

PERSONAL INFORMATION



Alberto Ottavio Leporati

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Sex Male | Date of birth 12/05/1970 | Nationality Italian

WORK EXPERIENCE

From 09/2021

Co-founder of Registri Digitali S.r.l.

Spin-out company acknowledged by University of Milano-Bicocca

Via Privata Cesare Mangili 2, 20121, Milano

Business or sector Design and sale of blockchain and Artificial Intelligence-based solutions

▪ Main activities: Scientific and technical advisor

From 03/2015

Associate Professor

Università degli Studi di Milano - Bicocca

Dipartimento di Informatica, Sistemistica e Comunicazione (DISCo)

Viale Sarca 336, Edificio U14, 20126 Milano, Italy

Website: www.unimib.it

▪ Main activities: Scientific research, didactics

Business or sector Scientific research, didactics

From 01/2004 to 02/2015

Assistant Professor

Università degli Studi di Milano - Bicocca

Dipartimento di Informatica, Sistemistica e Comunicazione (DISCo)

Viale Sarca 336, Edificio U14, 20126 Milano, Italy

Website: www.unimib.it

▪ Main activities: Scientific research, didactics

Business or sector Scientific research, didactics

From 03/2015

Research contract

CNR - ITIM – Istituto per le Tecnologie Informatiche e Multimediali

Via Ampère (now Via Bassini 15), 20133 Milano, Italy

▪ Main activities: Scientific research in the FOOD project

Business or sector Scientific research

EDUCATION AND TRAINING

From 10/1998 to 10/2002

Ph.D. in Informatics (Dottorato di Ricerca in Informatica)

Title released by Università degli Studi di Milano on June 16, 2003

Via Festa del Perdono 7, 20122 Milano, Italy

▪ Principal subjects covered: Theoretical Computer Science, Computational Complexity, Quantum Computing

From 10/1989 to 03/1998

Master Degree in Informatics (Laurea in Scienze dell'Informazione)

Title released by Università degli Studi di Milano on March 12, 1998

Dipartimento di Scienze dell'Informazione

Via Comelico 39/41, 20135 Milano, Italy

- Principal subjects covered: Basic topics of Computer Science

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	C1	B2	B2	C1
French	A2	A2	A2	A2	A2

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Communication skills Good communication skills gained through lectures and presentations given at conferences.

Organisational / managerial skills Organisational skills acquired by organizing international workshops and conferences.

Job-related skills Ability to work under stress, and to respect the deadlines imposed by national, european or industrial projects.

Computer skills Good command of Microsoft Office™ tools, of Internet browsers and e-mail clients.
Good knowledge of the following programming languages: C, Java, Python, Visual Basic .NET (Visual Studio 2008/2010, Lightswitch 2011) and of DBMS MySQL, SQL Server 2005/2008.
Good knowledge of the following assembly languages: Rockwell 6502/6510, Zilog Z80, Zilog Z8000.
Administration of Linux/Unix systems.

Other skills Studied piano playing until the fourth year programme, at Scuola Civica di Musica di Corsico.
Passed the exam of (music) theory and solfeggio.

Driving licence B

ADDITIONAL INFORMATION

Publications
(International Journals)

- A. Leporati, L. Manzoni, G. Mauri, C. Zandron. Depth-two P systems can simulate Turing machines with NP oracles. Theoretical Computer Science, In Press, 2021
- A. Alhazov, A. Leporati, L. Manzoni, G. Mauri, C. Zandron. Alternative space definitions for P systems with active membranes. Journal of Membrane Computing 3(2):87–96, 2021
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. Simulating counting oracles with cooperation. Journal of Membrane Computing 2:303–310, 2020
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. A Turing machine simulation by P systems without charges. Journal of Membrane Computing 2:71–79, 2020
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. Shallow laconic P systems can count. Journal of Membrane Computing 2:49–58, 2020
- L. Mariot, M. Gadouleau, E. Formenti, A. Leporati. Mutually orthogonal latin squares based

- on cellular automata. *Designs, Codes & Cryptography* 88: 391–411, 2020
- C. Ferretti, A. Leporati, L. Manzoni, A.E. Porreca. The Many Roads to the Simulation of Reaction Systems. *Fundamenta Informaticae* 171:175–188, 2020
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. Characterizing PSPACE with Shallow Non-Confluent P Systems. *Journal of Membrane Computing* 1(2):75–84, 2019
- L. Mariot, S. Picsek, A. Leporati, D. Jacobovic. Cellular Automata Based S-Boxes. *Cryptography and Communications* 11(1):41–62, 2019
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. A Survey on Space Complexity of P Systems with Active Membranes. *International Journal of Advances in Engineering Sciences and Applied Mathematics* 10(3):221–229, 2018
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. Subroutines in P systems and closure properties of their complexity classes. *Theoretical Computer Science* 805:193–205, 2020
- L. Mariot, A. Leporati. A cryptographic and coding-theoretic perspective on the global rules of cellular automata. *Natural Computing* 17(3):487–498, 2018
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. The counting power of P systems with antimatter. *Theoretical Computer Science* 701:161–173, 2017
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. Characterising the complexity of tissue P systems with fission rules. *Journal of Computer and System Sciences* 90:115–128, 2017
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. Tissue P Systems with Small Cell Volume. *Fundamenta Informaticae* 154:261–275, 2017
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. A Toolbox for Simpler Active Membrane Algorithms. *Theoretical Computer Science* 673:42–57, 2017
- L. Mariot, A. Leporati, A. Dennunzio, E. Formenti. Computing the Periods of Preimages in Surjective Cellular Automata. *Natural Computing* 16(3):367–381, 2017
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. Trading Geometric Realism for Efficiency in Tissue P Systems. *Romanian Journal of Information Science and Technology (ROMJIST)* 19(1-2):17-30, 2016
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. Monodirectional P systems. *Natural Computing* 15(4):551-564, 2016
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. Membrane Division, Oracles, and the Counting Hierarchy. *Fundamenta Informaticae* 138(1-2):97–111, 2015
- D. Díaz-Pernil, A. Alhazov, R. Freund, M.A. Gutiérrez-Naranjo, A. Leporati. Recognizer P Systems with Antimatter. *Romanian Journal of Information Science and Technology (ROMJIST)* 18(3):201-217, 2015
- G. Mauri, A. Leporati, A.E. Porreca, C. Zandron. Recent complexity-theoretic results on P systems with active membranes. *Journal of Logic and Computation* 25(4):1047–1071, 2015
- A. Leporati, L. Mariot. Cryptographic Properties of Bipermutive Cellular Automata Rules. *Journal of Cellular Automata* 9(5–6):437-475, 2014
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. Constant-Space P Systems with Active Membranes. *Fundamenta Informaticae* 134:111-128, 2014
- A. Leporati, G. Mauri, A.E. Porreca, C. Zandron. A Gap in the Space Hierarchy of P Systems with Active Membranes. *Journal of Automata, Languages and Combinatorics* 19(1–4):173-184, 2014
- A. Alhazov, A. Leporati, G. Mauri, A.E. Porreca, C. Zandron. Space complexity equivalence of P systems with active membranes and Turing machines. *Theoretical Computer Science* 529:69-81, 2014
- A. Leporati, A.E. Porreca, C. Zandron, G. Mauri. Improved Universality Results for Parallel Enzymatic Numerical P Systems. *International Journal of Unconventional Computing* 9(5–6):385-404, 2013
- A. Alhazov, M. Antonioti, A. Leporati. Characterizing the Computational Power of Energy-Based P Systems. *International Journal of Computer Mathematics* 90(4):789–800, 2013
- A. Alhazov, M. Antonioti, R. Freund, A. Leporati, G. Mauri. Self-Stabilization in Membrane Systems. *Computer Science Journal of Moldova*, vol. 20, no. 2(59), pp. 133–146, 2012
- P. Frisco, G. Govan, A. Leporati. Asynchronous P systems with active membranes. *Theoretical Computer Science* 429:74-86, 2012
- A.E. Porreca, A. Leporati, G. Mauri, C. Zandron. Elementary active membranes have the power of counting. *International Journal of Natural Computing Research* 2(3):35-48, 2011
- A.E. Porreca, A. Leporati, G. Mauri, C. Zandron. P Systems with Active Membranes: Trading Time for Space. *Natural Computing* 10(1):167-182, 2011
- A.E. Porreca, A. Leporati, G. Mauri, C. Zandron. P systems with active membranes working

- in polynomial space. *International Journal of Foundations of Computer Science (IJFCS)* 2(1):65-73, 2011
- A. Leporati, C. Ferretti. Modeling and Analysis of Firewalls by (Tissue-like) P Systems. *Romanian Journal of Information Science and Technology (ROMJIST)* 13(2):169-180, 2010
 - A.E. Porreca, A. Leporati, G. Mauri, C. Zandron. Complete Problems for a Variant of P Systems with Active Membranes. *Romanian Journal of Information Science and Technology (ROMJIST)* 13(2):197-207, 2010
 - S. Felloni, A. Leporati, G. Strini. Diagrams of States in Quantum Information: An Illustrative Tutorial. *International Journal of Unconventional Computing* 6(3-4):197–221, 2010
 - A. Leporati, D. Besozzi, P. Cazzaniga, D. Pescini, C. Ferretti. Computing with energy and chemical reactions. *Natural Computing* 9:493–512, 2010
 - T.–O. Ishdorj, A. Leporati, L. Pan, X. Zeng, X. Zhang. Deterministic solutions to QSAT and Q3SAT by spiking neural P systems with pre-computed resources. *Theoretical Computer Science* 411:2345-2358, 2010
 - D. Besozzi, N. Busi, P. Cazzaniga, C. Ferretti, A. Leporati, G. Mauri, D. Pescini, C. Zandron. (Tissue) P Systems with Cell Polarity. *Mathematical Structures in Computer Science* 19:1141-1160, 2009
 - A. Leporati, C. Zandron, C. Ferretti, G. Mauri. On the Computational Power of Spiking Neural P Systems. *International Journal of Unconventional Computing* 5:459-473, 2009
 - M.A. Gutiérrez-Naranjo, A. Leporati. First Steps Towards a CPU Made of Spiking Neural P Systems. *International Journal on Computers, Communication and Control* 4(3):244-252, 2009
 - A.E. Porreca, A. Leporati, G. Mauri, C. Zandron. Introducing a Space Complexity Measure for P Systems. *International Journal on Computers, Communication and Control* 4(3):301-310, 2009
 - A. Leporati, C. Ferretti, G. Mauri, M.J. Pérez-Jiménez, C. Zandron. Complexity Aspects of Polarizationless Membrane Systems. *Natural Computing* 8:703-717, 2009
 - A. Leporati, G. Mauri, C. Zandron, Gh. Păun, M.J. Pérez-Jiménez. Uniform solutions to SAT and Subset Sum by spiking neural P systems. *Natural Computing* 8:681-702, 2009
 - A. Leporati, M.A. Gutiérrez-Naranjo. Solving Subset Sum by Spiking Neural P Systems with Pre-computed Resources. *Fundamenta Informaticae* 87(1):61-77, 2008
 - C. Zandron, A. Leporati, C. Ferretti, G. Mauri, M.J. Pérez-Jiménez. On the Computational Efficiency of Polarizationless Recognizer P Systems with Strong Division and Dissolution. *Fundamenta Informaticae* 87(1):79-91, 2008
 - T.–O. Ishdorj, A. Leporati. Uniform solutions to SAT and 3-SAT by spiking neural P systems with pre-computed resources. *Natural Computing* 7(4):519-534, 2008
 - G. Cattaneo, A. Leporati, R. Leporini. Quantum conservative many-valued computing. *Fuzzy Sets and Systems* 159:1001-1030, 2008
 - A. Leporati, G. Mauri, C. Zandron. Solving the Factorization Problem with P Systems. *Progress in Natural Sciences* 17(4):471-478, 2007
 - A. Leporati, S. Felloni. Three “Quantum” Algorithms to Solve 3-SAT. *Theoretical Computer Science* 372:218-241, 2007
 - A. Alhazov, R. Freund, A. Leporati, M. Oswald, C. Zandron. (Tissue) P Systems with Unit Rules and Energy Assigned to Membranes. *Fundamenta Informaticae* 74:391-408, 2006
 - A. Leporati, C. Zandron, G. Mauri. Reversible P Systems to Simulate Fredkin Circuits. *Fundamenta Informaticae* 74:529-548, 2006
 - A. Leporati, C. Zandron and M.A. Gutiérrez-Naranjo. P Systems with Input in Binary Form. *International Journal of Foundations of Computer Science* 17(1):127-146, 2006
 - G. Cattaneo, G. Della Vedova, A. Leporati, R. Leporini. Towards a Theory of Conservative Computing. *International Journal of Theoretical Physics* 44(7):861-873, 2005
 - M. L. Dalla Chiara, R. Giuntini, A. Leporati, R. Leporini. Qubit Semantics and Quantum Trees. *International Journal of Theoretical Physics* 44(7):971-983, 2005
 - A. Leporati, C. Zandron, G. Mauri. Simulating the Fredkin Gate with Energy-based P Systems. *Journal of Universal Computer Science* 10(5):600-619, 2004
 - G. Cattaneo, A. Leporati, R. Leporini. Quantum Conservative Gates for Finite-valued Logics. *International Journal of Theoretical Physics* 43(7-8):1769-1791, 2004
 - G. Cattaneo, A. Leporati, R. Leporini. Fredkin Gates for Finite-valued Reversible and Conservative Logics. *Journal of Physics A: Mathematical and General* 35:9755-9785, 2002

Publications
(Book chapters)

- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. A Gentle Introduction to Membrane Systems and Their Computational Properties. Chapter 1 of Tao Song, Pan Zheng, Mou Ling Dennis Wong, Xun Wang (Eds.), *Bio-Inspired Computing Models and Algorithms*, World Scientific, 2019
- A. Leporati. Quantum Inspired (UREM) P Systems: Definition and Computational Power. Chapter 13 of Gh. Păun, G. Rozenberg, A. Salomaa (Eds.), *The Oxford Handbook of Membrane Computing*, Oxford University Press, 2010
- O.H. Ibarra, A. Leporati, A. Păun, S. Woodworth. Spiking Neural P Systems: Characterizations and Complexity. Capitolo 23 di Gh. Păun, G. Rozenberg, A. Salomaa (Eds.), *The Oxford Handbook of Membrane Computing*, Oxford University Press, 2010
- G. Bordogna, A. Leporati, D. Lucarella, G. Pasi. The Fuzzy Object Oriented Database Management System. In: G. Bordogna and G. Pasi (Eds.), *Recent Issues on the Management of Fuzziness in Databases*, Physica-Verlag, Heidelberg, Germany, 2000, pp. 209-236

 Publications
(Curatorship)

- A. Leporati, C. Martín-Vide, D. Shapira, C. Zandron (Eds.): *Language and Automata Theory and Applications*, 15th International Conference, LATA 2021, Milan, Italy, March 1–5, 2021, Springer, LNCS 12638, 2021. ISBN: 978-3-030-68194-4 (Print) 978-3-030-68195-1 (eBook)
- A. Leporati, C. Martín-Vide, D. Shapira, C. Zandron (Eds.): *Language and Automata Theory and Applications*, 14th International Conference, LATA 2020, Milan, Italy, March 4–6, 2020, Springer, LNCS 12038, 2020. ISBN: 978-3-030-40607-3 (Print) 978-3-030-40608-0 (eBook)
- A. Leporati, G. Rozenberg, A. Salomaa, C. Zandron (Eds.): *Membrane Computing*, 17th International Conference, CMC 2016, Milan, Italy, July 25-29, 2016, Springer, LNCS 10105, 2017. ISBN: 978-3-319-54071-9 (Print) 978-3-319-54072-6 (eBook)
- G. Mauri, A. Leporati (Eds.): *Developments in Language Theory*, 15th International Conference, DLT 2011, Milan, Italy, July 19-22, 2011, Springer, LNCS 6795, 2011. ISBN: 978-3-642-22320-4 (Print) 978-3-642-22321-1 (Online)

 Publications
(Proceedings of
International Conferences)

- M. Calani, G. Denaro, A. Leporati. Exploiting the Blockchain to Guarantee GDPR Compliance while Consents Evolve under Data Owners' Control. In: A. Armando, M. Colajanni (Eds.), *ITASEC'21: Italian Conference on CyberSecurity*, April 7–9, 2021, Online. CEUR Workshop Proceedings 2940, CEUR-WS.org, 2021
- L. Mariot, S. Picek, D. Jacobovic, A. Leporati. An Evolutionary View on Reversible Shift-Invariant Transformations. In: T. Hu, N. Lourenço, E. Medvet, F. Divina (Eds.) *Genetic Programming - 23rd European Conference, EuroGP 2020, Held as Part of EvoStar 2020, Seville, Spain*. Springer, LNCS 12101, pp. 118–134, 2020.
- F. Morano, C. Ferretti, A. Leporati, P. Napolitano, R. Schettini. A blockchain technology for protection and probative value preservation of vehicle driver data. *IEEE 23rd International Symposium on Consumer Technologies (ISCT)*, Ancona, Italy, pp. 167-172, 2019
- L. Mariot, D. Jacobovic, A. Leporati, S. Picek. Hyper-bent Boolean Functions and Evolutionary Algorithms. In: Sekanina L., Hu T., Lourenço N., Richter H., García-Sánchez P. (Eds.), *Genetic Programming (EuroGP 2019)*, Springer, LNCS 11451, pp. 262–277, 2019
- C. Ferretti, A. Leporati, L. Mariot, L. Nizzardo. Transferable Anonymous Payments via TumbleBit in Permissioned Blockchains. In: Mori P., Bartoletti M., Bistarelli S. (Eds.), *Proceedings of the Second Distributed Ledger Technology Workshop (DLT@ITASEC 2019)*, CEUR Workshop Proceedings 2334, CEUR-WS.org, 2019
- A. Leporati. Time and Space Complexity of P Systems – And Why They Matter. In: Hinze T., Rozenberg G., Salomaa A., Zandron C. (Eds.) *Membrane Computing (CMC 2018)*, Springer, LNCS 11399, pp. 10–22, 2019
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. Solving QSAT in Sublinear Depth. In: Hinze T., Rozenberg G., Salomaa A., Zandron C. (Eds.) *Membrane Computing (CMC 2018)*, Springer, LNCS 11399, pp. 188–201, 2019
- L. Mariot, A. Leporati. Inversion of Mutually Orthogonal Cellular Automata. In: Mauri G., El Yacoubi S., Dennunzio A., Nishinari K., Manzoni L. (Eds.) *Cellular Automata (ACRI 2018)*, Springer, LNCS 11115, pp. 364–376, 2018
- L. Mariot, S. Picek, D. Jacobovic, A. Leporati. Evolutionary Search of Binary Orthogonal Arrays. In: Auger A., Fonseca C., Lourenço N., Machado P., Paquete L., Whitley D. (Eds.), *International Conference on Parallel Problem Solving from Nature (PPSN)*, Springer, LNCS 11101, pp. 121–133, 2018
- S. Picek, K. Knezevic, L. Mariot, D. Jakobovic, A. Leporati. Evolving Bent Quaternary Functions. In: *2018 IEEE Congress on Evolutionary Computation (CEC)*, pp. 1–8, 2018

- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. Solving a Special Case of the P Conjecture Using Dependency Graphs with Dissolution. In M. Gheorghe et al. (Eds.): *18th International Conference on Membrane Computing (CMC 2017)*, Springer, LNCS 10725, pp. 196–213, 2018
- L. Mariot, S. Picek, D. Jacobovic, A. Leporati. Evolutionary Algorithms for the Design of Orthogonal Latin Squares based on Cellular Automata. In P.A.N. Bosman (Ed.): *GECCO 2017 Proceedings*, pp. 306–313, 2017
- S. Picek, L. Mariot, A. Leporati, D. Jacobovic. Evolving S-boxes Based on Cellular Automata with Genetic Programming. In P.A.N. Bosman (Ed.): *GECCO '17 Companion Material*, pp. 251–252, 2017
- L. Mariot, E. Formenti, A. Leporati. Enumerating Orthogonal Latin Squares Generated by Bipermutive Cellular Automata. In A. Dennunzio et al. (Eds.) *AUTOMATA 2017*, Springer, LNCS 10248, pp. 151–164, 2017
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. Shallow Non-Confluent P Systems. In A. Leporati et al. (Eds.): *17th International Conference on Membrane Computing (CMC 2016)*, Springer, LNCS 10105, pp. 307–316, 2017
- L. Mariot, A. Leporati. Resilient Vectorial Functions and Cyclic Codes Arising from Cellular Automata. In S. El Yacoubi et al. (Eds.): *ACRI 2016*, LNCS 9863, pp. 34–44, 2016.
- C. Raibulet, A. Leporati, A. Metelli. Self-Protection Mechanisms for Web Applications - A Case Study. In *Proceedings of the 11th International Conference on Evaluation of Novel Software Approaches to Software Engineering (ENASE)*, pages 181-188, 2016. ISBN: 978-989-758-189-2, DOI: 10.5220/0005869101810188
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. Tissue P systems can be simulated efficiently with counting oracles. In G. Rozenberg et al. (Eds.), *16th International Conference on Membrane Computing (CMC 2015)*, Springer, LNCS 9504, pp. 251-261, 2015
- L. Mariot, A. Leporati. A Genetic Algorithm for Evolving Plateaued Cryptographic Boolean Functions. In A.-H. Dediu et al. (Eds.), *TPNC 2015*, Springer, LNCS 9477, pp. 33–45, 2015
- L. Mariot, A. Leporati. Heuristic Search by Particle Swarm Optimization of Boolean Functions for Cryptographic Applications. In S. Silva (Ed.): *GECCO 2015 Companion Material*, pp. 1425–1426, 2015
- L. Mariot, A. Leporati. On the Periods of Spatially Periodic Preimages in Linear Bipermutive Cellular Automata. In J. Kari et al. (Eds.), *AUTOMATA 2015*, Springer, LNCS 9099, pp. 181–195, 2015
- G. Mauri, A. Leporati, L. Manzoni, A.E. Porreca, C. Zandron. Complexity Classes for Membrane Systems: a Survey. (Invited paper). In A.-H. Dediu et al. (Eds.), *9th International Conference on Language and Automata Theory and Applications (LATA 2015)*, Springer, LNCS 8977, pp. 56–69, 2015
- C. Zandron, A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca. P Systems with Active Membranes Working in Sublinear Space. (Invited paper). In M. Gheorghe et al. (Eds.), *15th International Conference on Membrane Computing (CMC 2014)*, Springer, LNCS 8961, pp. 35-47, 2014
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. Simulating Elementary Active Membranes – With an Application to the P Conjecture. In M. Gheorghe et al. (Eds.): *15th International Conference on Membrane Computing (CMC 2014)*, Springer, LNCS 8961, pp. 284-299, 2014
- L. Mariot, A. Leporati. Sharing Secrets by Computing Preimages of Bipermutive Cellular Automata. In J. Was et al. (Eds.), *11th International Conference on Cellular Automata for Research and Industry (ACRI 2014)*, Springer, LNCS 8751, pp. 417-426, 2014
- A. Leporati. Computational Complexity of P Systems with Active Membranes. (Invited paper). In A. Alhazov et al. (Eds.): *14th International Conference on Membrane Computing (CMC 2013)*, Springer, LNCS 8340, pp. 19-32, 2014
- R. Freund, A. Leporati, G. Mauri, A.E. Porreca, S. Verlan, C. Zandron. Flattening in (Tissue) P Systems. In A. Alhazov et al. (Eds.): *14th International Conference on Membrane Computing (CMC 2013)*, Springer, LNCS 8340, pp. 173–188, 2014
- A. Leporati, L. Manzoni, A.E. Porreca. Flattening and Simulation of Asynchronous Divisionless P Systems with Active Membranes. In A. Alhazov et al. (Eds.): *14th International Conference on Membrane Computing (CMC 2013)*, Springer, LNCS 8340, pp. 238–248, 2014
- A. Leporati, G. Mauri, A.E. Porreca, C. Zandron. Enzymatic Numerical P Systems Using Elementary Arithmetic Operations. In A. Alhazov et al. (Eds.): *14th International Conference on Membrane Computing (CMC 2013)*, Springer, LNCS 8340, pp. 249–264, 2014

- A. Leporati, L. Burtseva. A Quantum Inspired UREM P System for Solving a Linguistic Problem. (Short paper). In A. Alhazov et al. (Eds.): *Pre-proceedings of CMC 2013, 14th International Conference on Membrane Computing*, Chişinău, Moldova, August 20-23, 2013, pp. 325–328. Available at: http://www.math.md/cmc14/CMC14_Proceedings.pdf
- A. Leporati, L. Mariot. 1-Resiliency of Bipermutive Cellular Automata Rules. In: J. Kari, M. Kutrib and A. Malcher (Eds.), *AUTOMATA 2013*, Springer, LNCS 8155, pp. 110-123, 2013
- A.E. Porreca, A. Leporati, G. Mauri, C. Zandron. Sublinear-Space P Systems with Active Membranes. In E. Csuhanj-Varjú et al. (Eds.): *13th International Conference on Membrane Computing (CMC 2012)*, Springer, LNCS 7762, pp. 342-357, 2013
- A. Alhazov, A. Leporati, G. Mauri, A.E. Porreca, C. Zandron. Simulating EXPSPACE Turing machines using P systems with active membranes. In *Pre-proceedings of the 13th Italian Conference on Theoretical Computer Science, ICTCS 2012*, Villa Toeplitz, Varese, Italy, September 19–21, 2012. Available at: http://ictcs.di.unimi.it/papers/paper_22.pdf
- A. Leporati. Computational Complexity of P Systems. (Invited talk). *Asian Conference on Membrane Computing (ACMC 2012)*, Wuhan, Cina, 15-18 October 2012. Preprint available at: <http://acmc2012.org/wp-content/uploads/downloads/2012/08/Computational-Complexity-of-P-Systems.pdf>
- E. Fersini, E. Messina, A. Leporati. Discovering Gene-Drug Relationships for the Pharmacology of Cancer. In S. Greco et al. (Eds.): *Advances on Computational Intelligence – 14th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems (IPMU 2012)*, Catania, Italy, July 9-13, 2012. Proceedings, Part II, Springer, CCIS 298, pp. 117–126, 2012
- A.E. Porreca, A. Leporati, G. Mauri, C. Zandron. P systems simulating oracle computations. In M. Gheorghe et al. (Eds.): *12th International Conference on Membrane Computing (CMC 2011)*, Springer, LNCS 7184, pp. 346-358, 2012
- C. Ferretti, A. Leporati, R. Melen. Performance issues in the design of a VPN resistant to traffic analysis. *Tenth International Conference on Networks (ICN 2011)*, January 23–28, 2011, St. Maarten, The Netherlands Antilles, ISBN 978-1-61208-002-4, pp. 376–381, 2011
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- G. Mauri, A. Leporati, A.E. Porreca, C. Zandron. Computational Complexity Aspects in Membrane Computing. (Invited paper). In F. Ferreira et al. (Eds.): *Computability in Europe 2010 (CiE 2010)*, Springer, LNCS 6158, pp. 317–320, 2010
- A. Valsecchi, A. E. Porreca, A. Leporati, G. Mauri, C. Zandron. An Efficient Simulation of Polynomial-Space Turing Machines by P Systems with Active Membranes. In: Gh. Păun et al (Eds.): *Membrane Computing, 10th International Workshop (WMC 10)*, Springer, LNCS 5957, pp. 461-478, 2010
- G. Mauri, A. Leporati, C. Zandron. Energy-based Models of P Systems. In: Gh. Păun et al (Eds.): *Membrane Computing, 10th International Workshop (WMC 10)*, Springer, LNCS 5957, pp. 104-124, 2010
- T.-O. Ishdorj, A. Leporati, L. Pan, J. Wang. Solving NP-complete Problems by Spiking Neural P Systems with Budding Rules. In: Gh. Păun et al (Eds.): *Membrane Computing, 10th International Workshop (WMC 10)*, Springer, LNCS 5957, pp. 335-353, 2010
- A. Leporati, C. Zandron, G. Mauri. How Redundant Is Your Universal Computation Device? In: D. Come et al. (Eds.): *Membrane Computing, 9th International Workshop (WMC 9)*, Springer, LNCS 5391, pp. 274-291, 2009
- A. Leporati. (UREM) P Systems with a Quantum-Like Behavior: Background, Definition and Computational Power. (Invited talk). In: G. Elefterakis et al. (Eds.): *Membrane Computing, 8th International Workshop (WMC 8)*, Springer, LNCS 4860, pp. 32-53, 2007
- A. Leporati, C. Zandron, C. Ferretti, G. Mauri. Solving Numerical NP-complete Problems with Spiking Neural P Systems. In: G. Elefterakis et al. (Eds.): *Membrane Computing, 8th International Workshop (WMC 8)*, Springer, LNCS 4860, pp. 336-352, 2007
- A. Leporati, D. Pagani. A Membrane Algorithm for the Min Storage Problem. In H. J. Hoogeboom et al. (Eds.): *Membrane Computing: 7th International Workshop (WMC 7)*, Springer, LNCS 4361, pp. 443-462, 2006
- P. Cazzaniga, A. Leporati, G. Mauri, C. Zandron. P Systems with Memory. In: R. Freund et al. (Eds.): *Membrane Computing: 6th International Workshop (WMC 2005)*, Springer, LNCS

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- M.A. Gutiérrez-Naranjo, A. Leporati, C. Zandron. Converting integer numbers from binary to unary notation with P systems. In M.A. Gutiérrez-Naranjo, Gh. Paun, M.J. Pérez-Jiménez (Eds.): *Cellular Computing (Complexity Aspects)*, ESF PESC Exploratory Workshop, Fénix Editora, Sevilla, ISBN 84-609-5338-6, pp. 201-208, 2005
- A. Leporati, C. Zandron. A family of P systems which solve 3-SAT. In M.A. Gutiérrez-Naranjo, Gh. Paun, M.J. Pérez-Jiménez (Eds.): *Cellular Computing (Complexity Aspects)*, ESF PESC Exploratory Workshop, Fénix Editora, Sevilla, ISBN 84-609-5338-6, pp. 247-256, 2005
- A. Leporati, C. Zandron, G. Mauri. Conservative Computations in Energy-based P systems. In Giancarlo Mauri et al (Eds.): *Membrane Computing: 5th International Workshop (WMC 2004)*, Springer, LNCS 3365, pp. 344-358, 2005
- R. Freund, A. Leporati, M. Oswald, C. Zandron. Sequential P Systems with Unit Rules and Energy Assigned to Membranes. In M. Margenstern (Ed.): *Machines, Computations and Universality (MCU 2004)*, Springer, LNCS 3354, pp. 200-210, 2005
- A. Leporati, C. Zandron, G. Mauri. Universal Families of Reversible P Systems. In M. Margenstern (Ed.): *Machines, Computations and Universality (MCU 2004)*, Springer, LNCS 3354, pp. 257-268, 2005
- G. Mauri, A. Leporati. On the Computational Complexity of Conservative Computing. (Invited talk). In B. Rován and P. Vojtáš (Eds.): *Mathematical Foundations of Computer Science (MFCS 2003)*, Springer, LNCS 2747, pp. 92-112, 2003
- G. Cattaneo, A. Leporati, G. Mauri. Spectral Techniques for Depth-3 Threshold Circuits. In P. Degano et al. (Eds.): *Sixth Italian Conference on Theoretical Computer Science (ICTCS '98)*, World Scientific, pp. 277-289, 1998

Other Publications (without peer review)

- L. Mariot, S. Picek, D. Jacobovic, M. Djurasevic, A. Leporati. On the Difficulty of Evolving Permutation Codes. Available at arxiv:2111.13252 [cs.NE], 2021
- L. Mariot, M. Saletta, A. Leporati, L. Manzoni. Heuristic Search of (Semi-) Bent Functions based on Cellular Automata. Available at arxiv:2111.13248v1 [cs.CR], 2021
- L. Mariot, S. Picek, D. Jacobovic, A. Leporati. Evolutionary Algorithms for Designing Reversible Cellular Automata. Available at arxiv:2105.12039 [cs.NE], 2021
- L. Mariot, M. Saletta, A. Leporati, L. Manzoni. Exploring Semi-bent Boolean Functions Arising from Cellular Automata. Available at arxiv:2005.08300 [cs.CR], 2020
- L. Mariot, E. Formenti, A. Leporati. Constructing Orthogonal Latin Squares from Linear Cellular Automata. Presented as exploratory paper at AUTOMATA 2016. Available at arXiv:1610.00139v1 [cs.DM]
- A. Leporati, L. Manzoni, G. Mauri, A.E. Porreca, C. Zandron. Tissue P systems in the Euclidean space. In: M. Gheorghe et al. (Eds.), *Multidisciplinary Creativity – Homage to Gheorghe Păun on His 65th Birthday*. Spandugino, Romania, 2015, pp. 118–128. ISBN: 978-606-8401-63-8.
- G. Mauri, A. Leporati. Special Issue Developments in Language Theory (DLT 2011): Preface. *International Journal of Foundations of Computer Science* 23(5):965-968, 2012
- P. Bonizzoni, P.J. Cameron, A. Leporati, G. Della Vedova, G. Mauri. A Unifying Framework to Characterize the Power of a Language to Express Relations. arXiv:1203.4732 [cs.DB], 2012
- A. Leporati, C. Zandron, C. Ferretti, G. Mauri. Solving PSPACE-complete Problems by Polarizationless Recognizer P Systems with Strong Division and Dissolution. *Quaderni del Dipartimento di Informatica, Sistemistica e Comunicazione*, Università degli Studi di Milano – Bicocca, no. 2, 2009
- A. Leporati, G. Mauri. Towards a High-Level Programming of Spiking Neural P Systems. *Quaderni del Dipartimento di Informatica, Sistemistica e Comunicazione*, Università degli Studi di Milano – Bicocca, no. 2, 2009
- A. Leporati, D. Pescini, C. Zandron. Quantum Energy-based P Systems. In *Proceedings of the First Brainstorming Workshop on Uncertainty in Membrane Computing*, Department of Mathematics and Informatics, Universitat de les Illes Balears, Palma de Mallorca, Spain, November 8-10, 2004, pp. 145-167. ISBN: 84-7632-897-4

Research Projects

European (ENIAC Joint Undertaking – ENIAC Call 2010) project “TOISE – Trusted Computing for

European Embedded Systems”

Project Coordinator: Bernard Candele (Thales, France)

Local Unit Coordinator: Prof. Francesco Tisato (University of Milano – Bicocca)

Period: 2011 – 2013

Research project **financed by Lombardy Region** (Accordi Istituzionali per la realizzazione di programmi di R&S nei settori energia-ambiente, agroalimentare, salute e manifatturiero avanzato) entitled "Smeller - Sistema di Monitoraggio Emissioni di singoLi veicoLi in tEmpo Reale".

Project Coordinator: Prof. Francesco Tisato (University of Milano – Bicocca)

Period: 2011 – 2013

Research project **financed by Lombardy Region** (POR Competitività 2007-2013 - ATP 2009, ID 13752754) entitled "H₂OLeak - ATP 2009".

Project coordinator: Prof. Vincenzina Messina (University of Milano – Bicocca)

Period: 2011 – 2013

European (ENIAC Joint Undertaking) project ENIAC 120224 “SMART – Secure Memories and Applications Related Technologies”

Project Coordinator: Maurizio Gaibotti (Micron, Italy)

Local Unit Coordinator: Prof. Francesco Tisato (University of Milano – Bicocca)

Period: 2010 – 2013

Cofinanced Italian Project PRIN 2007 entitled: “Aspetti matematici e applicazioni emergenti degli automi e dei linguaggi formali: metodi probabilistici e combinatori in ambito di linguaggi formali”.

Scientific Coordinator: Prof. Antonio Restivo (University of Palermo)

Local Unit Coordinator: Prof. Alberto Bertoni (University of Milan)

Period: 2008 – 2010

Cofinanced Italian Project PRIN 2004 entitled: “Systems Biology: modellazione, linguaggi e analisi (Sybilla)”.

Local Unit Coordinator: Dr. Claudio Zandron (University of Milano – Bicocca)

Period: november 2004 – november 2006

Cofinanced Italian Project PRIN 2003 entitled: “Teoria dei linguaggi e applicazioni”.

Scientific Coordinator: Prof. Antonio Restivo (University of Palermo)

Local Unit Coordinator: Prof. Gianpiero Cattaneo (University of Milano – Bicocca)

Period: 2003 – 2004

Research project **financed by Ministero delle Attività produttive (MAP) – Fondo per l’innovazione tecnologica (FIT)**, jointly accounted with Comerson Srl, entitled: “Sviluppo di un sistema integrato di elaborazione delle immagini 3D, modulare adattabile alle diverse applicazioni”.

Coordinators: Prof. F. Archetti, G. Mauri and F. Tisato, from University of Milano – Bicocca

Period: september 2002 – september 2005

Research **contract** entitled “Algoritmi crittografici e loro implementazione”, financed by **Microsystems S.r.l.**, located in Milan, via Oldofredi 41.

Period: 2002

Cofinanced Italian Project MIUR/COFIN entitled “Formal Languages and Automata: Theory and Applications”.

Local Unit Coordinator: Prof. Gianpiero Cattaneo (University of Milano –Bicocca)

Period: 2001 – 2002

Research **contract** entitled “Secure Communication Protocols”, financed by **ST Microelectronics**, to study cryptographic protocols to be used in smart cards.

Project coordinator: Dr. Rinaldo Poluzzi (ST Microelectronics)

Period: 2001

Research project n. R23WC0012 entitled “Graal: un linguaggio basato su grafi”, financed by Centro

Enel Ricerche.

Project coordinator: Dr. Dario Lucarella (Centro Enel Ricerche)

Period: november 1998 - may 1999

Research project n. RAUWC0005 entitled “FOOD – Fuzzy Object Oriented Database)”, financed by Centro Enel Ricerche.

Project coordinators: Dr. Gloria Bordogna and Dr. Gabriella Pasi, from ITIM (Istituto per le Tecnologie Informatiche e Multimediali) of the CNR in Milan, and Dario Lucarella from Centro Enel Ricerche.

Period: march 1998 - september 1998

Honours and awards

Invited Speaker at the following workshops and conferences:

- *20th International Conference on Membrane Computing (CMC 20)*, held in Curtea de Arges (Romania), from 5 to 8 august 2019
- *19th International Conference on Membrane Computing (CMC 19)*, held in Dresden (Germany) from 4 to 7 september 2018
- *14th International Conference on Membrane Computing (CMC 14)*, held in Chisinau (Moldova) from 20 to 23 august 2013
- *Asian Conference on Membrane Computing (ACMC 2012)*, held in Wuhan (China) from 15 to 18 october 2012
- *8th International Workshop on Membrane Computing (WMC 8)*, held in Thessaloniki (Greece) from 25 to 27 june 2007

Best paper award at the following workshops and conferences:

- *19th International Conference on Membrane Computing (CMC 19)*, held in Dresden, Germany, from 4 to 7 september 2018
- *15th International Conference on Membrane Computing (CMC15)*, held in Praga (Czech Republic) from 20 to 22 august 2014
- *14th International Conference on Membrane Computing (CMC14)*, held in Chisinau (Moldova) from 20 to 23 august 2013
- *12th International Conference on Membrane Computing (CMC12)*, held in Fontainbleau (France) from 23 to 26 august 2011
- *Tenth Workshop on Membrane Computing (WMC 10)*, held in Curtea de Arges (Romania) from 24 to 27 august 2009

Other awards:

- *Theoretical Result of the Year 2018*, assigned by the International Membrane Computing Society to the paper “Solving QSAT in sublinear depth”

Memberships

Steering Committee for the annual series of *International Conference on Membrane Computing (CMC)*

Chair of the Program Committee for the *17th International Conference on Membrane Computing, CMC17*, held in Milan, University of Milan-Bicocca from 25 to 29 july 2016

Chair of the Organizing Committee for the following international conferences:

- *15th International Conference on Language and Automata Theory and Applications, LATA 2021*, held in Milan, University of Milan-Bicocca from 20 to 24 september 2021
- *14th International Conference on Language and Automata Theory and Applications, LATA 2020*, held in Milan, University of Milan-Bicocca from 4 to 6 march 2020. Due to COVID-19, this conference has been postponed and has been merged with *LATA 2021*
- *17th International Conference on Membrane Computing, CMC17*, held in Milan, University of Milan-Bicocca from 25 to 29 july 2016
- *International Conference DLT 2011 – Developments in Language Theory*, held in Milan, University of Milan-Bicocca from 19 to 23 july 2011

Member of the Organizing Committee for the following workshops and conferences:

- “Tenth International Meeting on DNA Computing (DNA10)”, held in Milan, University of Milan-Bicocca, from 7 to 10 june 2004

- “Fifth Workshop on Membrane Computing (WMC5)”, held in Milan, University of Milan-Bicocca, from 14 to 16 June 2004

Program Committee member for the following conferences:

- *International Conference on Membrane Computing (ICMC 2021)*, held in Chengdu, China and Debrecen, Hungary and Online, August 25-26, 2021
- *3rd Distributed Ledger Technology Workshop (DLT 2020)*, co-located with ITASEC 2020, held in Ancona (Italy), on 4 February 2020
- *20th International Conference on Membrane Computing (CMC 20)*, held in Curtea de Arges (Romania), from 5 to 8 August 2019
- *19th International Conference on Membrane Computing (CMC 19)*, held in Dresden (Germany), from 4 to 7 September 2018
- *Asian Conference on Membrane Computing (ACMC 2017)*, held in Chengdu (China), from 21 to 25 September 2017
- *18th International Conference on Membrane Computing (CMC 18)*, held in Bradford (UK) from 24 to 28 July 2017
- *Asian Conference on Membrane Computing (ACMC 2016)*, held at Universiti Kebangsaan Malaysia (Malaysia), from 14 to 16 November 2016
- *17th International Conference on Membrane Computing (CMC 17)*, held in Milan (Italy) from 25 to 29 July 2016
- *Asian Conference on Membrane Computing (ACMC 2015)*, held in Hefey, Anhui (China), from 12 to 15 November 2015
- *Workshop on Membrane Computing (WMC 2015) at the Conference on Unconventional Computation and Natural Computation (UCNC 2015)*, held in Auckland (New Zealand) from 31 August to 4 September 2015
- *16th International Conference on Membrane Computing (CMC 16)*, held in Valencia (Spain) from 17 to 21 August 2015
- *Asian Conference on Membrane Computing (ACMC 2014)*, held in Karunya Nagar, Coimbatore (India) from 18 to 19 September 2014
- *15th International Conference on Membrane Computing (CMC 15)*, held in Prague (Czech Republic) from 20 to 22 August 2014
- *Asian Conference on Membrane Computing (ACMC 2013)*, held in Chengdu (China) from 4 to 7 November 2013
- *14th International Conference on Membrane Computing (CMC 14)*, held in Chisinau (Moldova) from 20 to 23 August 2013
- *Asian Conference on Membrane Computing (ACMC 2012)*, held in Wuhan (China) from 15 to 18 October 2012
- *13th International Conference on Membrane Computing (CMC 13)*, held in Budapest (Hungary) from 28 to 31 August 2012
- *Twelfth International Conference on Membrane Computing (CMC12)*, held in Fontainebleau (France) from 23 to 26 August 2011

Supervision of Ph.D theses

Co-supervisor (with Prof. Enrico Formenti, University of Nice Sophia Antipolis) of the Ph.D thesis in Computer Science of Luca Mariot, since December 2013 (Cycle XXX, currently ongoing), entitled *Cellular Automata, Pseudorandom Number Generators and Combinatorial Designs*.

Co-supervisor (with Prof. Giuliano Strini, Department of Physics, Università degli Studi di Milano) of the Ph.D. thesis of Sara Felloni, entitled *Decoherence, Inaccuracy and Errors in Quantum Information Processing*. Thesis defended on February 2009

Co-supervisor (with Prof. Giancarlo Mauri, Department of Informatics, Systems and Communication, Università degli Studi di Milano-Bicocca) of the Ph.D. thesis in Computer Science of Stefano Orciari, entitled *Integration of 3G and Wireless LAN Architectures: A perspective on Authentication and Fast Handoff*. Thesis defended on February 2008

Other activities concerning Ph.D

Member of the **Board** for the **Ph.D Programme** in Computer Science, at the University of Milan-Bicocca, for the following cycles: 29 (Academic year 2013-2014), 30 (A.y. 2014-2015), 31 (A.y. 2015-2016), 32 (A.y. 2016-2017), 33 (A.y. 2017-2018), 34 (A.y. 2017-2018), 35 (A.y. 2018-2019), 36 (A.y. 2019-2020), 37 (A.y. 2020-2021), 38 (A.y. 2021-2022).

Member of the **commission** for the selection of candidates for cycle XXX of the **Ph.D. programme** in Computer Science (Academic year 2014/2015), University of Milan-Bicocca.

President of the **commission** for the final exam of cycle XXIX of the **Ph.D. programme** in Computer Science, held at the University of Milan-Bicocca on 27th of march 2017.

Member of the **commission** for the final exam of cycle XXIX of the **Ph.D. programme** in Legal Sciences - Curriculum Philosophy and Law Sociology, held at the University of Milan-Bicocca on 28th of june 2017.

Member of the **commission** for the selection of candidates for cycle XXXIII of the **Ph.D. programme** in Computer Science (Academic year 2017/2018), University of Milan-Bicocca.

Member of the **commission** for the final PhD defense of Luca Mariot (cycle XXX of the Ph.D. programme in Computer Science, co-tutored with the University of Nice Sophia Antipolis, held at the University of Milan-Bicocca on 9th of march 2018.

Member of the **commission** for the final PhD defense of Augustine Musukwa (cycle XXXII of the Ph.D. programme in Mathematics, held at the University of Trento on 16th of december 2019.

Other Scientific Activities

Abilitazione Scientifica Nazionale, Prima fascia, settore concorsuale 09/H1 (Sistemi di elaborazione delle informazioni), from 14/04/2021 to 14/04/2030.

Co-Founder of the Bicocca Security Lab (BiS Lab, www.bislab.unimib.it), with Prof. Claudio Ferretti (Department of Computer Science) and Prof. Andrea Rossetti (Department of Law). Bicocca Security Lab is the first interdisciplinary laboratory for the study of **Cybersecurity** founded in Italy.

Scientific manager for the post-doc bursary (assegno di ricerca tipo A2 junior, financed by University of Milan-Bicocca) of Dr. Luca Mariot, entitled *Natural Computing Models and Techniques for Cryptography*.

Duration: 24 months, since 01/01/2018.

Scientific manager for the post-doc bursary (co-financed by University of Milan-Bicocca and Lombardy Region Lombardia) of Dr. Elisabetta Fersini, entitled *Incertezza strutturale ed inferenza nei modelli probabilistici relazionali*.

Duration: 24 months, since 01/01/2010. In december 2011, the bursary has been renewed for further 24 months (until december 2013).

Visiting Professor at the Karaganda Economic University of Kazpotrebooyuz (Kazakhstan), covered by a grant of the Ministry of Education and Science of the Republic of Kazakhstan.

Period: 13 september 2018 – 13 october 2018 (31 days)

Visit to LIACS (Leiden Institute of Advanced Computer Science), Leiden (The Netherlands) as a post-doc student, under the project *Segravis - European Research Training Network* (contract number HPRN-CT-2002-00275), to work with Prof. Grzegorz Rozenberg

Period: 11 september 2005 – 23 october 2005 (6 weeks)

Referee for several international **journals**, among which: Acta Informatica, Fundamenta Informaticae, Theoretical Computer Science, Journal of Computer and System Sciences (JCSS), Natural Computing (NaCo), International Journal of Computer Mathematics (IJCM), International Journal on Foundations of Computer Science (IJFCS), International Journal of Unconventional Computing (IJUC), Information Sciences, Information Processing Letters, Journal of Automata, Languages and Combinatorics (JALC), Journal of Cellular Automata (JCA), Journal of Logic and Computation (JLoC), Neural Computing and Applications (NCAA), International Journal on Neural Systems (IJNS), Pattern Recognition, Physics Letters A

Referee for several **international conferences**, among which: Computability in Europe (from 2006 to 2013), International Conference on Membrane Computing (CMC, from 2010 to 2017), Asian Conference on Membrane Computing (ACMC 2012), Developments in Language Theory (2009 and 2010), DNA Computing (2006 and 2010), Italian Conference on Theoretical Computer Science (ICTCS 2013), International Conference on Language and Automata Theory and Applications (LATA, in 2007, 2008 and 2015)

Administrative Activities

Member of **Commissione Didattica Innovativa** (Commission for Innovative Didactic)

Rectoral Decree number 0030934/20, date: 25 may 2020

Period: 25 may 2020 – 25 may 2021

Member of **Gruppo di Lavoro Digitalizzazione e Processi** (Working Group on Digitalization and Processes)

Rectoral Decree number 0028024/20, date: 8 may 2020

Period: 8 may 2020 – now

Delegate of the Rector for the GARR Network

Rectoral Decree number 0078006/19, date: 15 october 2019

Period: 15 october 2019 – now

Delegate of the Rector for the Digitalization of University of Milan-Bicocca

Rectoral Decree number 0073734/19, date: 1 october 2019

Period: 1 october 2019 – now

Vice-director of the Department of Computer Science, University of Milan-Bicocca

Rectoral Decree number 0072668/18, date: 8 october 2018

Period: 1 october 2018 – 25 may 2020

Vice-coordinator of the Ph.D. Programme in Computer Science.

Rectoral Decree number 0005686/17, date: 31 january 2017

Period: 31 january 2017 – 17 october 2018

Member of the **Didactic Commission** for the bachelor and master degrees in Computer Science, at the Department of Informatics, Systems and Communication, University of Milan-Bicocca.

Period: february 2009 – september 2011

Didactic Activities
(Ph.D. courses)

Cybersecurity and Its Applications to Smart Cities, mini-course given at the International Summer School on Smart Cities, held in Astana (Kazakhstan), from 16 to 25 july 2018

Privacy e trattamento dei dati personali, interdisciplinary course for the Ph.D. School of the University of Milan-Bicocca, Academic Years 2016-2017 and 2017-2018, held in march-april 2017 and in march-april 2018

Unconventional Models of Computation, for the Ph.D. Programme in Computer Science at the University of Milan-Bicocca, Academic Year 2016/2017, held in may-june 2017

Introduction to Cryptography, given at the *First International School on Information and System Security*, held in Villa Olmo, Como, from 15 to 26 september 2003

Didactic Activities
(Bachelor and Master Courses)

Smart Contracts, Bitcoin e Blockchain Technology, for the master degree in Diritto delle organizzazioni pubbliche e private, at the School of Law of the University of Milan-Bicocca. Academic year: 2021-2022

Formal languages and Computability, for the bachelor degree in Computer Science at the University of Milan-Bicocca.

Academic years: from 2015/2016 to now

Information Theory and Cryptography, for the master degree in Computer Science at the University of Milan-Bicocca.

Academic years: from 2011/2012 to now

Programming in Java, for the bachelor degree in Computer Science at the University of Milan-

Bicocca.

Academic years: from 2016/2017 to 2019/2020

Information Theory, for the bachelor degree in Computer Science at the University of Milan-Bicocca.

Academic years: from 2004/2005 to 2012/2013

Cryptography, for the master degree in Computer Science at the University of Milan-Bicocca.

Academic years: from 2008/2009 to 2010/2011

Algorithms and Data Structures (basic), for the bachelor degree in Computer Science at the University of Milan-Bicocca.

Academic years: 2004/2005 and 2011/2012

Algorithms and Operating Research (laboratory module), for the bachelor degree in Computer Science at the University of Milan-Bicocca.

Academic years: from 2006/2007 to 2008/2009

Didactic Activities
(Exercises in class)

Programming in Java, for the bachelor degree in Computer Science at the University of Milan-Bicocca.

Academic years: from 2014/2015 and 2015/2016

Algorithms and Data Structures (basic), for the bachelor degree in Computer Science at the University of Milan-Bicocca.

Academic years: 2003/2004 and 2010/2011

Algorithms and Data Structures (advanced), for the bachelor degree in Computer Science at the University of Milan-Bicocca.

Academic years: from 2003/2004 to 2005/2006

Machine Learning, for the master degree in Computer Science at the University of Milan-Bicocca.

Academic years: from 2005/2006 to 2007/2008, and 2009/2010

Didactic Activities
(Supervision of
master/bachelor theses)

- Supervisor/co-supervisor of **45** master theses in Computer Science
- Supervisor/co-supervisor of **7** master theses in Mathematics (for the Department of Mathematics and Applications, University of Milan-Bicocca)
- Supervisor/co-supervisor of **122** bachelor theses in Computer Science