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Positions

- Since 2010 — Senior researcher at CNRS (LSV, CNRS & ENS Cachan, France)
Vice-head of LSV since June 2009
- 2002 – 2010 — Junior researcher at CNRS (LSV, CNRS & ENS de Cachan, France)
Head of the TEMPO group at LSV (with Nicolas Markey) from 2007 to 2009
- 2007 — On sabbatical leave at Oxford University (England)
- 2002 — Post-doctoral researcher at BRICS, Aalborg University (Denmark)
in the team “Distributed Systems and Semantics”

Education

- 2009 — Habilitation Thesis defended on January 12, 2009
Title: From Qualitative to Quantitative Analysis of Timed Systems
University: Université Paris 7 (France)
Committee: Rajeev Alur (referee), Ahmed Bouajjani, Joost-Pieter Katoen (referee), Kim G. Larsen, Anca Muscholl (referee), Antoine Petit, Jean-François Raskin
- 1999 - 2002 — PhD Thesis defended on April 5, 2002
Title: Modèles et algorithmes pour la vérification des systèmes temporisés
(Models and Algorithms for the Verification of Timed Systems)
Department: LSV, CNRS & ENS de Cachan
Supervisor: Antoine Petit
Committee: Claude Jard (referee), Kim G. Larsen (referee), Antoine Petit, Olivier Roux, Joseph Sifakis (referee), and Pascal Weil
- 1998 - 1999 — “Agrégation” in Mathematics
- 1997 - 1998 — “Maîtrise” in Computer Science (with distinction TB)
“DEA” in Computer Science (with distinction TB)
- 1996 - 1997 — “Maîtrise” in Mathematics (with distinction TB)
- Sept. 1996 — Entrance at “École Normale Supérieure de Cachan”
Admission at “École Polytechnique”

Awards

- 2011 — Presburger Award (given by the EATCS)
- 2007 — Bronze medal (given by the CNRS)
- 2006 — Marie Curie fellowship for a one year stay at Oxford University
- 2003 — PhD Thesis awarded by Specif, the french association of computer scientists

Responsibilities in Schools and Conferences

— Program chairs —

- FORMATS'06 (4th Int. Conf. on Formal Modelling and Analysis of Timed Systems), Paris, September 2006: co-chair with Eugene Asarin
- GDV'06 (3rd Int. Workshop Games in Design and Verification), Seattle, August 2006: co-chair with Madhusudan P.

— Program committees —

- LICS'12 (27th Annual Symposium on Logic in Computer Science) – *forthcoming*
- LATA'12 (6th International Conference on Language and Automata Theory and Applications) – *forthcoming*
- FM'12 (18th International Symposium on Formal Methods) – *forthcoming*
- MSR'11 (Modélisation des systèmes réactifs) – *ongoing*
- FORMATS'11 (8th International Conference on Formal Modelling and Analysis of Timed Systems) – *ongoing*
- LICS'11 (26th Annual Symposium on Logic in Computer Science)
- TACAS'11 (17th International Conference on Tools and Algorithms for the Construction and Analysis of Systems)
- QEST'10 (7th International Conference on Quantitative Evaluation of Systems)
- MFCS'10 (35th International Symposium on Mathematical Foundations of Computer Science)
- ICALP'10 – Track B (37th International Colloquium on Automata, Languages and Programming)
- QAPL'10 (8th Workshop on Quantitative Aspects of Programming Languages)
- FoSSaCS'10 (13th International Conference on Foundations of Software Science and Computation Structures)
- MSR'09 (Modélisation des systèmes réactifs)
- EMSOFT'09 (International Conference on Embedded Software)
- QEST'09 (6th International Conference on Quantitative Evaluation of Systems)
- CSL'09 (17th Annual Conference on Computer Science Logic)

- SPIN'09 (16th International SPIN Workshop on Model Checking of Software)
- QAPL'09 (7th Workshop on Quantitative Aspects of Programming Languages)
- STACS'09 (26th International Symposium on Theoretical Aspects of Computer Science)
- SOFSEM'09 (35th International Conference on Current Trends in Theory and Practice of Computer Science)
- FORMATS'08 (5th International Conference on Formal Modelling and Analysis of Timed Systems)
- QEST'08 (5th International Conference on Quantitative Evaluation of Systems)
- CONCUR'08 (19th International Conference on Concurrency Theory)
- MOVEP'08 (8th Summer School on MOdelling and VERifying parallel Processes)
- QAPL'08 (6th Workshop on Quantitative Aspects of Programming Languages)
- JESA (Journal Européen des Systèmes Automatisés, special issue on formal real-time methods, 2008)
- TACAS'08 (14th International Conference on Tools and Algorithms for the Construction and Analysis of Systems)
- AVoCS'07 (7th International Workshop on Automated Verification of Critical Systems)
- FORMATS'07 (4th International Conference on Formal Modelling and Analysis of Timed Systems)
- MSR'07 (Modélisation des Systèmes Réactifs)
- AVoCS'06 (6th International Workshop on Automated Verification of Critical Systems)
- CONCUR'06 (17th International Conference on Concurrency Theory)
- FORMATS'05 (3rd International Conference on Formal Modelling and Analysis of Timed Systems)
- TACAS'05 (11th International Conference on Tools and Algorithms for the Construction and Analysis of Systems)
- FORMATS+FTRTFT'04 (Joint Conference on Formal Modelling and Analysis of Timed Systems and on Formal Techniques in Real-Time and Fault Tolerant System)

— **Organizing committees** —

- FORMATS'06 (4th International Conference on Modelling and Analysis of Timed Systems), Paris, September 2006: chair
- 32nd Spring School of Computer Science in 2004 “Theory of concurrency and applications”
- CSL'01 (Annual Conference of the European Association for Computer Science Logic)
- CAV'01 (13th International Conference on Computer Aided Verification)

Invited talks

— **Invited talks at workshops** —

- *Nash Equilibria in Timed Games*. Invited talk at the National Day of GDR IM (Paris, France, January 2011)
- *Energy Management in Timed Systems*. Invited talk at WATA'10 (Leipzig, Germany, May 2010)
- *Modelling, analyzing, and managing resources in timed systems*. Invited talk at MSR'09 (Nantes, France, November 2009)
- *On the Model Checking of Timed and Weighted Temporal Logics*. Invited talk at QUANT-LOG'09 (Rhodes, Greece, July 2009)
- *Quantitative Timed Games*. Invited talk at ACTS'09 (Chennai, India, January 2009)
- *Model-Checking Timed Temporal Logics*. Invited talk at TFIT'08 (Taipei, Taiwan, March 2008)
- *Model-Checking Timed Temporal Logics*. Invited talk at M4M-5 (Cachan, France, November 2007)
- *Weighted Timed Automata: Model-Checking and Games*. Invited talk at CORTOS'06 (Bonn, Germany, August 2006)
- *Weighted Timed Automata: Model-Checking and Games*. Invited talk at MFPS XXII (Genova, Italy, May 2006)
- *Optimal Timed Games*. Invited talk at AVoCS'05 (Warwick, England, September 2005)
- *Optimal Reachability Timed Games*. Invited talk at INFINITY'05 (San Francisco, CA, USA, August 2005)
- *Partial Observation of Timed Systems*. Invited talk at GDV'05 (Edinburgh, Scotland, July 2005)
- *Timed Automata and Extensions: Decidability Limits*. Invited talk at JSI'05 (Cachan, France, March 2005)
- *Automates temporisés, de la théorie à l'implémentation*. Invited talk at FAC'04 (Toulouse, France, March 2004)

— **Invited tutorials and lectures** —

- *From timed automata to complex systems - Stochastic timed games*. Lecture (1h30) at the AVACS spring school (Oldenburg, Germany, March 2010)
- *Real-time model-checking*. Lecture at the QMC Spring School (Copenhagen, Denmark, March 2010)
- *On the verification and control of timed systems*. Lecture (6h) at Summer School VTSA'09 (Nancy, France, October 2009)
- *Energy consumption in timed systems*. Lecture (1h) at the Farman Institute at ENS Cachan (Cachan, France, November 2008)

- *Quantitative timed games*. Tutorial (1h30) at the GAMES'08 annual meeting (Warsaw, Poland, September 2008)
- *Foundations for Timed Systems*. Lecture (1h30) at Summer School of European Project ARTIST2 (Nässlingen, Sweden, September 2005)
- *Vérification de systèmes temporisés et hybrides*. Lecture (1h) at École Temps-Réel 2005 (Nancy, France, September 2005)
- *Synthesis of Timed Systems*. Lecture (2h30) at Spring School of European Project GAMES (Bonn, Germany, March 2005)
- *Timed Automata - From Theory to Implementation*. Lecture (2h30) at MOVEP'04 (Brussels, Belgium, December 2004)
- *Timed Automata - From Theory to Implementation*. Tutorial (1h30) at QEST'04 (Twente, The Netherlands, September 2004)
- *Timed Models for Concurrent Systems*. Lecture (3h) at the 32nd Spring School of Theoretical Computer Science (Luminy, France, April 2004)
- *Introduction à la modélisation et à la vérification - Sous un angle temporisé...* Lecture (3h) at the department of computer science of ENS Cachan (September 2003)

Teaching

- 2008 - 2009 — *Verification of Timed Systems* in “Master Parisien de Recherche en Informatique”
- 2005 - 2006 — *Verification of Timed Systems* in “Master Parisien de Recherche en Informatique”
- 2003 - 2004 — *Verification of Timed Systems* in “DEA Algorithmique”
- 2002 - 2003 — *Verification of Timed Systems* in “DEA Algorithmique”
- 2002 - 2003 — *Algorithmics* in “magistère de mathématiques et informatique” (ENS de Cachan)
- 2001 - 2002 — *Computability* in “magistère de mathématiques et informatique” (ENS de Cachan)
- 2001 - 2002 — *Algorithmics* in “prépa agreg d'économie et gestion” (ENS de Cachan)
- 2000 - 2001 — *Computability* in “magistère de mathématiques et informatique” (ENS de Cachan)
- 2000 - 2001 — *Programmation (C++)* in “licence de génie électrique” (ENS de Cachan)
- 1999 - 2000 — *Programmation (CAML) and finite automata* in Lycée Louis Le Grand, Paris

Projects I am/was involved in

- Participation to the european project Quasimodo (program of the European Commission, part of FP7) on quantitative system properties in model-driven-design of embedded systems, 2008 – 2011
- Participation to the ARA DOTS (program of the French ministry of research) on distributed, open and timed systems, 2006 - 2010
- Participation to the TOAST project (program of the ENS de Cachan), 2006 - 2009
- Participation to the Indo-French Network Research Programme “Timed-DISCOVERI”, 2005 - 2008 (coordinators: Madhavan Mukund (CMI, India), Pascal Weil (LaBRI, France))

- Participation to the european network of excellence Artist2 (FP6)
- Coordinator of the ACI CORTOS (program of the French ministry of research) on control of timed systems, 2003 - 2006 (web site: <http://www.lsv.ens-cachan.fr/aci-cortos/>)
- Participation to project VSMT (program of the ENS de Cachan) on the verification of industrial automation controllers, 2002 - 2004
- Participation to ACI CHRONO (program of the French ministry of research) on scheduling of (coordinators: Franck Cassez (IRCCyN) and François Laroussinie (LSV))
- Locally responsible of AS Automates (program of the French ministry of research) on automata, distributed systems and timed systems, 2003 (coordinator: Pascal Weil (LaBRI))
- Participation to european project Ametist in 2002
- Participation to RNRT project Calife (program of the French ministry of research) on verification of telecommunication protocols, 1999 - 2002

Stays in foreign countries

- In 2007, one year at Oxford University
- One stay at the Indian Institute of Science (Bangalore, India) in December 2007.
- One stay at the Institute of Mathematical Science (Chennai, India) in January 2003.
- One year post-doc at Aalborg University (BRICS & CISS, Denmark) in 2001-2002
- Six short stays at Aalborg University (BRICS & CISS, Denmark), excluding my post-doct: in August 1997 (four weeks), in May/June 2000 (three weeks), in December 2002 (ten days), in August 2003 (two weeks), in December 2003 (two weeks), and in February 2005 (one week).

Misc

— Reviews —

- Numerous reviews for CAV, CONCUR, STACS, SCODES, DLT, JALC, TACAS, HSCC, IJFCS, APLAS, FSTTCS, IPL, FOSSACS, RTA, LICS, EXPRESS, FORMATS, Fundamenta Informaticae, MSR, FM, ICALP, PODC... around 25/30 each year!
- Reviewer for the French project ARA SSIA in 2005, SETIN in 2006, and SESUR in 2007
- Reviewer for the Dutch NWO computer science open competition in 2005
- Reviewer for the British EPSRC projects in 2009
- PhD committees:
 - Referee for P. Vijay Suman (Tata Institute of Fundamental Research, Mumbai, India, July 2009) and Vojtěch Forejt (Masaryk University, Brno, December 2009)
 - Committee member for Pritha Mahata (Uppsala University, Sweden, March 2005), Thomas Brihaye (Université de Mons-Hainaut, Belgium, June 2006), and Anders Hessel (Uppsala University, Sweden, May 2007)

— **Supervision** —

- PhD students:
 - Ocan Sankur (2010 – ?). Co-supervised by Nicolas Markey
 - Romain Brenguier (2009 – ?). Co-supervised by Nicolas Markey
 - Fabrice Chevalier (2004 – 2007): *Logiques pour les systèmes temporisés : contrôle et expressivité*
 - Pierre-Alain Reynier (2004 – 2007): *Vérification de systèmes temporisés et distribués : modèles, algorithmes et implémentabilité*. Co-supervised by François Laroussinie.
- Master students: Fabrice Chevalier (2004), Pierre-Alain Reynier (2004), Agnès Robin (2004), Guylain Naves (2006), Romain Brenguier (2009), Ocan Sankur (2010)
- Post-doc: Laura Bozzelli (Oct. 2005 - May 2006), Thomas Brihaye (Oct. 2006 - Sept. 2007), Delphine Longuet (Sep. 2008 - Aug. 2009)
- Other: Gabriel Renault (L3 internship), Vojtěch Forejt (PhD student at Brno University)

— **Administrative responsibilities** —

- Member of the selection committee for CR2 and CR1 at INRIA Rennes Bretagne Atlantique (2009)
- Member of the “Comité de sélection” at Université Paris 7 (Paris, 2009), at Université Joseph Fourier (Grenoble, 2010), and at Université de Provence (Marseille, 2010)
- Elected member of the “Conseil scientifique” of ENS de Cachan (from October 2005 to October 2008)
- Member of the “Commission de spécialistes” at Université Paris 7 and ENS de Cachan (from March 2004 to August 2008)

— **Other responsibilities** —

- Member of the committee for the selection of students at ENS Cachan (oral examination, 2008)
- Responsible of the working group on timed systems at LSV (2002 - 2004)
- Webmaster at LSV (1999 - 2001) and webmaster of the internal web site of LSV (2002 - 2007)
- PhD student representant in LSV (1999 - 2001)

Publications

All publications can be downloaded on <http://www.lsv.ens-cachan.fr/~bouyer/>

Chapter in a book

- [1] Patricia Bouyer and Antoine Petit. On extensions of timed automata. *In Perspectives in Concurrency Theory*, IARCS-Universities, pages 35–63. Universities Press, January 2009.
- [2] Patricia Bouyer and François Laroussinie. Model checking timed automata. *In Modeling and Verification of Real-Time Systems*. ISTE Ltd and John Wiley & Sons Inc., January 2008.
- [3] Patricia Bouyer and François Laroussinie. Vérification par automates temporisés. *In Systèmes temps-réel 1 : techniques de description et de vérification*, pages 121–150. Hermès, June 2006.

Edited book

- [4] Eugène Asarin and Patricia Bouyer, editors. *Proceedings of the 4th International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS'06)*, volume 4202 of *Lecture Notes in Computer Science*. Springer.

Articles in international journals

- [5] Patricia Bouyer, Uli Fahrenberg, Kim G. Larsen, and Nicolas Markey. Quantitative analysis of real-time systems using priced timed automata. *Communications of the ACM*, 2011. To appear.
- [6] Patricia Bouyer, Franck Cassez, and François Laroussinie. Timed modal logics for real-time systems: Specification, verification and control. *Journal of Logic, Language and Information*, 20(2):169–203, April 2011.
- [7] Patricia Bouyer, Fabrice Chevalier, and Nicolas Markey. On the expressiveness of TPTL and MTL. *Information and Computation*, 208(2):97–116, February 2010.
- [8] Patricia Bouyer, Thomas Brihaye, and Fabrice Chevalier. O-minimal hybrid reachability games. *Logical Methods in Computer Science*, 6(1:1), January 2010.
- [9] Patricia Bouyer, Serge Haddad, and Pierre-Alain Reynier. Undecidability results for timed automata with silent transitions. *Fundamenta Informaticae*, 92(1-2):1–25, 2009.
- [10] Patricia Bouyer, Thomas Brihaye, and Fabrice Chevalier. Weighted o-minimal hybrid systems. *Annals of Pure and Applied Logic*, 161(3):268–288, December 2009.
- [11] Patricia Bouyer, Kim G. Larsen, and Nicolas Markey. Model checking one-clock priced timed automata. *Logical Methods in Computer Science*, 4(2:9), June 2008.

- [12] Patricia Bouyer, Ed Brinksma, and Kim G. Larsen. Optimal infinite scheduling for multi-priced timed automata. *Formal Methods in System Design*, 32(1):2–23, February 2008.
- [13] Patricia Bouyer, Serge Haddad, and Pierre-Alain Reynier. Timed Petri nets and timed automata: On the discriminating power of Zeno sequences. *Information and Computation*, 206(1):73–107, January 2008.
- [14] Patricia Bouyer, Thomas Brihaye, Véronique Bruyère, and Jean-François Raskin. On the optimal reachability problem on weighted timed automata. *Formal Methods in System Design*, 31(2):135–175, October 2007.
- [15] Gerd Behrmann, Patricia Bouyer, Kim G. Larsen, and Radek Pelánek. Lower and upper bounds in zone-based abstractions of timed automata. *International Journal on Software Tools for Technology Transfer*, 8(3):204–215, June 2006.
- [16] Patricia Bouyer, Thomas Brihaye, and Nicolas Markey. Improved undecidability results on priced timed automata. *Information Processing Letters*, 98(5):188–194, June 2006.
- [17] Patricia Bouyer and Fabrice Chevalier. On the control of timed and hybrid systems. *EATCS Bulletin*, 89:79–96, June 2006.
- [18] Patricia Bouyer and Fabrice Chevalier. On conciseness of extensions of timed automata. *Journal of Automata, Languages and Combinatorics*, 10(4):393–405, 2005.
- [19] Patricia Bouyer, Catherine Dufourd, Emmanuel Fleury, and Antoine Petit. Updatable timed automata. *Theoretical Computer Science*, 321(2-3):291–345, August 2004.
- [20] Béatrice Bérard, Patricia Bouyer, and Antoine Petit. Analysing the PGM protocol with Upaal. *International Journal of Production Research*, 42(14):2773–2791, July 2004.
- [21] Patricia Bouyer. Forward analysis of updatable timed automata. *Formal Methods in System Design*, 24(3):281–320, May 2004.
- [22] Luca Aceto, Patricia Bouyer, Augusto Burgueño, and Kim G. Larsen. The power of reachability testing for timed automata. *Theoretical Computer Science*, 300(1-3):411–475, May 2003.
- [23] Patricia Bouyer, Antoine Petit, and Denis Thérien. An algebraic approach to data languages and timed languages. *Information and Computation*, 182(2):137–162, May 2003.
- [24] Patricia Bouyer and Antoine Petit. A Kleene/Büchi-like theorem for clock languages. *Journal of Automata, Languages and Combinatorics*, 7(2):167–186, 2002.
- [25] Patricia Bouyer. A logical characterization of data languages. *Information Processing Letters*, 84(2):75–85, October 2002.

Articles in proceedings of international conferences

- [26] Patricia Bouyer, Nicolas Markey, Jörg Olschewski, and Michael Ummels. Measuring permissiveness in parity games: Mean-payoff parity games revisited. *In Proceedings of the 9th International Symposium on Automated Technology for Verification and Analysis (ATVA'11)*, Lecture Notes in Computer Science. Springer, October 2011. To appear. (23/75)
- [27] Patricia Bouyer, Kim G. Larsen, Nicolas Markey, Ocan Sankur, and Claus Thrane. Timed automata can always be made implementable. *In Proceedings of the 22nd International Conference on Concurrency Theory (CONCUR'11)*, volume 6901 of *Lecture Notes in Computer Science*. Springer, September 2011. To appear. (32/94)
- [28] Patricia Bouyer, Nicolas Markey, and Ocan Sankur. Robust model-checking of timed automata via pumping in channel machines. *In Proceedings of the 9th International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS'11)*, Lecture Notes in Computer Science. Springer, September 2011. To appear. (20/43)
- [29] Nathalie Bertrand, Patricia Bouyer, Thomas Brihaye, and Amélie Stainer. Emptiness and universality problems in timed automata with positive frequency. *In Proceedings of the 38th International Colloquium on Automata, Languages and Programming (ICALP'11) – Part II*, volume 6756 of *Lecture Notes in Computer Science*, pages 246–257. Springer, July 2011.
- [30] Paul Hunter, Patricia Bouyer, Nicolas Markey, Joël Ouaknine, and James Worrell. Computing rational radical sums in uniform TC^0 . *In Proceedings of the 30th Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS'10)*, volume 8 of *Leibniz International Proceedings in Informatics*, pages 308–316. Leibniz-Zentrum für Informatik, December 2010.
- [31] Patricia Bouyer, Romain Brenguier, and Nicolas Markey. Computing equilibria in two-player timed games via turn-based finite games. *In Proceedings of the 8th International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS'10)*, volume 6246 of *Lecture Notes in Computer Science*, pages 62–76. Springer, September 2010. (14/32)
- [32] Patricia Bouyer, Romain Brenguier, and Nicolas Markey. Nash equilibria for reachability objectives in multi-player timed games. *In Proceedings of the 21st International Conference on Concurrency Theory (CONCUR'10)*, volume 6269 of *Lecture Notes in Computer Science*, pages 192–206. Springer, August-September 2010. (35/107)
- [33] Patricia Bouyer, Uli Fahrenberg, Kim G. Larsen, and Nicolas Markey. Timed automata with observers under energy constraints. *In Karl Henrik Johansson and Wang Yi, editors, Proceedings of the 13th International Conference on Hybrid Systems: Computation and Control (HSCC'10)*, pages 61–70. ACM Press, April 2010. (29/102)
- [34] Patricia Bouyer, Marie DufLOT, Nicolas Markey, and Gabriel Renault. Measuring permissivity in finite games. *In Proceedings of the 20th International Conference on Concurrency Theory (CONCUR'09)*, Bologna, Italy, September 2009, volume 5710 of *Lecture Notes in Computer Science*, pages 196–210. Springer. (37/129)

- [35] Christel Baier, Nathalie Bertrand, Patricia Bouyer, and Thomas Brihaye. When are timed automata determinizable? In *Proceedings of the 36th International Colloquium on Automata, Languages and Programming (ICALP'09)*, Rhodes, Greece, July 2009, volume 5556 of *Lecture Notes in Computer Science*, pages 43–54. Springer.
- [36] Patricia Bouyer and Vojtěch Forejt. Reachability in stochastic timed games. In *Proceedings of the 36th International Colloquium on Automata, Languages and Programming (ICALP'09)*, Rhodes, Greece, July 2009, volume 5556 of *Lecture Notes in Computer Science*, pages 103–114. Springer.
- [37] Nathalie Bertrand, Patricia Bouyer, Thomas Brihaye, and Nicolas Markey. Quantitative model-checking of one-clock timed automata under probabilistic semantics. In *Proceedings of the 5th International Conference on Quantitative Evaluation of Systems (QEST'08)*, Saint Malo, France, September 2008, pages 55–64. IEEE Computer Society Press. (26/52)
- [38] Patricia Bouyer, Thomas Brihaye, Marcin Jurdziński, Ranko Lazić, and Michał Rutkowski. Average-price and reachability-price games on hybrid automata with strong resets. In Franck Cassez and Claude Jard, editors, *Proceedings of the 6th International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS'08)*, volume 5215 of *Lecture Notes in Computer Science*, pages 63–77. Springer, September 2008. (17/37)
- [39] Patricia Bouyer, Uli Fahrenberg, Kim G. Larsen, Nicolas Markey, and Jiří Srba. Infinite runs in weighted timed automata with energy constraints. In Franck Cassez and Claude Jard, editors, *Proceedings of the 6th International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS'08)*, Saint-Malo, France, September 2008, volume 5215 of *Lecture Notes in Computer Science*, pages 33–47. Springer. (17/37)
- [40] Patricia Bouyer, Nicolas Markey, Joël Ouaknine, and James Worrell. On expressiveness and complexity in real-time model checking. In Luca Aceto, Ivan Damgård, Leslie Ann Goldberg, Magnús M. Halldórsson, Anna Ingólfssdóttir, and Igor Walukiewicz, editors, *Proceedings of the 35th International Colloquium on Automata, Languages and Programming (ICALP'08) – Part II*, Reykjavik, Iceland, July 2008, volume 5126 of *Lecture Notes in Computer Science*, pages 124–135. Springer. (32/122)
- [41] Christel Baier, Nathalie Bertrand, Patricia Bouyer, Thomas Brihaye, and Marcus Größer. Almost-sure model checking of infinite paths in one-clock timed automata. In *Proceedings of the 23rd Annual IEEE Symposium on Logic in Computer Science (LICS'08)*, Pittsburgh, PA, USA, June 2008. IEEE Computer Society Press. To appear. (39/115)
- [42] Patricia Bouyer, Nicolas Markey, and Pierre-Alain Reynier. Robust analysis of timed automata via channel machines. In *Proceedings of the 11th International Conference on Foundations of Software Science and Computation Structures (FoSSaCS'08)*, Budapest, Hungary, March-April 2008, volume 4962 of *Lecture Notes in Computer Science*, pages 157–171. Springer. (33/126)
- [43] Patricia Bouyer, Nicolas Markey, Joël Ouaknine, Philippe Schnoebelen, and James Worrell. On termination for faulty channel machines. In *Proceedings of the 25th Annual Symposium*

on Theoretical Aspects of Computer Science (STACS'08), Bordeaux, France, February 2008, pages 121–132. (54/200)

- [44] Christel Baier, Nathalie Bertrand, Patricia Bouyer, Thomas Brihaye, and Marcus Größer. Probabilistic and topological semantics for timed automata. *In Proceedings of the 27th Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS'07), New Delhi, India, December 2007*, volume 4855 of *Lecture Notes in Computer Science*, pages 179–191. Springer.
- [45] Patricia Bouyer and Nicolas Markey. Costs are expensive! *In Proceedings of the 5th International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS'07), Salzburg, Austria, October 2007*, volume 4763 of *Lecture Notes in Computer Science*, pages 53–68. Springer. (22/48)
- [46] Patricia Bouyer, Nicolas Markey, Joël Ouaknine, and James Worrell. The cost of punctuality. *In Proceedings of the 22nd Annual IEEE Symposium on Logic in Computer Science (LICS'07), Wrocław, Poland, July 2007*, pages 109–118. IEEE Computer Society Press. (39/133)
- [47] Patricia Bouyer, Thomas Brihaye, and Fabrice Chevalier. Weighted o-minimal hybrid systems are more decidable than weighted timed automata! *In Proceedings of the Symposium on Logical Foundations of Computer Science (LFCS'07), New-York, NY, USA, June 2007*, volume 4514 of *Lecture Notes in Computer Science*, pages 69–83. Springer.
- [48] Patricia Bouyer, Kim G. Larsen, and Nicolas Markey. Model-checking one-clock priced timed automata. *In Proceedings of the 10th International Conference on Foundations of Software Science and Computation Structures (FoSSaCS'07), Braga, Portugal, March 2007*, volume 4423 of *Lecture Notes in Computer Science*, pages 108–122. Springer. (25/103)
- [49] Patricia Bouyer, Kim G. Larsen, Nicolas Markey, and Jacob Illum Rasmussen. Almost optimal strategies in one-clock priced timed automata. *In Proceedings of the 26th Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS'06), Kolkata, India, December 2006*, volume 4337 of *Lecture Notes in Computer Science*, pages 345–356. Springer.
- [50] Houda Bel Mokadem, Béatrice Bérard, Patricia Bouyer, and François Laroussinie. Timed temporal logics for abstracting transient states. *In Proceedings of the 4th International Symposium on Automated Technology for Verification and Analysis (ATVA'06), Beijing, ROC, October 2006*, volume 4218 of *Lecture Notes in Computer Science*, pages 337–351. Springer. (35/137)
- [51] Patricia Bouyer, Serge Haddad, and Pierre-Alain Reynier. Timed unfoldings for networks of timed automata. *In Proceedings of the 4th International Symposium on Automated Technology for Verification and Analysis (ATVA'06), Beijing, ROC, October 2006*, volume 4218 of *Lecture Notes in Computer Science*, pages 292–306. Springer. (35/137)

- [52] Patricia Bouyer, Laura Bozzelli, and Fabrice Chevalier. Controller synthesis for MTL specifications. *In Proceedings of the 17th International Conference on Concurrency Theory (CONCUR'06), Bonn, Germany, August 2006*, volume 4137 of *Lecture Notes in Computer Science*, pages 450–464. Springer. (29/101)
- [53] Patricia Bouyer, Thomas Brihaye, and Fabrice Chevalier. Control in o-minimal hybrid systems. *In Proceedings of the 21st Annual IEEE Symposium on Logic in Computer Science (LICS'06), Seattle, Washington, USA, August 2006*, pages 367–378. IEEE Computer Society Press. (39/152)
- [54] Patricia Bouyer, Serge Haddad, and Pierre-Alain Reynier. Timed Petri nets and timed automata: On the discriminating power of Zeno sequences. *In Proceedings of the 33rd International Colloquium on Automata, Languages and Programming (ICALP'06) – Part II, Venice, Italy, July 2006*, volume 4052 of *Lecture Notes in Computer Science*, pages 420–431. Springer. (24/96)
- [55] Patricia Bouyer, Serge Haddad, and Pierre-Alain Reynier. Extended timed automata and time Petri nets. *In Proceedings of the 6th International Conference on Application of Concurrency to System Design (ACSD'06), Turku, Finland, June 2006*, pages 91–100. IEEE Computer Society Press. (23/45)
- [56] Patricia Bouyer, Nicolas Markey, and Pierre-Alain Reynier. Robust model-checking of linear-time properties in timed automata. *In Proceedings of the 7th Latin American Symposium on Theoretical Informatics (LATIN'06), Valdivia, Chile, March 2006*, volume 3887 of *Lecture Notes in Computer Science*, pages 238–249. Springer. (66/224)
- [57] Patricia Bouyer, Fabrice Chevalier, and Nicolas Markey. On the expressiveness of TPTL and MTL. *In Proceedings of the 25th Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS'05), Hyderabad, India, December 2005*, volume 3821 of *Lecture Notes in Computer Science*, pages 432–443. Springer. (38/167)
- [58] Patricia Bouyer, François Laroussinie, and Pierre-Alain Reynier. Diagonal constraints in timed automata: Forward analysis of timed systems. *In Proceedings of the 3rd International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS'05), Uppsala, Sweden, September-October 2005*, volume 3829 of *Lecture Notes in Computer Science*, pages 112–126. Springer, November 2005. (19/43)
- [59] Houda Bel Mokadem, Béatrice Bérard, Patricia Bouyer, and François Laroussinie. A new modality for almost everywhere properties in timed automata. *In Proceedings of the 16th International Conference on Concurrency Theory (CONCUR'05), San Francisco, CA, USA, August 2005*, volume 3653 of *Lecture Notes in Computer Science*, pages 110–124. Springer. (38/100)
- [60] Patricia Bouyer, Franck Cassez, and François Laroussinie. Modal logics for timed control. *In Proceedings of the 16th International Conference on Concurrency Theory (CONCUR'05), San Francisco, CA, USA, August 2005*, volume 3653 of *Lecture Notes in Computer Science*, pages 81–94. Springer. (38/100)

- [61] Patricia Bouyer, Fabrice Chevalier, and Deepak D'Souza. Fault diagnosis using timed automata. *In Proceedings of the 8th International Conference on Foundations of Software Science and Computation Structures (FoSSaCS'05), Edinburgh, U.K., April 2005*, volume 3441 of *Lecture Notes in Computer Science*, pages 219–233. Springer. (30/108)
- [62] Patricia Bouyer, Franck Cassez, Emmanuel Fleury, and Kim G. Larsen. Optimal strategies in priced timed game automata. *In Proceedings of the 24th Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS'04), Chennai, India, December 2004*, volume 3328 of *Lecture Notes in Computer Science*, pages 148–160. Springer. (38/176)
- [63] Gerd Behrmann, Patricia Bouyer, Kim G. Larsen, and Radek Pelánek. Lower and upper bounds in zone based abstractions of timed automata. *In Proceedings of the 10th International Conference on Tools and Algorithms for Construction and Analysis of Systems (TACAS'04), Barcelona, Spain, March 2004*, volume 2988 of *Lecture Notes in Computer Science*, pages 312–326. Springer. (37/145)
- [64] Patricia Bouyer, Ed Brinksma, and Kim G. Larsen. Staying alive as cheaply as possible. *In Proceedings of the 7th International Conference on Hybrid Systems: Computation and Control (HSCC'04), Philadelphia, Pennsylvania, USA, March 2004*, volume 2993 of *Lecture Notes in Computer Science*, pages 203–218. Springer. (43/117)
- [65] Patricia Bouyer, Deepak D'Souza, P. Madhusudan, and Antoine Petit. Timed control with partial observability. *In Proceedings of the 15th International Conference on Computer Aided Verification (CAV'03), Boulder, Colorado, USA, July 2003*, volume 2725 of *Lecture Notes in Computer Science*, pages 180–192. Springer. (32/87)
- [66] Gerd Behrmann, Patricia Bouyer, Emmanuel Fleury, and Kim G. Larsen. Static guard analysis in timed automata verification. *In Proceedings of the 9th International Conference on Tools and Algorithms for Construction and Analysis of Systems (TACAS'03), Warsaw, Poland, April 2003*, volume 2619 of *Lecture Notes in Computer Science*, pages 254–277. Springer. (41/160)
- [67] Patricia Bouyer. Untameable timed automata! *In Proceedings of the 20th Annual Symposium on Theoretical Aspects of Computer Science (STACS'03), Berlin, Germany, February 2003*, volume 2607 of *Lecture Notes in Computer Science*, pages 620–631. Springer. (58/253)
- [68] Patricia Bouyer, Antoine Petit, and Denis Thérien. An algebraic characterization of data and timed languages. *In Proceedings of the 12th International Conference on Concurrency Theory (CONCUR'01), Aalborg, Denmark, August 2001*, volume 2154 of *Lecture Notes in Computer Science*, pages 248–261. Springer. (32/78)
- [69] Patricia Bouyer, Catherine Dufourd, Emmanuel Fleury, and Antoine Petit. Expressiveness of updatable timed automata. *In Proceedings of the 25th International Symposium on Mathematical Foundations of Computer Science (MFCS'00), Bratislava, Slovakia, August 2000*, volume 1893 of *Lecture Notes in Computer Science*, pages 232–242. Springer. (57/147)
- [70] Patricia Bouyer, Catherine Dufourd, Emmanuel Fleury, and Antoine Petit. Are timed automata updatable? *In Proceedings of the 12th International Conference on Computer Aided*

Verification (CAV'00), Chicago, Illinois, USA, July 2000, volume 1855 of *Lecture Notes in Computer Science*, pages 464–479. Springer. (35/91)

- [71] Patricia Bouyer and Antoine Petit. Decomposition and composition of timed automata. In *Proceedings of the 26th International Colloquium on Automata, Languages and Programming (ICALP'99)*, Prague, Czech Republic, July 1999, volume 1644 of *Lecture Notes in Computer Science*, pages 210–219. Springer. (56/126)
- [72] Luca Aceto, Patricia Bouyer, Augusto Burgueño, and Kim G. Larsen. The power of reachability testing for timed automata. In *Proceedings of the 18th Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS'98)*, Chennai, India, December 1998, volume 1530 of *Lecture Notes in Computer Science*, pages 245–256. Springer. (28/93)

Invited contributions, tutorials...

- [73] Patricia Bouyer. Model-checking timed temporal logics. In *Proceedings of the 4th Workshop on Methods for Modalities (M4M-5)*, Cachan, France, November 2007, volume 231 of *Electronic Notes in Theoretical Computer Science*, pages 323–341. Elsevier Science Publishers, March 2009.
- [74] Patricia Bouyer. Weighted timed automata: Model-checking and games. In *Proceedings of the 22nd Conference on Mathematical Foundations of Programming Semantics (MFPS XXII)*, Genova, Italy, May 2006, volume 158 of *Electronic Notes in Theoretical Computer Science*, pages 3–17. Elsevier Science Publishers. Invited paper.
- [75] Karine Altisen, Patricia Bouyer, Thierry Cachat, Franck Cassez, and Guillaume Gardey. Introduction au contrôle des systèmes temps-réel. In *Actes du 5ème Colloque sur la Modélisation des Systèmes Réactifs (MSR'05)*, Autrans, France, October 2005, pages 367–380. Hermès.
- [76] Patricia Bouyer, Fabrice Chevalier, Moez Krichen, and Stavros Tripakis. Observation partielle des systèmes temporisés. In *Actes du 5ème Colloque sur la Modélisation des Systèmes Réactifs (MSR'05)*, Autrans, France, October 2005, pages 381–393. Hermès.
- [77] Patricia Bouyer. Timed automata — From theory to implementation. Invited tutorial, 6th Winter School on Modelling and Verifying Parallel Processes (MOVEP'04), Brussels, Belgium, December 2004. 27 pages.

Other publications

- [78] Patricia Bouyer, Franck Cassez, Emmanuel Fleury, and Kim G. Larsen. Synthesis of optimal strategies using HyTech. *In Proceedings of the Workshop on Games in Design and Verification (GDV'04), Boston, Massachusetts, USA, July 2004*, volume 119(1) of *Electronic Notes in Theoretical Computer Science*, pages 11–31. Elsevier Science Publishers, February 2005. (5/8)
- [79] Béatrice Bérard, Patricia Bouyer, and Antoine Petit. Une analyse du protocole PGM avec UPPAAL. *In Actes du 4ème Colloque sur la Modélisation des Systèmes Réactifs (MSR'03), Metz, France, October 2003*, pages 415–430. Hermès. (29/57)
- [80] Béatrice Bérard, Patricia Bouyer, and Antoine Petit. Analysing the PGM protocol with UPPAAL. *In Proceedings of the 2nd Workshop on Real-Time Tools (RT-TOOLS'02), Copenhagen, Denmark, August 2002*. Uppsala University.

Theses

- [81] Patricia Bouyer. From qualitative to quantitative analysis of timed systems. Mémoire d'habilitation, Université Paris 7, Paris, France, January 2009.
- [82] Patricia Bouyer. Modèles et algorithmes pour la vérification des systèmes temporisés. Thèse de doctorat, Laboratoire Spécification et Vérification, ENS Cachan, France, April 2002.
- [83] Patricia Bouyer. *Automates temporisés et modularité*. Rapport de DEA, DEA Algorithmique, Paris, France, June 1998.