

# Curriculum Vitae

Lucian Buşoniu  
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## Education and work experience

- Oct. 2011 – ongoing: **Lecturer** until Sept. 2014, then **Associate Professor**, Automation Dept., Technical University of Cluj (TU Cluj), Romania.
- Jan. 2012 – Sept. 2013: **Researcher** CNRS (**intervals on leave** from TU Cluj), Research Center for Automatic Control, Nancy, France.
- Apr. 2011 – Dec. 2011: **Postdoctoral fellow**, (intervals on leave from TU Cluj), Team SequeL, INRIA Lille-Nord Europe, France.  
Topic: *Online Planning and Learning*.  
Research and dissemination, drafting proposals, advising PhD and MSc students.
- Mar. 2011: **Invited lecturer**, Automation Dept., TU Cluj, Romania.  
Leading and developing a novel course: lectures, lecture notes, and practical assignments.
- Jan. 2009 – Mar. 2011: **Postdoctoral fellow**, Delft Center for Systems and Control (DCSC), TU Delft, the Netherlands.  
Topic: *Data-Efficient and Online Reinforcement Learning*.  
Research and dissemination, drafting proposals, developing and coordinating lectures, course assignments, and exams, advising PhD, MSc, and BSc students.
- Jan. 2005 – Jan. 2009: **PhD candidate**, DCSC, TU Delft, the Netherlands.  
Topic: *Reinforcement Learning in Continuous State and Action Spaces*.  
PhD degree obtained *cum laude*. Advisors: Prof. B. De Schutter and Prof. R. Babuška.  
Research and dissemination, interaction and reporting within a large research project, developing and coordinating course assignments and exams, advising MSc and BSc students.
- Mar. 2005 – Mar. 2007: Completed course program of *Dutch Institute for Systems and Control*.
- Oct. 2003 – Jan. 2005: **Teaching assistant**, Automation Dept., TU Cluj, Romania.  
Teaching practical classes, exams for MSc and postgraduate courses.
- Spring 2004 – Dec. 2004: Freelance programmer, member of a team of programmers.  
Designing, developing, and maintaining software in a team; interacting with clients.
- Oct. 2003 – Jun. 2004: **Postgraduate degree** in *Modern Control*, TU Cluj, Romania.  
Thesis: *MicroJava Agents in Testing*.  
Graduated with maximum grade. Advisor: Prof. L. Miclea.
- Oct. 1998 – Jun. 2003: **MSc** in *Automation and Control*, TU Cluj, Romania.  
Thesis: *Multi-Agent Systems in Distributed Built-In Self-Testing and Distributed Testing*.  
Graduated valedictorian. Advisor: Prof. L. Miclea.

## Achievements and distinctions

- *Cum laude*, highest distinction in the Netherlands, for PhD thesis and defense (January 2009).
- 2009 Andrew P. Sage Award for the best paper published annually in the IEEE Transactions on Systems, Man and Cybernetics. Received for the paper “A Comprehensive Survey of Multi-Agent Reinforcement Learning”. *IEEE Transactions on Systems, Man, and Cybernetics—Part C: Application and Reviews*, vol. 38, no. 2, pages 156–172, 2008. 478 citations.<sup>1</sup>
- Author of book *Reinforcement Learning and Dynamic Programming Using Function Approximators*, published with Taylor & Francis CRC Press in 2010, 283 citations; as well as of 10 papers in international journals (+ 2 national), 5 book chapters, and 37 conference papers. These publications accumulated 1300+ citations and an h-index of 16. Another edited book has already been accepted for publication with Springer and is now in the final stages of preparation.
- Three articles were awarded the national PRECISI prize (900 EUR each).
- Best presentation in session, double award received at the *2004 IEEE-TTTC International Conference on Automation, Quality and Testing, Robotics (AQTR-04)*.
- Invited member of the IEEE Technical Committee on *Adaptive Dynamic Programming and Reinforcement Learning*, and IFAC Technical Committee on *Computational Intelligence in Control*.
- Co-advisor of 2 PhD students (one of which successfully defended), 9 MSc students (2 graduated *cum laude*), and 9 BSc students.
- Graduated postgraduate studies and dissertation with maximum grade, TU Cluj, Romania, 2004.
- Graduated valedictorian (first among more than 120 students) MSc studies and thesis, TU Cluj, Romania, 2003.

## International activities

### Organized events

- Dec. 2015: Co-chairing the *2015 IEEE Symposium on Adaptive Dynamic Programming and Reinforcement Learning*, Cape Town, South Africa.
- Dec. 2014: Co-chair of the *2014 IEEE Symposium on Adaptive Dynamic Programming and Reinforcement Learning*, Orlando, Florida, US.
- Apr. 2013: Special session on *Online planning*, 2013 IEEE Symposium on Adaptive Dynamic Programming and Reinforcement Learning, Singapore.
- Dec. 2011: Co-organizer of workshop *Optimal Adaptive Control: Online Solutions for Optimal Feedback Control and Differential Games Using Reinforcement Learning*, 50th IEEE Conference on Decision and Control and European Control Conference, Orlando, Florida, US.
- Apr. 2011: Special session on *Active reinforcement learning*, 2011 IEEE Symposium on Adaptive Dynamic Programming and Reinforcement Learning, Paris, France.

In addition, initiated and organized several invited visits by international researchers.

### Invitations and research visits

- Multiple researcher visits both ways between CRAN Nancy and the the Automation Dept. at Cluj.

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<sup>1</sup>Citation statistics as of July 2015, reported by Google Scholar.

- Sept. 2014: visited P. Kormushev at the Italian Institute of Robotics, Genova, Italy.
- Jun. 2014: invited professor at LAMIH, University of Valenciennes, France.
- Apr. – May 2014: visited R. Munos at the Microsoft Research Center New England, Boston, USA.
- 15–16 Nov. 2012: invited Prof.dr. Bart De Schutter (TUDelft) to CRAN.
- 25 Nov. 2011: invited Prof.dr. Damien Ernst (University of Liège) to INRIA Lille.
- 27–28 Aug. 2012: visited R. Babuška at TUDelft.
- Sept. – Dec. 2010: visited INRIA SequeL Lille, France, Dr. R. Munos.  
Topic: *Planning for optimal control of stochastic systems.*
- May – Jun. 2007: visited Supélec Rennes, France, Dr. D. Ernst.  
Topic: *Dynamic programming and policy search with adaptive approximation.*

### Academic cooperations

- 2014 – ongoing: Dr. P. Kormushev at the Italian Institute of Robotics, Genova, Italy. Topic: *Robot learning.*
- 2014 – ongoing: Prof. Sebastien Delprat at the LAMIH, University of Valenciennes, France. Topic: *Optimal control of hybrid electric vehicles.*
- 2012 – ongoing: Prof.dr. C. Morarescu, Researcher dr. R. Postoyan, Prof.dr. J. Daafouz, Research Center for Automatic Control of Nancy. Multiple topics in *Applications of planning to nonlinear control.*
- 2009 – ongoing: Dr. R. Munos, Research director (DR), INRIA Lille, France. Multiple topics in *Approximate reinforcement learning and planning.*
- 2009 – ongoing: Prof.R. Babuška and Prof.B. De Schutter, TU Delft, the Netherlands. Multiple topics in *Learning control.*
- 2006 – 2011: Prof.dr. D. Ernst, University of Liège, Belgium. Multiple topics in *Approximate reinforcement learning and dynamic programming.*
- 2007 – 2011: E. Schuitema and Prof.dr. P. Jonker, TU Delft, the Netherlands. Topic: *Reinforcement learning for robotics.*
- 2006: Dr. M. Jitea, Univ. of Agricultural Sciences and Veterinary Medicine Cluj, Romania. Topics: *Optimizing technological changes in farms.*

### Selected invited talks

- 2 Oct 2015: on approximate reinforcement learning and planning for robot control, within workshop on *Machine Learning in Planning and Control of Robot Motion* at the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2015), Hamburg, Germany.
- 25 Sept 2014: *Nonlinear Near-Optimal Control Using Optimistic Planning: Algorithms, Networked Control Systems, Real-Time Control*, Italian Institute of Technology, Genova, Italy.
- 9 Dec 2013: *Optimistic Planning for General Nonlinear Near-Optimal Control*, within workshop on *Intelligent Planning and Control: Bringing Together Adaptive Control and Reinforcement Learning for Guaranteeing Optimal Performance and Robustness*, 2013 IEEE Conference on Decision and Control, Florence, Italy.
- 10 May 2012: *Online Planning and Learning for Near-Optimal Control*, CRAN, Nancy, France.

- 1 Dec. 2011: *Optimistic Planning for Near-Optimal Control in Markov Decision Processes*, LORIA, Nancy, France.
- 1 Oct. 2010: *Approximate Dynamic Programming and Reinforcement Learning*, team SequeL, INRIA Lille, France.
- 24 Sept. 2010: *Efficient Reinforcement Learning for Control*, Systems and Modeling group, University of Liège, Belgium.
- 27 May 2010: *Reinforcement Learning for Control*, invited tutorial at the 2010 IEEE International Conference on Automation, Quality and Testing, Robotics, Cluj, Romania.
- 2 May 2007: *Fuzzy Approximation for Continuous-State Reinforcement Learning*, Supélec Rennes, France.

L. Buşoniu has attended around 20 scientific conferences, has given more than 30 presentations at scientific conferences and meetings (see also the List of publications), and has coauthored several colloquia and lectures.

## Research grants

- 2015 – ongoing: Principal investigator on the Romanian side for bilateral CNRS PICS project *Optimisation fondee sur l'intelligence artificielle pour le controle des systemes en reseau et hybrides*, funded by the French side.
- 2015 – ongoing: Principal investigator on the Romanian side for PHC Brancusi bilateral cooperation project between CRAN Nancy – UTCluj, *AICONS: Artificial-Intelligence-Based Optimization for the Stable and Optimal Control of Networked Systems*. Budget 4600 EUR.
- 2013 – ongoing: Principal investigator for Young Teams project *Reinforcement Learning and Planning For Large-Scale Systems*, UEFISCDI, Ministry of Education, Romania. Budget: 180 000 EUR.
- 2012: Project *Planning and Learning for Multi-Agent Control*, within a funding initiative of the Research Center for Automatic Control, Nancy, France. Budget: 3 750EUR.

In addition, L. Buşoniu has been involved in research activities and local management within the following projects:

- 2011: *Exploration for Efficient Resource Allocation (EXPLO-RA)*, funded by ANR (Agence Nationale de la Recherche) France. See [sites.google.com/site/anrexplo](http://sites.google.com/site/anrexplo).
- 2005 – 2010: *Interactive Collaborative Information Systems (ICIS)*, funded by the BSIK program of the Dutch government and comprising a consortium of academic, research, and industrial institutions. See [www.icis.decis.nl](http://www.icis.decis.nl).
- 2004: *Intelligent Agents and Multi-Agent Systems in the Teleoperation and Control of a Cascade of Hydroelectric Power Plants (AGENTEL)*, funded by the Informational Society program of the Romanian Ministry of Education and Research.

## Teaching and advising activities

- Mar. 2011 - present: Automation Dept., TU Cluj, Romania.  
Responsible lecturer for BSc course *System Identification* and MSc course *Learning Control*: writing lecture notes (*Reinforcement learning and dynamic programming for control*), developing lectures and practical classes. Practical classes for BSc course *System Theory*. Invited lectures for *Optimization Theory* course.

- 1 Mar. 2011: *Reinforcement Learning for Robot Control*, invited lecture at MSc course *Control Methods for Robotics*, TU Delft, the Netherlands.
- 2005 – 2011: Assistant and co-lecturer, DCSC, TU Delft, the Netherlands.  
MSc course *Knowledge-Based Control Systems*.  
Principal developer and coordinator of MATLAB and literature assignments, developing and coordinating lectures on reinforcement learning and exams, guiding students.
- 2003 – 2005: Teaching assistant, Automation Dept., TU Cluj, Romania.  
MSc courses *Computer-Aided Design in Control Engineering* and *Reliability and Diagnosis*.  
Postgraduate course *Visual C++. Programming the Interface of Windows Applications*.  
Developing and teaching practical classes; assisting exams.

L. Buşoniu has or is co-advising 2 PhD students (out of which has successfully defended in the Netherlands in March 2015, and the other funded by the industry), 9 MSc students (2 graduated *cum laude*), and 9 BSc students, see [busoniu.net/projects.php](http://busoniu.net/projects.php) for details. He has also served on 8 MSc defense committees, and will serve on a PhD committee in the Netherlands in 4 March 2015.

## Academic service

- Since 2015, leader of *Robotics and Nonlinear Control* research group, at the Technical University of Cluj-Napoca, see <http://rocon.utcluj.ro> (4 permanent staff and 2 long-term students).
- Program Committee member for several international conferences, including among others:
  - 2013, 2011 IEEE Symposium on Adaptive Dynamic Programming and Reinforcement Learning
  - 2012, 2010 IEEE International Conference on Automation, Quality and Testing, Robotics
  - 2011 International Joint Conference on Autonomous Agents and Multiagent Systems
  - 2011 IEEE International Conference on Emerging Technologies and Factory Automation
- Chair of the *Control Systems* session, 2010 IEEE International Conference on Automation, Quality and Testing, Robotics.
- Reviewer for leading scientific journals and magazines, including *Automatica*; IEEE Transactions on: *Automatic Control / Systems, Man, and Cybernetics / Neural Networks and Learning Systems / Fuzzy Systems / Vehicular Technology*; *Control Engineering Practice*; *Journal of Artificial Intelligence Research*; *Journal of Autonomous Agents and Multi-Agent Systems*; *Machine Learning*; *Neurocomputing*; *IEEE Communications Magazine*; etc.
- Book reviewer for Springer, and also reviewer for several PhD theses.
- Reviewer for prestigious international conferences, including *Neural Information Processing Systems*, *IFAC World Congress*, *International Conference on Machine Learning*, *IEEE World Congress on Computational Intelligence*, etc.
- Made freely available Matlab toolboxes for *Approximate Reinforcement Learning and Dynamic Programming*, and *Multi-Agent Reinforcement Learning*.  
See [busoniu.net/repository.php](http://busoniu.net/repository.php).
- Served on interview and selection committees for PhD and postdoctoral candidates.

## Special courses attended

- Sept.–Dec. 2011: *Français langue étrangère*, Euraxess Center, Université Lille Nord de France.
- 2009, 2010: Courses on obtaining research funding, including FP7 Marie Curie grants, FP7 ERC Starting grants, and Netherlands Organisation for Scientific Research (NWO) grants.
- Apr. 2010: *Education Techniques of the Theater*, a course on presentation techniques for academic content, within the *Basic Teaching Qualification* program of TU Delft.
- 29 Aug. – 1 Sept. 2005: *Advanced Issues in Neurocomputing*, a course of the *Advanced School for Computing and Imaging*, the Netherlands.

## Other skills and interests

- Foreign languages: fluent English (C2 “Proficient”, highest level on the Common European Framework of Reference scale), upper-intermediate French (level B2).
- Programming, professionally and also as a hobby: knowledge of MATLAB, Java, C/C++, client- and server-side web scripting and markup languages (HTML, CSS, JavaScript, PHP), as well as basic knowledge of a number of other programming languages.
- Computer skill highlights: knowledge of Windows, Linux operating systems, LaTeX document preparation system, Corel graphics suite.
- Hobbies: reading, mountain hiking, technology, cinema.

## References

Available upon request.

## List of publications

### Books

1. L. Buşoniu, R. Babuška, B. De Schutter, and D. Ernst, “Reinforcement Learning and Dynamic Programming Using Function Approximators”. Taylor & Francis CRC Press, *Automation and Control Engineering Series*. April 2010, 280 pages, ISBN 978-1439821084.

### International journal papers

10. K. Máthé, L. Buşoniu, “Vision and Control for UAVs: A Survey of General Methods and of Inexpensive Platforms for Infrastructure Inspection”, *Sensors*, vol. 15, no. 7, pages 147887–14916, 2015.
9. L. Buşoniu, C. Morărescu, “Topology-preserving flocking of nonlinear agents using optimistic planning”, *Control Theory and Technology*, vol. 13, no. 1, pages 70–81, 2015.
8. L. Buşoniu, C. Morărescu, “Consensus for black-box nonlinear agents using optimistic optimization.”, *Automatica*, vol. 50, no. 4, pages 1201–1208, 2014.
7. I. Grondman, L. Buşoniu, G. Lopes, R. Babuška, “A Survey of Actor-Critic Reinforcement Learning: Standard and Natural Policy Gradients”, *IEEE Transactions on Systems, Man, and Cybernetics—Part C: Cybernetics*, vol. 42, no. 6, pages 1291–1307, 2012.
6. I. Grondman, M. Vaandrager, L. Buşoniu, R. Babuška, E. Schuitema, “Efficient Model Learning Methods for Actor-Critic Control”, *IEEE Transactions on Systems, Man, and Cybernetics—Part B: Cybernetics*, vol. 42, no. 3, pages 591–602, 2012.
5. S. Adam, L. Buşoniu, and R. Babuška, “Experience Replay for Real-Time Reinforcement Learning Control”, *IEEE Transactions on Systems, Man, and Cybernetics—Part C: Applications and Reviews*, vol. 42, no. 2, pages 201–212, 2012.
4. L. Buşoniu, D. Ernst, B. De Schutter, and R. Babuška, “Cross-Entropy Optimization of Control Policies with Adaptive Basis Functions”, *IEEE Transactions on Systems, Man, and Cybernetics—Part B: Cybernetics*, vol. 41, no. 1, pages 196–209, 2011.
3. L. Buşoniu, D. Ernst, B. De Schutter, and R. Babuška, “Approximate Dynamic Programming with a Fuzzy Parametrization”, *Automatica*, vol. 46, no. 5, pages 804–814, 2010.
2. L. Buşoniu, R. Babuška, and B. De Schutter, “A Comprehensive Survey of Multi-Agent Reinforcement Learning”. *IEEE Transactions on Systems, Man, and Cybernetics—Part C: Application and Reviews*, vol. 38, no. 2, pages 156–172, 2008. **Recipient of the 2009 Andrew P. Sage Award for the best paper published annually in the IEEE Transactions on Systems, Man and Cybernetics.**
1. X. Meng, R. Babuška, Y. Chen, and L. Buşoniu, “Multiagent Reinforcement Learning Algorithm Research Based on Non-Markov Environment”. *International Journal of Information Technology*, vol. 12, no. 6, pages 60–68, 2006.

### Contributions to books

5. L. Buşoniu, R. Munos, R. Babuska, “A Survey of Optimistic Planning in Markov decision processes”. In *Reinforcement Learning and Adaptive Dynamic Programming for Feedback Control*, F. Lewis and D. Liu, Editors, series *Computational Intelligence*, Wiley, 2012.
4. L. Buşoniu, A. Lazaric, M. Ghavamzadeh, R. Munos, R. Babuska, B. De Schutter, “Least-squares methods for policy iteration”. In *Reinforcement Learning: State of the Art*, M. Wiering and M. van Otterlo, Editors, series *Adaptation, Learning, and Optimization*, vol. 12, pages 75–109, Springer, 2012.
3. L. Buşoniu, R. Babuška, and B. De Schutter, “Multi-Agent Reinforcement Learning: An O-

- view”. In *Innovations in Multi-Agent Systems and Applications*, D. Srinivasan and L. Jain, Editors, series *Studies in Computational Intelligence*, vol. 310, pages 183–221. Springer, 2010.
2. L. Buşoniu, B. De Schutter, and R. Babuška, “Approximate Dynamic Programming and Reinforcement Learning”. In *Interactive Collaborative Information Systems*, R. Babuška and F.C.A. Groen, Editors, series *Studies in Computational Intelligence*, vol. 281, pages 3–44. Springer, 2010.
  1. L. Buşoniu, D. Ernst, B. De Schutter, and R. Babuška, “Continuous-State Reinforcement Learning with Fuzzy Approximation”. In *Adaptive Agents and Multi-Agent Systems III*, K. Tuyls, A. Nowé, Z. Guessoum, D. Kudenko, Editors, series *Lecture Notes in Computer Science*, vol. 4865, pages 27–43. Springer, 2008.

#### International conference papers

37. L. Buşoniu, M.-C. Bragagnolo, J. Daafouz, C. Morarescu, “Planning methods for the optimal control and performance certification of general nonlinear switched systems”, accepted at the *2015 Conference on Decision and Control (CDC-15)*, Osaka, Japan, 15–18 December 2015.
36. T. Wensveen, L. Buşoniu, R. Babuška, “Real-Time Optimistic Planning with Action Sequences”, *Proceedings 2015 Conference on Control Systems and Computer Science (CSCS-15)*, Bucharest, Romania, 27–29 May 2015.
35. R. Postoyan, L. Buşoniu, D. Nešić, J. Daafouz, “Stability of infinite-horizon optimal control with discounted cost”, *Proceedings 2014 Conference on Decision and Control (CDC-14)*, Los Angeles, USA, 15–17 December 2014.
34. K. Máthé, L. Buşoniu, R. Munos, B. De Schutter, “Optimistic Planning with a Limited Number of Action Switches for Near-Optimal Nonlinear Control”, *Proceedings 2014 Conference on Decision and Control (CDC-14)*, Los Angeles, USA, 15–17 December 2014.
33. L. Buşoniu, R. Munos, E. Páll, “An analysis of optimistic, best-first search for minimax sequential decision making”, *Proceedings 2014 IEEE Symposium on Adaptive Dynamic Programming and Reinforcement Learning (ADPRL-14)*, Orlando, USA, 10–13 December 2014.
32. L. Buşoniu, L. Tamás, “Optimistic Planning for the Near-Optimal Control of General Nonlinear Systems with Continuous Transition Distributions”. *Proceedings 19th IFAC World Congress (IFAC-14)*, Cape Town, South Africa, 24–29 August 2014.
31. K. Máthé, L. Buşoniu, L. Miclea, “Optimistic Planning with Long Sequences of Identical Actions for Near-Optimal Nonlinear Control”. In *Proceedings 2014 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR-14)*, Cluj-Napoca, Romania, 22–24 May 2014.
30. E. Páll, K. Máthé, L. Tamás, L. Buşoniu, “Railway Track Following with the AR.Drone Using Vanishing Point Detection”. In *Proceedings 2014 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR-14)*, Cluj-Napoca, Romania, 22–24 May 2014.
29. L. Buşoniu, C. Morarescu, “Consensus for Agents with General Dynamics Using Optimistic Optimization”. *Proceedings 2013 IEEE Conference on Decision and Control (CDC-13)*, Florence, Italy, 10-13 December 2013.
28. L. Buşoniu, R. Postoyan, J. Daafouz, “Near-optimal strategies for nonlinear networked control systems using optimistic planning”, *Proceedings 2013 American Control Conference (ACC-13)*, Washington, US, 18–19 June 2013.
27. L. Buşoniu, C. Morărescu, “Optimistic planning for consensus”, *Proceedings 2013 American Control Conference (ACC-13)*, Washington, US, 18–19 June 2013.



26. L. Buşoniu, A. Daniels, R. Munos, R. Babuška, “Optimistic Planning for Continuous-Action Deterministic Systems”, *Proceedings 2013 Symposium on Adaptive Dynamic Programming and Reinforcement Learning (ADPRL-13)*, Singapore, 15–19 April 2013.
25. R. Fonteneau, L. Buşoniu, R. Munos, “Optimistic Planning for Belief-Augmented Markov Decision Processes”, *Proceedings 2013 Symposium on Adaptive Dynamic Programming and Reinforcement Learning (ADPRL-13)*, Singapore, 15–19 April 2013.
24. I. Grondman, L. Buşoniu, R. Babuška, “Model-Learning Actor-Critic Algorithms: Performance Evaluation in a Motion Control Task”. *Proceedings 51st IEEE Conference on Decision and Control (CDC-12)*, Maui, Hawaii, 10–13 December 2012.
23. M. Vaandrager, R. Babuska, L. Buzoniu, G. Lopes, “Imitation Learning with Non-Parametric Regression”. *Proceedings 2012 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR-12)*, Cluj-Napoca, Romania, 24–27 May 2012.
22. L. Buşoniu, R. Munos, “Optimistic Planning for Markov Decision Processes”, accepted at the *15th International Conference on Artificial Intelligence and Statistics (AISTATS-12)*, Canary Islands, Spain, 21–23 April 2012.
21. S. Norrouzadeh, L. Buşoniu, R. Babuška, “Efficient Knowledge Transfer in Shaping Reinforcement Learning”. *Proceedings 18th IFAC World Congress (IFAC-11)*, Milano, Italy, 22 August–2 September 2011.
20. I. Grondman, M. Vaandrager, L. Buşoniu, R. Babuška, E. Schuitema, “Actor-Critic Control with Reference Model Learning”. *Proceedings 18th IFAC World Congress (IFAC-11)*, Milano, Italy, 22 August–2 September 2011.
19. L. Buşoniu, R. Munos, B. De Schutter, R. Babuška, “Optimistic Planning for Sparsely Stochastic Systems”. *Proceedings 2011 IEEE International Symposium on Adaptive Dynamic Programming and Reinforcement Learning (ADPRL-11)*, pages 48–55, Paris, France, 11–15 April 2011.
18. L. Buşoniu, D. Ernst, B. De Schutter, R. Babuška, “Approximate Reinforcement Learning: An Overview”. *Proceedings 2011 IEEE International Symposium on Adaptive Dynamic Programming and Reinforcement Learning (ADPRL-11)*, pages 1–8, Paris, France, 11–15 April 2011.
17. E. Schuitema, L. Buşoniu, R. Babuška, P. Jonker, “Control Delay in Reinforcement Learning for Real-Time Dynamic Systems: A Memoryless Approach”. *Proceedings 2010 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-10)*, pages 3226–3231, Taipei, Taiwan, 18–22 October 2010.
16. L. Buşoniu, D. Ernst, B. De Schutter, and R. Babuška, “Online Least-Squares Policy Iteration for Reinforcement Learning Control”. *Proceedings 2010 American Control Conference (ACC-10)*, pages 486–491, Baltimore, US, 30 June – 2 July 2010.
15. L. Buşoniu, B. De Schutter, R. Babuška, and D. Ernst, “Using Prior Knowledge to Accelerate Online Least-Squares Policy Iteration”. *Proceedings 2010 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR-10)*, Cluj-Napoca, Romania, 28–30 May 2010.
14. L. Buşoniu, D. Ernst, B. De Schutter, and R. Babuška, “Policy Search with Cross-Entropy Optimization of Basis Functions”. *Proceedings 2009 IEEE International Symposium on Adaptive Dynamic Programming and Reinforcement Learning (ADPRL-09)*, pages 153–160, Nashville, US, 30 March – 2 April 2009.
13. L. Buşoniu, D. Ernst, B. De Schutter, and R. Babuška, “Fuzzy Partition Optimization for Approximate Fuzzy Q-iteration”. *Proceedings 17th IFAC World Congress (IFAC-08)*, pages 5629–

- 5634, Seoul, Korea, 6–11 July 2008.
12. X. Yuan, L. Buşoniu, and R. Babuška, “Reinforcement Learning for Elevator Control”. *Proceedings 17th IFAC World Congress (IFAC-08)*, pages 2212–2217, Seoul, Korea, 6–11 July 2008.
  11. L. Buşoniu, D. Ernst, B. De Schutter, and R. Babuška, “Consistency of Fuzzy Model-Based Reinforcement Learning”. *Proceedings 2008 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE-08)*, pages 518–524, Hong Kong, 1–6 June 2008.
  10. M. Jitea, M. Valentin, and L. Buşoniu, “Calibrating Tools for Modeling the Technological Changes at the Farm Level”. In *Proceedings 5th International Conference on the Management of Technological Changes*, vol. 2, pages 3–36, Alexandroupolis, Greece, 25–26 August 2007.
  9. L. Buşoniu, D. Ernst, B. De Schutter, and R. Babuška, “Fuzzy Approximation for Convergent Model-Based Reinforcement Learning”. In *Proceedings 2007 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE-07)*, pages 968–973, London, UK, 23–26 July 2007.
  8. L. Buşoniu, D. Ernst, B. De Schutter, and R. Babuška, “Continuous-State Reinforcement Learning with Fuzzy Approximation”. In *Adaptive Learning Agents and Multi-Agent Systems Symposium (ALAMAS-07)*, pages 21–35, Maastricht, the Netherlands, 2–3 April 2007.
  7. L. Buşoniu, R. Babuška, and B. De Schutter, “Multi-Agent Reinforcement Learning: A Survey”. In *Proceedings 9th International Conference of Control, Automation, Robotics, and Vision (ICARCV-06)*, pages 527–532, Singapore, 5–8 December 2006.
  6. L. Buşoniu, B. De Schutter, and R. Babuška, “Decentralized Reinforcement Learning Control of a Robotic Manipulator”. In *Proceedings 9th International Conference of Control, Automation, Robotics, and Vision (ICARCV-06)*, pages 1347–1352, Singapore, 5–8 December 2006.
  5. L. Buşoniu, B. De Schutter, and R. Babuška, “Multiagent Reinforcement Learning with Adaptive State Focus”. In *Proceedings 17th Belgian-Dutch Conference of Artificial Intelligence (BNAIC-05)*, pages 35–42, Brussels, Belgium, 17–18 October 2005.
  4. X. Meng, R. Babuška, L. Buşoniu, Y. Chen, and W. Tan, “An Improved Multiagent Reinforcement Learning Algorithm”. In *Proceedings 2005 IEEE/WIC/ACM International Joint Conference on Web Intelligence and Intelligent Agent Technology*, pages 337–343, Compiègne, France, 19–22 September 2005.
  3. L. Miclea, L. Buşoniu, Sz. Enyedi, M. Abrudean, I. Stoian, A. Vancea, “Limited-Resource System Testing with Microagent Societies”. In *9th IEEE European Test Symposium (ETS-04)*, Ajaccio, Corsica, France, 23–26 May 2004.
  2. L. Miclea, L. Buşoniu, Sz. Enyedi, “Implementation of a Multiagent DBIST/Distributed Testing Solution”. In *Proceedings 2004 IEEE-TTTC International Conference on Automation, Quality and Testing, Robotics (AQTR-04)*, pages 267–272, Cluj-Napoca, Romania, 13–15 May 2004. Paper presentation received **best presentation in session award**.
  1. L. Buşoniu, L. Miclea, Sz. Enyedi, “An Abstract Load-Balancing Architecture for Large Scale Multi-Agent Systems”. In *Proceedings 2004 IEEE-TTTC International Conference on Automation, Quality and Testing, Robotics (AQTR-04)*, pages 239–244, Cluj-Napoca, Romania, 13–15 May 2004. Paper presentation received **best presentation in session award**.

#### National journal papers

2. K. Máthé, L. Buşoniu, L. Miclea, “Optimistic Planning with Long Sequences of Identical Actions: An Extended Theoretical and Experimental Study”. *Acta Electrotehnica*, vol. 56, no. 1–2, pages 27–34, 2015. Romania.

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