembly Model Simulation. International Journal of Unconventional Computing. 2018 Jan 1;13. (ISI journal)
3. Wu T, **Bîlbîe FD**, Păun A, Pan L, Neri F. Simplified and yet Turing universal spiking neural P systems with communication on request. International journal of neural systems. 2018 Apr 2:1850013. (ISI journal Q2)
4. **Wu T**, Păun A, Zhang Z, Pan L. Spiking neural P systems with polarizations. IEEE transactions on neural networks and learning systems. 2018 Aug;29(8):3349-60. (ISI journal Q1)
5. Zhang Z, **Wu T**, Păun A, Pan L. Universal enzymatic numerical P systems with small number of enzymatic variables. Science China Information Sciences. 2018 Sep 1;61(9):092103. (ISI journal)
6. **Li Y**, Păun A, Păun M. Improvements on contours based segmentation for DNA microarray image processing. Theoretical Computer Science. 2017 Nov 21;701:174-89. (ISI journal)
7. Su Y, **Wu T**, Xu F, Păun A. Spiking neural p systems with rules on synapses working in sum spikes consumption strategy. Fundamenta Informaticae. 2017 Jan 1;156(2):187-208. (ISI journal)
8. A. Paun, A. Rodríguez-Patón: P Systems Simulating Bacterial Conjugation: Universality and Properties. Fundam. Inform. 153(1-2): 87-103 (2017) (ISI journal)
9. H. Chen, M.Ionescu, A. Paun, Gh. Paun: On trace languages generated by (small) spiking neural P systems. Theor. Comput. Sci. 682: 57-66 (2017) (ISI journal)
10. A. Paun, **C. Chandler**, C. Leangsuksun, M. Paun, A failure index for HPC applications. J. Parallel Distrib. Comput. 93-94: 146-153 (2016) (ISI journal Q2)
11. K. Irvine, G. Weigelhofer, I. Popescu, E. Pfeiffer, A. Paun et. al. Educating for action: Aligning skills with policies for sustainable development in the Danube river basin, Science of The Total Environment, 543(A), 765-777 (2016) (ISI journal Q1)
12. Z. Zhang, **T. Wu**, A. Paun, L. Pan, Numerical P systems with migrating variables. Theor. Comput. Sci. 641: 85-108 (2016) (ISI journal)
13. X. Zhang, L. Pan, A. Paun, On the Universality of Axon P Systems, IEEE Transactions on Neural Networks and Learning Systems, 26(11), 2816-2829, NOV 2015 DOI: 10.1109/TNNLS.2015.2396940 (ISI journal Q1)
14. M. Paun, Y. Li, Y. Cheng, I. Tusa, A. Paun, Segmenting microarray images using a contour-based method, Theoretical Computer Science,68(1), 108-118, 2015, DOI: 10.1016/j.tcs.2015.07.036 (ISI journal)
15. A. Paun, P.Sosík, Three Universal Homogeneous Spiking Neural P Systems Using Max Spike. Fundam. Inform. 134(1-2): 167-182 (2014) (ISI journal)

16. P. Sosík, A. Paun, A. Rodríguez-Patón: P systems with proteins on membranes characterize PSPACE. Theoretical Computer Science, vol. 488 (2013), 78-95 (ISI journal)
17. A Paun, M. Paun, A. Rodríguez-Patón, M. Sidoroff: P Systems with proteins on Membranes: a Survey. *Int. J. Found. Comput. Sci.*, vol. 22, iss. 1 (2011), 39-53. (ISI journal)
18. **J. Jack**, A. Paun, A. Rodríguez-Patón: A review of the nondeterministic waiting time algorithm. *Natural Computing*, vol. 10, iss.1 (2011), 139-149. (ISI journal)
19. **J. Jack,** A. Paun: Discrete Modeling of Biochemical Signaling with Memory Enhancement. *T. Comp. Sys. Biology 11*: (2009), 200-215. (ISI journal)
20. O.H. Ibarra, A. Paun, A. Rodriguez-Paton, Sequential SNP systems based on min/max spike number, *Theoretical Computer Science*, vol. 410, iss. 30-32 (2009), 2982-2991. (ISI journal)
21. A. Paun, M. Paun, A. Rodriguez-Paton, On the Hopcroft's minimization technique for DFA and DFCA, *Theoretical Computer Science*, vol. 410, iss. 24-25 (2009), 2424-2430. (ISI journal)
22. **J. Jack**, A. Paun, F A. Rodriguez-Paton, Discrete nondeterministic modeling of the FAS pathway, *International Journal of Foundations of Computer Science*, vol. 19 (October 2008), no. 5, pp. 1147-1162. (ISI journal)
23. H. Chen, M. Ionescu, T.O. Ishdorj, A. Paun, Gh.Paun, M. Pérez-Jiménez, Spiking neural P systems with extended rules: universality and languages. *Nat. Comput.* 7 (2008), no. 2, pp. 147-166. (ISI journal)
24. O.H. Ibarra, A. Paun, Computing with Cells: Membrane Systems - Some Complexity Issues, *International Journal of Parallel, Emergent and Distributed Systems*, 23:5, 2008, pp. 347 -365
25. O.H. Ibarra, S. Woodworth, F. Yu, A. Paun, On spiking neural P systems and partially blind counter machines. *Nat. Comput.* 7 (2008), no. 1, pp. 3—19. (ISI journal)
26. A. Paun, Gh. Paun, Small universal spiking neural P systems, *BioSystems*, 90 (1), 2007, pp. 48-60. (ISI journal)
27. **S. Cheruku**, A. Paun, F.J. Romero-Campero, M.J. Perez-Jimenez, O.H. Ibarra; Simulating FAS-induced apoptosis by using P systems. *Progress in Natural Science*, 17(4), 2007, pp. 424-431. (ISI journal)
28. O. H. Ibarra, A. Paun, Gh. Paun, A. Rodríguez-Patón, P. Sosík, S. Woodworth; Normal forms for spiking neural P systems. *Theoretical Computer Science* 372(2-3), 2007, pp. 196-217 (ISI journal)
29. A. Paun, **B. Popa**; P Systems with Proteins on Membranes. *Fundamenta Informaticae*, 72(4), 2006, pp. 467-483. (ISI journal)
30. C. Campeanu, A. Paun, **J.R. Smith**, Incremental construction of minimal deterministic finite cover automata. *Theoretical Computer Science*, 363(2), 2006, pp. 135-148 (ISI journal)
31. R. Freund, M. Oswald, A. Paun, Optimal Results for the Computational Completeness of Gemmating (Tissue) P Systems, *International Journal of Foundations of Computer Science*, 16(5), 2005, pp. 929-942. (ISI journal)
32. C. Campeanu, L. Kari, A. Paun, Results on Transforming NFA into DFCA, *Fundamenta Informaticae*, Vol 64, 2005, pp. 53-63. (ISI journal)
33. R. Freund, A. Paun, P systems with active membranes and without polarizations, *Journal of Universal Computer Science and Soft Computing*, 9 (9), 2005, pp. 657-663. (ISI journal)
34. S.N. Krishna, A. Paun, Results on Catalytic and Evolution-Communication P Systems, *New Generation Computing*, 22(4), 2004, pp. 377-394. (ISI journal)
35. C. Campeanu, A. Paun, Counting the Number of Minimal DFCA Obtained by Merging States, *International Journal of Foundations of Computer Science*, 14(6), 2003, pp. 995-1006. (ISI journal)
36. R. Belu, A. Paun, A. Belu, Neural Networks in Instrumentation, Measurement and Control, *Romanian Journal of Information Science and Technology*, 6(1-2), 2003, pp. 61-85. (ISI journal)
37. M. Ionescu, C. Martín-Vide, A. Paun, Gh. Paun, Unexpected universality results for three classes of P systems with symport/antiport, *Natural Computing*, Vol. 2, issue 4, 2003, pp. 337-348. (ISI journal)
38. A. Paun, Gh. Paun, G. Rozenberg, Computing by Communication in Networks of Membranes, *International Journal of Foundations of Computer Science*, Vol. 13, No. 6 (2002), pp. 779-798. (ISI journal)
39. C. Martin-Vide, A. Paun, G. Paun, G. Rozenberg, Membrane Systems with Coupled Transport: Universality and Normal Forms, *Fundamenta Informaticae*, 49, 1-3 (2002), pp. 1-15. (ISI journal)
40. C. Martin-Vide, A. Paun, G. Paun, On the Power of P Systems with Symport Rules. J. UCS 8(2): pp. 317-331 (2002) (ISI journal)
41. A. Paun, Gh. Paun, The Power of Communication: P Systems with Symport /Antiport, *New Generation Computing*, 20, 3 (2002), pp. 295-305. (ISI journal)
42. A. Paun, P Systems with Global Rules, *Theory Comput. Systems*, 35, (2002), pp. 471-481. (ISI journal)
43. C. Campeanu, A. Paun, S. Yu, An Efficient Algorithm for Constructing Minimal Cover Automata for Finite Languages, *International Journal of Foundations of Computer Science*, 13, 1 (2002), pp. 83-97. (ISI journal)
44. A. Paun, On P Systems with Partial Parallel Rewriting, *Romanian Journal of Information Science and Technology*, 4, 1-2 (2001), pp. 203-210.
45. A. Paun, On the Diameter of Various Classes of H Systems, *J. Automata, Languages and Combinatorics*, 5, 3 (2000), pp. 315-324.

46. A. Paun, On Time-Varying H systems, *Bulletin of the EATCS*, 67 (1999), pp. 157-164.
47. A. Paun, Controlled H Systems of a Small Radius, *Fundamenta Informaticae*, 31, 2 (1997), pp. 185-193. (ISI journal)

Refereed Papers in International Conferences:
(in bold are shown my students)

48. V. Mitrana, A. Paun, M. Paun: How Complex is to Solve a Hard Problem with Accepting Splicing Systems. COMPLEXIS 2019: 27-35
49. H. Bordihn, V. Mitrana, A. Paun, M. Paun: Further Properties of Self-assembly by Hairpin Formation. UCNC 2019: 37-51
50. A. Paun, **F.Bîlbîe**: A Look at the Descriptional Complexity of SNQ P Systems. Enjoying Natural Computing 2018: 228-236
51. A. Amarioarei, G. Barad, E. Czeizler, A.Dobre, C. Itcus, V. Mitrana, A. Paun, M. Paun, F. Spencer, R. Trandafir, I. Tusa: DNA-Guided Assembly of Nanocellulose Meshes. TPNC 2018: 253-265
52. **F. Bîlbîe**, A. Păun, : Universality of SNQ P systems using one type of spikes. In: Proceedings of the 18th International Conference on Membrane Computing (CMC 2017), Bradford, UK, 25–28 July 2017
53. H. Bordihn, V. Mitrana, A. Paun, M. Paun: Networks of Polarized Splicing Processors. TPNC 2017: 165-177
54. **T.Ahmed**, G. DeLancy, A. Paun: A Case-Study on the Influence of Noise to Log-Gain Principles for Flux Dynamic Discovery. Int. Conf. on Membrane Computing 2012: 88-100
55. A. Paun, M. Sidoroff: Sequentiality Induced by Spike Number in SNP Systems: Small Universal Machines. *Int. Conf. on Membrane* Computing 2011: 333-345
56. A. Paun, M. Paun, A. Rodríguez-Patón, **J. Jack**: Poster: Biochemical signaling: A discrete simulation with memory enhancement. *ICCABS* 2011: 257
57. **J. Jack**, A.Paun: The Nondeterministic Waiting Time Algorithm: A Review *DCFS* 2009: 29-46
58. P. Sosík, A. Paun, A. Rodríguez-Patón, D. Pérez: On the Power of Computing with Proteins on Membranes. *Workshop on Membrane Computing* 2009: 448-460
59. O.H. Ibarra, A. Paun, A. Rodriguez-Paton, Sequentiality Induced by Spike Number in SNP Systems, Pre-proceedings of Fourteenth meeting on DNA Computing (DNA14), June 2-6, 2008, Prague, Czech Republic, pp. 36-47.
60. **J. Jack,** A. Paun, A. Rodriguez-Paton, Effects of HIV-1 Proteins on the Fas-Mediated Apoptotic Signaling Cascade: A Computational Study of Latent CD4+ T Cell Activation, accepted at Ninth Workshop on Molecular Computation, WMC9, Edinburgh (UK) July 28-31, 2008, 20pp.
61. A. Paun, M. Paun, A. Rodriguez-Paton, Hopcroft's minimization technique: queues or stacks?, CIAA 13, July 21-24, 2008, San Francisco, USA, *Lecture Notes in Computer Science*, Berlin, vol. 5148, 2008, pp. 78-91.
62. A. Paun, **B. Popa**, P Systems with Proteins on Membranes and Membrane Division, *Proc of. Tenth International Conference Developments in Language Theory (DLT 2006)*, June 26-29, 2006, Santa Barbara, CA, USA, pp. 292-303
63. **H. Nagda**, A. Paun, A. Rodriguez-Paton, P Systems with Symport/Antiport and Time, Proc. of Workshop on Membrane Computing (at the crossroads of Cell Biology and Computing), WMC07, 17-21 July 2006, pp. 429-442 and also *Lecture Notes in Computer Science*, 4361, Berlin, (2006), pp. 463-476.
64. C. Campeanu, A. Paun, **J. R. Smith,** Tight Bounds for the State Complexity of Deterministic Cover Automata, *Proc. of Descriptional Complexity of Formal Systems, 8th Workshop, June 21-23, 2006, Las Cruces, New Mexico, USA (9 pages).*
65. M. Ionescu, A. Paun, Gh. Paun, M.J. Pérez-Jiménez, Computing with Spiking Neural P Systems: Traces and Small Universal Systems, *Proc. of 12th Intern. Meeting on DNA Based Computers* (DNA 2006), June 5-9, Seoul, Korea, pp. 1-16.
66. O.H. Ibarra, S. Woodworth, F. Yu, A. Paun, On Spiking Neural P Systems and Partially Blind Counter Machines. *Proc. Of 5th International Conference on Unconventional Computation* (UC 2006), 4th-8th September 2006, York, UK, pp. 113-129.
67. C. Campeanu, A. Paun, **J. R. Smith**, An Incremental Algorithm for Minimal Deterministic Finite Cover Automata, *Proc. of Tenth International Conference on Implementation and Application of Automata* (CIAA05), June 27–29, 2005, Sophia Antipolis, France, pp. 90-103; (the conference had approximately 30% acceptance rate) also in *Lecture Notes in Computer Science*, Berlin, Volume 3845/2006 pages 90-103.
68. O.H. Ibarra, A. Paun, Counting Time in Computing with Cells, *Proc. of 11th Intern. Meeting on DNA Based Computers* (DNA11), June 6-9, 2005, London Ontario, Canada, pp. 112-128, also in *Lecture Notes in Computer Science*, Volume 3892/2006, Berlin, pages 112-128.
69. C. Campeanu, A. Paun, NFA to DFCA Transformations For Binary Alphabets, *Proc. of Ninth International Conference on Implementation and Application of Automata* (CIAA 2004), Kingston, Canada (2004).
70. C. Campeanu, A. Paun, Lower Bounds for NFA to DFCA Transformations, *Proc. of Descriptional Complexity of Formal Systems, 6th Workshop*, London, Ontario, Canada (2004) (10 pages).
71. R. Freund, M. Oswald, A. Paun, Extended Gemmating P Systems are Computationally Complete with Four Membranes, *Proc. of Descriptional Complexity of Formal Systems, 6th Workshop*, London, Ontario, Canada (2004) (10 pages).
72. R. Freund, M. Oswald, A. Paun, P systems generating trees, *Proc. of Workshop on Membrane Computing 2004* (WMC5), Milano, Italy, 2004, pp. 221-232 also in *Lecture Notes in Computer Science*, 3365, Berlin, (2004), pp. 309-319.

73. C. Campeanu, A. Paun, Computing Beyond the Turing Limit Using the H Systems, *Proc. of the Tenth International Meeting on DNA Computing* (DNA10), Milan, (2004), pp. 314-323 also in *Lecture Notes in Computer Science*, 3384, Berlin, (2005), pp. 24-34.
74. F. Bernardini, A. Paun, Universality of Minimal Symport/Antiport: Five Membranes Suffice, *Lecture Notes in Computer Science*, 2933, Berlin, (2004), pp. 43-54.
75. R. Freund, A. Paun, Membrane Systems with Symport/Antiport: Universality Results, *Lecture Notes in Computer Science*, 2597, Berlin, (2003), pp. 270-287.
76. M. Ionescu, C. Martín-Vide, A. Paun, Gh. Paun: Unexpected Universality Results for Three Classes of P Systems with Symport/Antiport. DNA 2002: LNCS, Volume 2568/2003, pp.281-290
77. C. Campeanu, A. Paun, The Number of Similarity Relations and the Number of Minimal Deterministic Finite Cover Automata, *Proc. of 7th International Conference on Implementation and Application of Automata* (CIAA 2002), Tours, France, 2002, pp. 71-80.
78. M. Ionescu, C. Martin-Vide, A. Paun, Gh. Paun, Membrane Systems with Symport/Antiport: (Unexpected) Universality Results, *Proc. of 8th Intern. Meeting on DNA Based Computers* (DNA8) (M. Hagiya, A. Obuchi, eds.), Hokkaido University, Sapporo, Japan, 2002, pp. 151-160.
79. A. Paun, P Systems with string-objects: Universality results, *Proc. of Workshop on Membrane Computing* (WMC-CdeA 2001), Curtea-de-Arges, Romania, 2001, pp. 229-242.
80. A. Paun, On P Systems with Global Rules. *Proc. of 7th Intern. Meeting on DNA Based Computers* (DNA7) (N. Jonoska, N.C. Seeman, eds.), Tampa, Florida, USA, 2001, pp. 43-52.
81. A. Paun, On P Systems with Active Membranes, *Proc. of UMC2K*, in *Discrete Mathematics and Theoretical Computer Science*, Springer (I. Antoniou, C.S. Calude, M.J. Dinneen, eds.), Brussels, Belgium, 2000, pp. 187-201.
82. A. Paun, N. Santean, S. Yu, An O(n^2) Algorithm for Constructing Minimal Cover Automata for Finite Languages, *Proc. of Fifth International Conference on Implementation and Application of Automata* (CIAA 2000) (M. Daley, M. Eramian, S. Yu, eds.), London, Ontario, 2000, pp. 233-241.
83. A. Paun, On the Diameter of Various Classes of H Systems, *Proc. of Intern. Workshop on Descriptional Complexity of Automata, Grammars and Related Structures* (DCAGRS '99) (J. Dassow, D. Wotschke, eds.), Magdeburg, Germany, 1999, pp. 165-174.
84. A. Paun, M. Paun, State and Transition Complexity of Watson-Crick Finite Automata, *Proc. of Fundamentals of Computation Theory Conf.* (FCT'99) Iasi, 1999, *Lecture Notes in Computer Science*, 1684, Springer-Verlag, Berlin, 1999, pp. 409-420.
85. A. Paun, M. Paun, Controlled and Distributed H Systems of a Small Radius, *Computing with Bio-Molecules; Theory and Experiments*, Springer, Singapore, 1998, pp. 239-254.

Other Publications:

86. L. Kari, C. Martin-Vide, A. Paun, On the Universality of P Systems with Minimal Symport/Antiport Rules, *Lecture Notes in Computer Science*, 2950, Berlin, (2004), pp. 254-265. (jurnal ISI)
87. R. Freund, A. Paun, P Systems with Active Membranes and without Polarizations, *Dept. of Computer Sciences and Artificial Intelligence, Univ. of Sevilla Tech. Rep 01/2004*, Second Brainstorming Week on Membrane Computing, Sevilla, Spain, Feb 2-7, 2004, pp. 193-205.
88. S.N. Krishna, A. Paun, Some Universality Results on Evolution-Communication P Systems, *Rovira i Virgili Univ., Tech. Rep. No. 26*, Brainstorming Week on Membrane Computing; Tarragona, 2003, pp. 207-215.
89. S.N. Krishna, A. Paun, Three Universality Results on P Systems, Rovira *i Virgili Univ., Tech. Rep. No. 26*, Brainstorming Week on Membrane Computing; Tarragona, 2003, pp. 198-206.
90. C. Martin-Vide, A. Paun, Gh. Paun, Membrane Computing: New Results, New Problems, *Bulletin of the EATCS*, 78 (2002), pp. 204-212.
91. L. Kari, A. Paun, String Operations Suggested by DNA Biochemistry: the Balanced Cut Operation, *Words, Semigroups & Transductions* (M. Ito, et. al., eds.), World Scientific, Singapore, 2001, pp. 275-287.
92. A. Paun, Gh. Paun, A. Rodriguez-Paton, Further Remarks on P Systems with Symport Rules, *An. Stiint. Univ. Al. I. Cuza Iasi Inform.* 10 (2001), pp. 3-18.
93. A. Paun, M. Paun, On the Membrane Computing Based on Splicing, W*here Mathematics, Computer Science, Linguistics and Biology Meet* (C. Martin-Vide, V. Mitrana, eds.), Kluwer, Dordrecht, 2001, pp. 409-422.

Books and Book Chapters

94. R. Freund, O. Ibarra, A. Paun, P. Sosik, H-C. Yen, Catalytic P systems, chapter 4 in Membrane Computing Handbook, Oxford University Press, 2010, ISBN: 978-0-19-955667-0.
95. O.H Ibarra, A. Leporati, A. Paun, S. Woodworth, Spiking Neural P Systems: Characterizations and Complexity, chapter 13 in Membrane Computing Handbook, Oxford University Press, 2010, ISBN: 978-0-19-955667-0.
96. A. Paun, M. Paun, Analiza Statistica Folosind Limbajul R, Editura Matrix, Bucuresti, 189 pages, 2009, ISBN: 973-755-514-4.
97. A. Paun, Computability of the DNA and Cells: Splicing and Membrane Computing, SBEB Publishing, 378 pages, 2008, ISBN: 978-0-9802368-4-2.
98. A. Paun, I. Stanciu, A. Bancila, B. Popa, Calculabilitatea pe baza de membrane si proteine, book chapter in Bioinformatica vol II, Editura Tehnica, 131 pages, 2008, ISBN: 978-973-31-2342-2.
99. O.H. Ibarra, A. Paun, Membrane Systems: A "Natural" Way of Computing with Cells, book chapter (chapter 3, 26 pages), in S. Rajasekaran, J.Reif, eds., *Handbook of Parallel Computing: Models, Algorithms and Applications* (Chapman & Hall/Crc Computer & Information Science Series), 2007, ISBN: 978-1584886235.
100. S. Yu, A. Paun, eds., *Implementation and Application of Automata*, Lecture Notes in Computer Science 2088, Springer-Verlag, Berlin, 2001. ISBN: 978-3540424918.

Courses taught at University of Bucharest (all in Romanian)

Limbaje Formale si automate (first year class 2009-2019)
Programare Orientata pe Obiecte (first year class 2009-2019)
Modelarea Limbajului Genetic (Master's level class 2009-2019)
Introducere in Bioinformatica si cercetare (senior level class 2011-2019)

Courses taught at Louisiana Tech University (all in English)

CSC 586: Advanced topics in Biocomputing (Biocomputing: curs avansat) Martie-Mai 2005, Martie-Mai 2006
CSC 557: Special Topics in Biocomputing (Diverse probleme in Biocomputing) Martie-Mai 2004
CSC 486: Introduction to Biocomputing (Introducere in Bioinformatica) Decembrie-Februarie 2004-2005, Decembrie-Februarie 2005-2006, Decembrie-Februarie 2006-2007,
CSC 428: Object Oriented Programming and Data Structures (Programare orientata pe obiecte si structuri de date) Septembrie-Decembrie 2005, Septembrie-Decembrie 2006
CSC 325: Advanced Data Structures and Algorithms (Structuri de date avansate si algoritmi) Septembrie-Decembrie 2003, Septembrie-Decembrie 2004
CSC 251: Computer Organization and Assembly Language (Organizarea calculatoarelor si limbaje de asamblare) Decembrie-Februarie 2003-2004

Courses taught at University of Western Ontario (all in English)

CS 026a: Computer Science Fundamentals I (Introducere in Informatica: Java) Septembrie-Decembrie 2002
CS 357b: Computer Networks I (Retele de calculatoare) Ianuarie-Mai 2002
CS 331b: Foundations of Theoretical Computer Science I (Fundamentele Informaticii teoretice) Septembrie-Decembrie 2000, Iunie-Iulie 2001

Service and Committee Memberships:

University level service in committees:
• University Senate-elected, University of Bucharest, (2016 – present)
• President of the Research Council of University Senate-elected, University of Bucharest, (2016 – present)
• University Senate-elected, Louisiana Tech University, (2005 – 2008)
• Ethics and Professionalism Committee, Louisiana Tech University (2004 – 2005)
College level service in committees:
• Engineering Science Team, College of Engineering and Science, Louisiana Tech University (2005 – 2006)
• Graduate Recruitment Team, College of Engineering and Science, Louisiana Tech Univ. (2004 – 2006)
Department level service in committees:

• Hiring Committee, Computer Science, Louisiana Tech University (2006 – 2007)
• Graduate Executive Committee, Computer Science Dept., University of Western Ontario (student representative, 2002 – 2003)
• Appointments Committee, Computer Science Dept., University of Western Ontario (student representative, 2001 – 2002)
• Awards Committee, Computer Science Dept., University of Western Ontario (student representative, 2001 – 2002)

Professional Society Memberships:

• Member, Association for Computing Machinery (ACM), since 2002
• Member, European Association for Theoretical Computer Science (EATCS), since 2002
• Member, Institute of Electrical and Electronics Engineers (IEEE) and IEEE Computer Society, since 2002

Reviewer:

• **NSF panel member for a cluster in Computational Biology/Systems Biology: April 2006.**

Member as associate editor for the following journals ISI with impact factor:

• The Scientific World Journal (http://www.tswj.com/), impact factor: 1.524; ISSN: 1537-744X.
• Advances in Electrical and Computer Engineering (http://www.aece.ro/), impact factor: 0.700; ISSN: 1582-7445.

Journals:
• Acta Cybernetica
• Dynamics of Continuous, Discrete and Impulsive Systems
• Fundamenta Informaticae
• International Journal of Foundations of Computer Science
• Journal of Automata, Languages and Combinatorics
• Theoretical Computer Science

Conferences (selected list):
• Program Committee member for International Symposium on Bioinformatics Research and Applications, ISBRA 2010-2019
• Program Committee member for International Joint Conference on Rough Sets, IJCRS 2016-2019
• Program Committee member for IEEE International Conference on Computational Advances in Bio and Medical Sciences (ICCABS), 2011-2019
• Program Committee member for the IEEE International Conference on Bio-Inspired Computing: Theories and Applications (BIC-TA 2010-2019)
• Program Committee member for 16th International Conference on Implementation and Application of Automata (CIAA-2011), Blois, France, July 12-16, 2011
• Program Committee member for 15th International Conference on Implementation and Application of Automata, Winnipeg, Canada, 2010
• Program Committee member for Sixteenth International Meeting on DNA Computing (DNA 16), Hong Kong, China 2010
• Program Committee member for Fifteenth International Meeting on DNA Computing (DNA 15), Fayetteville, Arkansas, USA, 2009
• Program Committee member for Thirteenth International Conference on Implementation and Application of Automata (CIAA2008) (Santa Barbara, 2008)
• Program Committee member for Third International Conference on Bio-Inspired Computing: Theories and Applications (BIC-TA 2008) Adelaide, Australia, 2008.
• Program Committee member for First International Conference on Contemporary Computing (NOIDA, (outskirts of New Delhi), India 2008)
• Language Theory in Biocomputing 07 (Kingston, Canada 2007)
• DNA13 (Memphis, USA, 2007)
• A unsprezecea Conference on Implementation and Application of Automata (CIAA06) (Taipei, Taiwan 2006).
• Seful comitetului de organizare a conferintei studentesti UWORCS2002: U.W.O. Research in Computer Science, (London, Canada, 2002).

• Membru in comitetul de organizare pentru a cincea Conference on Implementation and Application of Automata (CIAA 2000) si pentru Half Century of Automata Theory Celebration and Inspiration (HCAT), London, Ontario, Canada, 2000.

Invited Talks:

• **Princeton University** (NSF workshop on Emerging Models and Technologies for Computation: Bio-Inspired Computing and the Biology and Computer Science Interface) June 2008
Title: *Discrete nondeterministic modeling of cellular pathways*
• **The Microsoft Research** - University of Trento: Centre for Computational and Systems Biology (COSBI) March 2008,
Title: *Discrete nondeterministic modeling of cellular pathways*
• IBM T.J. Watson Research Center, March 2007.
Title: *Membrane systems and automata*
• University of California at Santa Barbara, Santa Barbara, USA, October 2005.
Title: *Membrane Systems: An Unconventional Model of Computation*
• Vienna University of Technology, Austria, June 2003.
Title: *New Topics in Biocomputing: Membrane Systems*
• Rovira i Virgili University, Tarragona, Spain, July 2002.
Title: *Membrane Systems with Symport/Antiport Rules. Basic Classes and Basic Results*
• Binghamton University, State University of New York, Binghamton, USA, April 2002.
Title: *P Systems with Symport/Antiport*

Student Supervision:

Cristian Tudor (PhD in progres)
Florin Bilbie (PhD in progres)
Daniela Cheptea (PhD in progres)
Shenghua Ni (PhD) graduated Nin November 2009, title: "DNA microarray image segmentation using Active Contours Without Edges method"
John Jack (PhD) graduated in May 2009, title: "Discrete Nondeterministic Modeling of Biochemical Networks"
Bianca Popa (PhD) graduated in November 2006, title: "Membrane systems with limited parallelism"

Amit Tyagi (Master) graduated in Decembrie 2008, title: "An incremental multi-word algorithm for DFCA"
Hitesh Harish Nagda (Master) graduated in Februarie 2007, title: "Computability of systems based on flip-flopping proteins"
Udayendru Gottapu (Master) graduated in Noiembrie 2006, project: "WebGrail+ 1.0"
Suman Kalavagunta (Master) graduated in Octombrie 2006, title: "Incremental construction of finite automata and parallel minimization of DFA"
Lalitha Krothapalli (Master) graduated in Octombrie 2006, project: "Graphical display of finite state machines"
Nithila Govindaraju (Master) graduated in Septembrie 2006, project: "Parallelization of E-cell system"
Jason R. Smith (Master) graduated in August 2006, title: "Development of operations on cover automata"
Vishnu C. Nara (Master) graduated in August 2006, project: "GUI for GRAIL+ project"
Chandra Sankaranarayanan (Master) graduated in Mai 2006, project: "MPI parallelization of E-cell"
Nishanth Tiruvaipati (Master) graduated in Februarie 2006, project: "E-Cell online: web-based simulation of cells"
Smitha Cheruku (Master) graduated in Februarie 2006, title: "A new simulation framework for modeling signaling transduction pathways: P systems"
Sridhar Bheemanathini (Master in Inginerie biomedicala, co-supervizat) graduated in Octombrie 2005, title: "Regulation and control of 2,3-BPG metabolism in human erythrocyte using E-Cell system"
Pradeep Daripally (Master Inginerie electrica, co-supervizat) graduated in Octombrie 2005, project: "VHDL simulation of symport/antiport P systems"
Le Zhang (Master) graduated in Mai 2005, title: "NFA to DFCA transformations and implementation issues"
Vijay Sundaram (Master) graduated in Mai 2005, project: "Porting and modernizing the GRAIL+ package"
Served on more than 15 Ph.D. advisory committees at Louisiana Tech University.

Personal Information: Married, birth year: 1975