

List of publications

ERC Project EQualIS

August 20, 2019

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<http://www.lsv.fr/~bouyer/equalis/publis.php>

Tags like (T1) refer to tasks in the description of the project.

Articles in international journals

- [1] Patrick Gardy, Patricia Bouyer, and Nicolas Markey. Dependences in strategy logic. *Theory of Computing Systems*, 2019. (T1), to appear.
- [2] Nathalie Bertrand, Serge Haddad, and Engel Lefaucheu. A Tale of Two Diagnoses in Probabilistic Systems. *Information and Computation*, 2018. To appear. (T3).
- [3] Adrien Le Coënt, Laurent Fribourg, Nicolas Markey, Florian De Vuyst, and Ludovic Chamoin. Compositional synthesis of state-dependent switching control. *Theoretical Computer Science*, 750:53–68, 2018. (T4, T5).
- [4] Nathalie Bertrand, Patricia Bouyer, Thomas Brihaye, and Pierre Carrier. When are stochastic transition systems tameable? *Journal of Logic and Algebraic Methods in Programming*, 99:41–96, October 2018. (T3).
- [5] Serge Haddad. Memoryless determinacy of finite parity games: Another simple proof. *Information Processing Letters*, 132:19–21, April 2018. (T3).
- [6] Michael Blondin, Alain Finkel, Christoph Haase, and Serge Haddad. The logical view on continuous Petri nets. *ACM Transactions on Computational Logic*, 18(3):24:1–24:28, 2017. (T3).
- [7] Patricia Bouyer, Nicolas Markey, Nicolas Perrin, and Philipp Schlehuber-Caissier. Timed automata abstraction of switched dynamical systems using control funnels. *Real-Time Systems*, 53(3):327–353, 2017. (T3, T5).
- [8] Patricia Bouyer, Nicolas Markey, and Steen Vester. Nash equilibria in symmetric graph games with partial observation. *Information and Computation*, 254(2):238–258, June 2017. (T1, T4).
- [9] Patricia Bouyer, Nicolas Markey, Mickael Randour, Kim G. Larsen, and Simon Laursen. Average-energy games. *Acta Informatica*, pages 1–37, July 2016. (T3).
- [10] Patricia Bouyer, Patrick Gardy, and Nicolas Markey. On the semantics of strategy logic. *Information Processing Letters*, 116(2):75–79, February 2016. (T1).
- [11] François Laroussinie and Nicolas Markey. Augmenting ATL with strategy contexts. *Information and Computation*, 245:98–123, December 2015. (T1).
- [12] Patricia Bouyer, Romain Brenguier, Nicolas Markey, and Michael Ummels. Pure Nash equilibria in concurrent games. *Logical Methods in Computer Science*, 11(2:9), June 2015. (T1).

- [13] Patricia Bouyer, Nicolas Markey, and Ocan Sankur. Robust reachability in timed automata and games: A game-based approach. *Theoretical Computer Science*, 563:43–74, January 2015. (T2).
- [14] Nathalie Bertrand, Patricia Bouyer, Thomas Brihaye, Quentin Menet, Christel Baier, Marcus Größer, and Marcin Jurdziński. Stochastic timed automata. *Logical Methods in Computer Science*, 10(4:6), December 2014. (T3).
- [15] François Laroussinie and Nicolas Markey. Quantified CTL: Expressiveness and complexity. *Logical Methods in Computer Science*, 10(4:17), December 2014. (T1).
- [16] Patricia Bouyer, Kim G. Larsen, and Nicolas Markey. Lower-bound constrained runs in weighted timed automata. *Performance Evaluation*, 73:91–109, March 2014. (T3).
- [17] Ocan Sankur, Patricia Bouyer, and Nicolas Markey. Shrinking timed automata. *Information and Computation*, 234:107–132, February 2014. (T2).

Articles in proceedings of international conferences

- [18] Nathalie Bertrand, Patricia Bouyer, and Anirban Majumdar. Reconfiguration and messages losses in parameterized broadcast protocols. In *Proceedings of the 30th International Conference on Concurrency Theory (CONCUR'19), Amsterdam, The Netherlands, August 2019*, Leibniz International Proceedings in Informatics. Leibniz-Zentrum für Informatik. (T4), to appear.
- [19] Patricia Bouyer, Orna Kupferman, Nicolas Markey, Bastien Maubert, Aniello Murano, and Giuseppe Perelli. Reasoning about quality and fuzziness of strategic behaviours. In *Proceedings of the 28th International Joint Conference on Artificial Intelligence (IJCAI'19), Shanghai, China, August 2019*. ijcai.org. (T1, T3).
- [20] Patricia Bouyer and Nathan Thomasset. Nash equilibria in games over graphs equipped with a communication mechanism. In *Proceedings of the 44th International Symposium on Mathematical Foundations of Computer Science (MFCS'19), Aachen, Germany, August 2019*, Leibniz International Proceedings in Informatics. Leibniz-Zentrum für Informatik. (T4), to appear.
- [21] Victor Roussanaly, Ocan Sankur, and Nicolas Markey. Abstraction refinement algorithms for timed automata. In *Proceedings of the 31st International Conference on Computer Aided Verification (CAV'19)*, volume 11561 of *Lecture Notes in Computer Science*, pages 22–40. Springer, July 2019. (T5).
- [22] Alain Finkel, Serge Haddad, and Igor Khmelnitsky. Coverability and termination in recursive Petri nets. In *Proceedings of the 40th International Conference on Application and Theory of Petri Nets and Concurrency (PETRI NETS'19), Aachen, Germany, June 2019*, volume 11522 of *Lecture Notes in Computer Science*, pages 429–448. Springer.
- [23] Benedikt Bollig, Patricia Bouyer, and Fabian Reiter. Identifiers in registers – describing network algorithms with logic. In *Proceedings of the 22nd International Conference on Foundations of Software Science and Computation Structures (FoSSaCS'19), Prague, Czech Republic, April 2019*, volume 11425 of *Lecture Notes in Computer Science*, pages 115–132. Springer. (T4).
- [24] A. R. Balasubramanian, Nathalie Bertrand, and Nicolas Markey. Parameterized verification of synchronization in constrained reconfigurable broadcast networks. In *Proceedings of the 24th International Conference on Tools and Algorithms for Construction and Analysis of Systems (TACAS'18) – Part II*, volume 10806 of *Lecture Notes in Computer Science*, pages 38–54. Springer, April 2018. (T4).

- [25] Olivier Carton, Bruno Guillon, and Fabian Reiter. Counter machines and distributed automata. *In Proceedings of the 24th IFIP WG 1.5 International Workshop on Cellular Automata and Discrete Complex Systems (AUTOMATA'18)*, volume 10875 of *Lecture Notes in Computer Science*, pages 13–28. Springer, 2018. (T4).
- [26] Patricia Bouyer, Samy Jaziri, and Nicolas Markey. Efficient timed diagnosis using automata with timed domains. *In Proceedings of the 18th International Conference on Runtime Verification (RV'18)*, Limassol, Cyprus, November 2018, volume 11237 of *Lecture Notes in Computer Science*, pages 205–221. (T3).
- [27] Béatrice Bérard, Patricia Bouyer, and Vincent Jugé. Finite bisimulations for dynamical systems with overlapping trajectories. *In Proceedings of the 27th Annual EACSL Conference on Computer Science Logic (CSL'18)*, Birmingham, UK, September 2018, volume 119 of *Leibniz International Proceedings in Informatics*, pages 26:1–26:17. Leibniz-Zentrum für Informatik. (T3).
- [28] Patricia Bouyer, Mauricio González, Nicolas Markey, and Mickael Randour. Multi-weighted Markov decision processes with reachability objectives. *In Proceedings of the 9th International Symposium on Games, Automata, Logics, and Formal Verification (GandALF'18)*, Saarbrücken, Germany, September 2018, volume 277 of *Electronic Proceedings in Theoretical Computer Science*, pages 250–264. (T3, T5).
- [29] Giovanni Bacci, Patricia Bouyer, Uli Fahrenberg, Kim G. Larsen, Nicolas Markey, and Pierre-Alain Reynier. Optimal and robust controller synthesis using energy timed automata with uncertainty. *In Proceedings of the 22nd International Symposium on Formal Methods (FM'18)*, Oxford, UK, July 2018, volume 10951 of *Lecture Notes in Computer Science*, pages 203–221. Springer. **Best paper award**, (T3, T5).
- [30] Benoît Barbot, Béatrice Bérard, Yann Duploux, and Serge Haddad. Integrating Simulink Models into the Model Checker Cosmos. *In Proceedings of the 39th International Conference on Applications and Theory of Petri Nets (PETRI NETS'18)*, Bratislava, Slovakia, June 2018, volume 10877 of *Lecture Notes in Computer Science*, pages 363–373. Springer. (T3, T5).
- [31] Patricia Bouyer. Games on graphs with a public signal monitoring. *In Proceedings of the 21st International Conference on Foundations of Software Science and Computation Structures (FoSSaCS'18)*, Thessaloniki, Greece, April 2018, volume 10803 of *Lecture Notes in Computer Science*, pages 530–547. Springer. (T1).
- [32] Patrick Gardy, Patricia Bouyer, and Nicolas Markey. Dependences in strategy logic. *In Proceedings of the 35th Annual Symposium on Theoretical Aspects of Computer Science (STACS'18)*, Caen, France, February 2018, volume 96 of *Leibniz International Proceedings in Informatics*, pages 34:1–34:15. Leibniz-Zentrum für Informatik. (T1).
- [33] Béatrice Bérard, Serge Haddad, and Engel Lefauchaux. Probabilistic disclosure: Maximisation vs. minimisation. *In Proceedings of the 37th Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS'17)*, Kanpur, India, December 2017, volume 93 of *Leibniz International Proceedings in Informatics*, pages 13:1–13:14. Leibniz-Zentrum für Informatik. (T3).
- [34] Patricia Bouyer, Serge Haddad, and Vincent Jugé. Unbounded product-form Petri nets. *In Proceedings of the 28th International Conference on Concurrency Theory (CONCUR'17)*, Berlin, Germany, September 2017, volume 85 of *Leibniz International Proceedings in Informatics*, pages 31:1–31:16. Leibniz-Zentrum für Informatik. (T3).
- [35] Patricia Bouyer, Samy Jaziri, and Nicolas Markey. On the determinization of timed systems. *In Proceedings of the 15th International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS'17)*, Berlin, Germany, September 2017, volume 10419, pages 25–41. Springer. (T3).

- [36] Patricia Bouyer, Piotr Hofman, Nicolas Markey, Mickael Randour, and Martin Zimmermann. Bounding average-energy games. *In Proceedings of the 20th International Conference on Foundations of Software Science and Computation Structures (FoSSaCS'17)*, Lecture Notes in Computer Science, pages 179–195. Springer, April 2017. (T3).
- [37] Patricia Bouyer and Vincent Jugé. Dynamic complexity of the dyck reachability. *In Proceedings of the 20th International Conference on Foundations of Software Science and Computation Structures (FoSSaCS'17)*, Lecture Notes in Computer Science, pages 265–280. Springer, April 2017. (T3).
- [38] Patricia Bouyer, Nicolas Markey, and Daniel Stan. Stochastic equilibria under imprecise deviations in terminal-reward concurrent games. *In Proceedings of the 7th International Symposium on Games, Automata, Logics, and Formal Verification (GandALF'16)*, volume 226 of *Electronic Proceedings in Theoretical Computer Science*, pages 61–75. September 2016. (T1, T2).
- [39] S. Akshay, Patricia Bouyer, Shankara Narayanan Krishna, Lakshmi Manasa, and Ashutosh Trivedi. Stochastic timed games revisited. *In Proceedings of the 41st International Symposium on Mathematical Foundations of Computer Science (MFCS'16)*, volume 58 of *Leibniz International Proceedings in Informatics*, pages 8:1–8:14. Leibniz-Zentrum für Informatik, August 2016. (T3).
- [40] Nathalie Bertrand, Serge Haddad, and Engel Lefauchaux. Diagnosis in infinite-state probabilistic systems. *In Proceedings of the 27th International Conference on Concurrency Theory (CONCUR'16)*, volume 59 of *Leibniz International Proceedings in Informatics*, pages 37:1–37:15. Leibniz-Zentrum für Informatik, August 2016. (T3).
- [41] Amélie David, François Laroussinie, and Nicolas Markey. On the expressiveness of QCTL. *In Proceedings of the 27th International Conference on Concurrency Theory (CONCUR'16)*, volume 59 of *Leibniz International Proceedings in Informatics*, pages 28:1–28:15. Leibniz-Zentrum für Informatik, August 2016. (T1).
- [42] Nathalie Bertrand, Patricia Bouyer, Thomas Brihaye, and Pierre Carlier. Analysing decisive stochastic processes. *In Proceedings of the 43rd International Colloquium on Automata, Languages and Programming (ICALP'16) – Part II*, volume 55 of *Leibniz International Proceedings in Informatics*, pages 101:1–101:14. Leibniz-Zentrum für Informatik, July 2016. (T3).
- [43] Patricia Bouyer, Maximilien Colange, and Nicolas Markey. Symbolic optimal reachability in weighted timed automata. *In Proceedings of the 28th International Conference on Computer Aided Verification (CAV'16) – Part I*, volume 9779 of *Lecture Notes in Computer Science*, pages 513–530. Springer, July 2016. (T3, T5).
- [44] Patricia Bouyer, Nicolas Markey, Mickael Randour, Arnaud Sangnier, and Daniel Stan. Reachability in networks of register protocols under stochastic schedulers. *In Proceedings of the 43rd International Colloquium on Automata, Languages and Programming (ICALP'16) – Part II*, volume 55 of *Leibniz International Proceedings in Informatics*, pages 106:1–106:14. Leibniz-Zentrum für Informatik, July 2016. (T4).
- [45] Patricia Bouyer, Thomas Brihaye, Pierre Carlier, and Quentin Menet. Compositional design of stochastic timed automata. *In Proceedings of the 11th International Computer Science Symposium in Russia (CSR'16)*, volume 9691 of *Lecture Notes in Computer Science*, pages 117–130. Springer, June 2016. (T4).
- [46] Michael Blondin, Alain Finkel, Christoph Haase, and Serge Haddad. Approaching the coverability problem continuously. *In Proceedings of the 22th International Conference on Tools and Algorithms for Construction and Analysis of Systems (TACAS'16)*, volume 9636 of *Lecture Notes in Computer Science*, pages 480–496. Springer, April 2016. (T3).

- [47] Nathalie Bertrand, Serge Haddad, and Engel Lefaucheu. Accurate approximate diagnosability of stochastic systems. In *Proceedings of the 10th International Conference on Language and Automata Theory and Applications (LATA'16)*, volume 9618 of *Lecture Notes in Computer Science*, pages 549–561. Springer, March 2016. (T3).
- [48] Patricia Bouyer, Patrick Gardy, and Nicolas Markey. Weighted strategy logic with boolean goals over one-counter games. In *Proceedings of the 35th Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS'15)*, volume 45 of *Leibniz International Proceedings in Informatics*, pages 69–83. Leibniz-Zentrum für Informatik, December 2015. (T1, T3).
- [49] Étienne André and Nicolas Markey. Language preservation problems in parametric timed automata. In *Proceedings of the 13th International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS'15)*, volume 9268 of *Lecture Notes in Computer Science*, pages 27–43. Springer, September 2015. (T2).
- [50] Patricia Bouyer, Samy Jaziri, and Nicolas Markey. On the value problem in weighted timed games. In *Proceedings of the 26th International Conference on Concurrency Theory (CONCUR'15)*, volume 42 of *Leibniz International Proceedings in Informatics*, pages 311–324. Leibniz-Zentrum für Informatik, September 2015. (T3).
- [51] Patricia Bouyer, Nicolas Markey, Nicolas Perrin, and Philipp Schlehüser. Timed automata abstraction of switched dynamical systems using control funnels. In *Proceedings of the 13th International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS'15)*, volume 9268 of *Lecture Notes in Computer Science*, pages 60–75. Springer, September 2015. (T3, T5).
- [52] Patricia Bouyer, Nicolas Markey, Mickael Randour, Kim G. Larsen, and Simon Laursen. Average-energy games. In *Proceedings of the 6th International Symposium on Games, Automata, Logics, and Formal Verification (GandALF'15)*, volume 193 of *Electronic Proceedings in Theoretical Computer Science*, pages 1–15. September 2015. (T3).
- [53] François Laroussinie, Nicolas Markey, and Arnaud Sangnier. ATLsc with partial observation. In *Proceedings of the 6th International Symposium on Games, Automata, Logics, and Formal Verification (GandALF'15)*, volume 193 of *Electronic Proceedings in Theoretical Computer Science*, pages 43–57. September 2015. (T1).
- [54] Patricia Bouyer, Nicolas Markey, and Daniel Stan. Mixed Nash equilibria in concurrent games. In *Proceedings of the 34th Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS'14)*, volume 29 of *Leibniz International Proceedings in Informatics*, pages 351–363. Leibniz-Zentrum für Informatik, December 2014. (T1).
- [55] Laurent Doyen, Line Juhl, Kim G. Larsen, Nicolas Markey, and Mahsa Shirmohammadi. Synchronizing words for weighted and timed automata. In *Proceedings of the 34th Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS'14)*, volume 29 of *Leibniz International Proceedings in Informatics*, pages 121–132. Leibniz-Zentrum für Informatik, December 2014. (T3).
- [56] Patricia Bouyer, Patrick Gardy, and Nicolas Markey. Quantitative verification of weighted Kripke structures. In *Proceedings of the 12th International Symposium on Automated Technology for Verification and Analysis (ATVA'14)*, volume 8837 of *Lecture Notes in Computer Science*, pages 64–80. Springer, November 2014. (T3).
- [57] Nicolas Markey and Steen Vester. Symmetry reduction in infinite games with finite branching. In *Proceedings of the 12th International Symposium on Automated Technology for Verification and Analysis (ATVA'14)*, volume 8837 of *Lecture Notes in Computer Science*, pages 281–296. Springer, November 2014. (T4).

- [58] Patricia Bouyer, Nicolas Markey, and Raj Mohan Matteplackel. Averaging in LTL. *In Proceedings of the 25th International Conference on Concurrency Theory (CONCUR'14)*, volume 8704 of *Lecture Notes in Computer Science*, pages 266–280. Springer, September 2014. (T3).
- [59] Patricia Bouyer, Nicolas Markey, and Steen Vester. Nash equilibria in symmetric games with partial observation. *In Proceedings of the 2nd International Workshop on Strategic Reasoning (SR'14)*, volume 146 of *Electronic Proceedings in Theoretical Computer Science*, pages 49–55. April 2014. (T1, T4).
- [60] Patricia Bouyer, Nicolas Markey, and Ocan Sankur. Robust weighted timed automata and games. *In Proceedings of the 11th International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS'13)*, volume 8053 of *Lecture Notes in Computer Science*, pages 31–46. Springer, August 2013. (T2, T3).
- [61] Franccois Laroussinie and Nicolas Markey. Satisfiability of ATL with strategy contexts. *In Proceedings of the 4th International Symposium on Games, Automata, Logics, and Formal Verification (GandALF'13)*, volume 119 of *Electronic Proceedings in Theoretical Computer Science*, pages 208–223. August 2013. (T1).
- [62] Ocan Sankur, Patricia Bouyer, Nicolas Markey, and Pierre-Alain Reynier. Robust controller synthesis in timed automata. *In Proceedings of the 24th International Conference on Concurrency Theory (CONCUR'13)*, volume 8052 of *Lecture Notes in Computer Science*, pages 546–560. Springer, August 2013. (T2).

Invited contributions, tutorials...

- [63] Patricia Bouyer. A note on game theory and verification. *In Proceedings of the 17th International Symposium on Automated Technology for Verification and Analysis (ATVA'19)*, *Lecture Notes in Computer Science*. Springer, October 2019. (T1).
- [64] Patricia Bouyer. On the computation of nash equilibria in games on graphs. *In Proceedings of the 26th International Symposium on Temporal Representation and Reasoning (TIME'19)*, *Leibniz International Proceedings in Informatics*. Leibniz-Zentrum für Informatik, October 2019. taskT1.
- [65] Nicolas Markey. Temporal logics for multi-agent systems (invited talk). *In Proceedings of the 42th International Symposium on Mathematical Foundations of Computer Science (MFCS'17)*, volume 84 of *Leibniz International Proceedings in Informatics*, pages 84:1–84:3. Leibniz-Zentrum für Informatik, August 2017. (T1).
- [66] Patricia Bouyer. Optimal reachability in weighted timed automata and games. *In Proceedings of the 41st International Symposium on Mathematical Foundations of Computer Science (MFCS'16)*, volume 58 of *Leibniz International Proceedings in Informatics*, pages 3:1–3:3. Leibniz-Zentrum für Informatik, August 2016. (T3).
- [67] Patricia Bouyer. On the optimal reachability problem in weighted timed automata and games. *In Proceedings of the 7th Workshop on Non-Classical Models of Automata and Applications (NCMA'15)*, volume 318 of *books@ocg.at*, pages 11–36. Austrian Computer Society, August 2015. (T3).
- [68] Patricia Bouyer, Nicolas Markey, and Ocan Sankur. Robustness in timed automata. *In Proceedings of the 7th Workshop on Reachability Problems in Computational Models (RP'13)*, volume 8169 of *Lecture Notes in Computer Science*, pages 1–18. Springer, September 2013. (T2).

Other publications

- [69] Mauricio González, Patricia Bouyer, Samson Lasaulce, and Nicolas Markey. Optimisation en présence de contraintes en probabilité et processus markoviens contrôlés. *In Actes du XXVIIème colloque GRETSI, Juan-les-Pins, France, August 2019.* (T5).
- [70] Nathalie Bertrand, Serge Haddad, and Engel Lefaucheu. Diagnostic et contrôle de la dégradation des systèmes probabilistes. *In Actes du 11ème Colloque sur la Modélisation des Systèmes Réactifs (MSR'17), Marseille, France, November 2017.* HAL. (T3).
- [71] Mauricio González, Olivier Beaude, Patricia Bouyer, Samson Lasaulce, and Nicolas Markey. Stratégies d'ordonnancement de consommation d'énergie en présence d'information imparfaite de prévision. *In Actes du XXVIème colloque GRETSI, Juan-les-Pins, France, September 2017.* (T5).
- [72] Patricia Bouyer, Erwin Fang, and Nicolas Markey. Permissive strategies in timed automata and games. *In Proceedings of the 15th International Workshop on Automated Verification of Critical Systems (AVoCS'15)*, volume 72 of *Electronic Communications of the EASST*. European Association of Software Science and Technology, September 2015. (T4).

Theses

- [73] Pierre Carlier. Verification of stochastic timed automata. PhD thesis, Université Paris-Saclay, France and Université de Mons, Belgique, December 2017. (T3, T4).
- [74] Patrick Gardy. Semantics of strategy logic. PhD thesis, Université Paris-Saclay, France, June 2017. (T1).

Technical reports and submitted papers

- [75] Étienne André, Didier Lime, and Nicolas Markey. Language preservation problems in parametric timed automata. Submitted, (T3), 2019.
- [76] Nathalie Bertrand, Patricia Bouyer, and Anirban Majumdar. Concurrent parameterized games. Submitted, (T1), 2019.
- [77] Mauricio González. No title yet (soon submitted). Soon submitted PhD thesis, (T5), 2019.
- [78] Samy Jaziri. Automata on timed structures. Submitted PhD thesis, (T3), 2019.
- [79] Benoît Barbot, Marco Beccuti, Giuliana Franceschinis, Serge Haddad, and Claudine Picaronny. Bounds computation for symmetric nets. Research Report hal-01726011, HAL-Inria, March 2018. (T3).
- [80] Patricia Bouyer, Nicolas Markey, and Vincent Jugé. Courcelle's theorem made dynamic. Research Report 1702.05183, Computing Research Repository, February 2017. 14 pages, (T3).
- [81] Patricia Bouyer, Nicolas Markey, and Vincent Jugé. Dynamic complexity of parity games with bounded tree-width. Research Report 1610.00571, Computing Research Repository, October 2016. 33 pages, (T3).