

GIUSEPPE PERELLI

Research Associate

Sapienza University of Rome

CURRENT POSITIONS AND QUALIFICATIONS

Research Associate <i>Sapienza University of Rome</i>	01/01/2020 – Present <i>Department of Computer, Control, and Management Engineering</i>
National Scientific Qualification <i>Associate Professorship</i>	23/11/2020 – 23/11/2029 <i>Field: Computer Science – INF/01</i>
National Scientific Qualification <i>Associate Professorship</i>	11/05/2021 – 11/05/2030 <i>Field: Mathematical Logic – MAT/01</i>

FORMER POSITIONS

Postdoktor <i>Chalmers / University of Göteborg</i>	01/06/2019 – 31/12/2019 <i>Department of Computer Science and Engineering</i>
Research Associate <i>University of Leicester</i>	01/07/2018 – 31/05/2019 <i>Department of Informatics</i>
Research Assistant <i>University of Oxford</i>	15/04/2015 – 31/05/2018 <i>Department of Computer Science</i>
Visiting Research Scholar <i>Rice University</i>	22/08/2013 – 31/03/2014 <i>Host Prof. Moshe Vardi – Department of Computer Science</i>

EDUCATION

Ph.D. in Computer Science <i>University of Naples 'Federico II'</i> <i>Thesis title: Logics for Multi-Agent Systems Verification.</i>	01/03/2012 – 28/02/2015 <i>Supervisor: Prof. Aniello Murano</i>
MS in Mathematics <i>University of Naples 'Federico II'</i>	27/10/2011 <i>Final mark: 110/110 cum laude</i>
BS in Mathematics <i>University of Naples 'Federico II'</i>	17/12/2008 <i>Final Mark: 107/110</i>

PROJECTS PARTICIPATION

WhiteMech: White-Box Self-Programming Mechanisms <i>ERC Advanced Grant (Agreement n. 834228)</i>	01/01/2020 – Present <i>P.I.: Prof. Giuseppe De Giacomo</i>
dSynMA: Distributed Synthesis from Single to Multiple Agents <i>ERC Consolidator Grant (Agreement n. 772459)</i>	02/07/2018 – 31/12/2019 <i>P.I.: Prof. Nir Piterman</i>

RACE: Reasoning About Computational Economies
 ERC Advanced Grant (Agreement n. 291528)

15/04/2015 – 31/05/2018
 P.I.: **Prof. Michael Wooldridge**

AWARDS, SCHOLARSHIPS, AND FELLOWSHIPS

AILA Award	25/05/2012
<i>Best MS Theses in Logics of 2012</i>	<i>Italian Association of Logics for Applications</i>
Ph.D. Scholarship	06/02/2012
<i>First place in the final rank selection</i>	<i>University of Naples 'Federico II'</i>

AFFILIATIONS

AILA	01/01/2013 – Present
<i>Member</i>	<i>Italian Association for Logic and its Applications</i>
GNCS	01/01/2013 – Present
<i>Member</i>	<i>Italian Association for Scientific Calculus</i>

TEACHING

Formal Methods	2020 – 2021
<i>T.A.</i>	<i>Computer Engineering (Graduate) – Sapienza University of Rome</i>
Reasoning Agents	2020 – 2021
<i>Tutor</i>	<i>Computer Engineering (Graduate) – Sapienza University of Rome</i>
Doctoral Consortium	2020
<i>Mentor</i>	<i>AAMAS 2020</i>
Game Theory and Formal Methods	2018 – 2019
<i>Lecturer</i>	<i>Short Ph.D. Course – University of Leicester</i>
Computer-Aided Formal Verification	2017 – 2018
<i>Tutor</i>	<i>Computer Science (Undergraduate and Graduate) – University of Oxford</i>
Computational Complexity	2016 – 2017
<i>Tutor</i>	<i>Computer Science (Undergraduate and Graduate) – University of Oxford</i>
Computer-Aided Formal Verification	2016 – 2017
<i>Tutor</i>	<i>Computer Science (Undergraduate and Graduate) – University of Oxford</i>

SUPERVISED STUDENTS

Senthil Rajasekaran	University of Oxford
<i>MSc Mathematics and Foundations of Computer Science.</i>	<i>Dissertation date: 01/09/2017</i>
<i>Co-Supervisors: Prof. Michael Wooldridge and Dr. Julian Gutierrez.</i>	

INVITED TALKS

From Synthesis to Rational Synthesis: a Game-Theoretic Approach	10/04/2019
<i>Seminar Talk</i>	<i>Imperial College London</i>
From Synthesis to Rational Synthesis: a Game-Theoretic Approach	29/03/2018

<i>Seminar Talk</i>	<i>University of Naples 'Federico II'</i>
Logics for Multi-Agent System Verification	15/12/2015
<i>Seminar Talk</i>	<i>Imperial College London</i>
Strategy Logic: a Powerful Formalism for Game-Theoretic Issues	24/11/2014
<i>Seminar Talk</i>	<i>University of California Santa Cruz</i>
Le Logiche Temporal e di Strategia nell'Ambito della Verifica Formale	5/04/2013
<i>Seminar Talk</i>	2013 SeLP Meeting
Strategy Logic Fragments	23/11/2012
<i>Seminar Talk</i>	<i>Sapienza University of Rome</i>

ORGANIZATION OF SCIENTIFIC MEETINGS

Chair: LAMAS&SR-21, RADICAL-19.

Senior Program committee member: IJCAI-21.

Program committee member: AAI-22 AAMAS-22 AAI-21, AAMAS-21 IJCAI-PRICAI-20, EUMAS-20, AAMAS-20, ECAI, IJCAI-19, AAMAS-19, EUMAS-18, IJCAI-ECAI-18, AAMAS-18, AAI-18, EUMAS-17, SR-17, CILC-17, IJCAI-17, IJCAI-16, AAMAS-16.

Organizing committee member: SR-15, SR-13, GAMES-12.

REVIEWING

Logical Methods in Computer Science (ISSN: 18605974). Artificial Intelligence Journal (ISSN: 00043702). ACM Transaction on Computational Logic (ISSN: 15293785), Information and Computation (ISSN: 0890-5401). Special Issue of Strategic Reasoning on Information and Computation (ISSN: 0890-5401). Journal on Artificial Intelligence Research (ISSN: 10769757).

REFERENCES

Prof. Giuseppe De Giacomo degiamco@diag.uniroma1.it	Sapienza University of Rome
Prof. Aniello Murano aniello.murano@unina.it	University of Naples 'Federico II'
Prof. Nir Piterman piterman@chalmers.se	University of Göteborg
Prof. Moshe Vardi vardi@cs.rice.edu	Rice University
Prof. Michael Wooldridge mjw@cs.ox.ac.uk	University of Oxford

PUBLICATIONS

Journals

13. Alessandro Abate, Julian Gutierrez, Lewis Hammond, Paul Harrenstein, Marta Kwiatkowska, Muhammad Najib, Giuseppe Perelli, Thomas Steeples, and Michael Wooldridge. Rational verification: Game-Theoretic Verification of Multi-Agent Systems. 2021. doi: [10.1007/s10489-021-02658-y](https://doi.org/10.1007/s10489-021-02658-y).
12. Julian Gutierrez, Paul Harrenstein, Giuseppe Perelli, and Michael Wooldridge. Expressiveness and Nash Equilibrium in Iterated Boolean Games. In *ACM Transaction on Computational Logic*, volume 22. 2021. doi: [10.1145/3439900](https://doi.org/10.1145/3439900).
11. Julian Gutierrez, Giuseppe Perelli, and Michael Wooldridge. Multi-player Games with LDL Goals over Finite Traces. In *Information and Computation*. 2021. doi: [10.1016/j.ic.2020.104555](https://doi.org/10.1016/j.ic.2020.104555).
10. Laura Bozzelli, Aniello Murano, Giuseppe Perelli, and Loredana Sorrentino. Hierarchical Cost-Parity Games. In *Theoretical Computer Science*. 2020. doi: [10.1016/j.tcs.2020.10.002](https://doi.org/10.1016/j.tcs.2020.10.002).
9. Julian Gutierrez, Muhammad Najib, Giuseppe Perelli, and Michael Wooldridge. Automated Temporal Equilibrium Analysis: Verification and Synthesis of Multi-Player Games. In *Artificial Intelligence*. 2020. doi: [10.1016/j.artint.2020.103353](https://doi.org/10.1016/j.artint.2020.103353).
8. Julian Gutierrez, Aniello Murano, Giuseppe Perelli, Sasha Rubin, Thomas Steeples, and Michael Wooldridge. Equilibria for Games with Combined Qualitative and Quantitative Objectives. In *ACTA Informatica*. 2020. doi: [0.1007/s00236-020-00385-4](https://doi.org/10.1007/s00236-020-00385-4).
7. Julian Gutierrez, Paul Harrenstein, Giuseppe Perelli, and Michael Wooldridge. Nash Equilibrium and Bisimulation Invariance. In *Logical Methods in Computer Science*, volume 15, issue 3. 2019. doi: [10.23638/LMCS-15\(3:32\)2019](https://doi.org/10.23638/LMCS-15(3:32)2019).
6. Gaëlle Fontaine, Fabio Mogavero, Aniello Murano, Giuseppe Perelli, and Loredana Sorrentino. Cycle Detection in Computation Tree Logic. In *Information and Computation*, volume 262, pages 265–279. 2018. doi: [10.1016/j.ic.2018.09.007](https://doi.org/10.1016/j.ic.2018.09.007).
5. Julian Gutierrez, Giuseppe Perelli, and Michael Wooldridge. Imperfect Information in Reactive Modules Games. In *Information and Computation*, volume 261, pages 650–675. 2018. doi: [10.1016/j.ic.2018.02.023](https://doi.org/10.1016/j.ic.2018.02.023).
4. Fabio Mogavero, Aniello Murano, Giuseppe Perelli, and Moshe Vardi. Reasoning about Strategies: On the Satisfiability Problem. In *Logical Methods in Computer Science*, volume 13, issue 1. 2017. doi: [10.23638/LMCS-13\(1:9\)2017](https://doi.org/10.23638/LMCS-13(1:9)2017).
3. Alberto Molinari, Angelo Montanari, Aniello Murano, Giuseppe Perelli, and Adriano Peron. Checking Interval Properties of Computations. In *ACTA Informatica*, pages 1–33. Springer Berlin Heidelberg, 2016. doi: [10.1007/s00236-015-0250-1](https://doi.org/10.1007/s00236-015-0250-1).
2. Orna Kupferman, Giuseppe Perelli, and Moshe Vardi. Synthesis with Rational Environments. In *Annals of Mathematics and Artificial Intelligence*, volume 8953 of *Lecture Notes in Computer Science*, pages 219–235. Springer International Publishing, 2016. doi: [10.1007/978-3-319-17130-2_15](https://doi.org/10.1007/978-3-319-17130-2_15).
1. Fabio Mogavero, Aniello Murano, Giuseppe Perelli, and Moshe Vardi. Reasoning about Strategies: On the Model-Checking Problem. In *ACM Transaction on Computational Logic*, volume 15(4), pages 34:1–34:47. ACM Association for Computing Machinery, 2014. doi: [10.1145/2631917](https://doi.org/10.1145/2631917).

Conferences

26. Giuseppe De Giacomo, Antonio Di Stasio, Giuseppe Perelli, and Shufang Zhu. Synthesis with Mandatory Stop Actions. In *KR 2021 - 18th International Conference on Principles of Knowledge Representation and Reasoning*, 2021. To appear.
25. Giuseppe De Giacomo, Aniello Murano, Fabio Patrizi, and Giuseppe Perelli. Timed Trace Alignment with Metric Temporal Logic over Finite Traces. In *KR 2021 - 18th International Conference on Principles of Knowledge Representation and Reasoning*, 2021. To appear.
24. Giuseppe De Giacomo, Paolo Felli, Marco Montali, and Giuseppe Perelli. HyperLDLf: a Logic for Checking Properties of Finite Traces Process Logs. In *IJCAI 2021 - 30th International Joint Conference on Artificial Intelligence*, pages 1859–1865, 2021.
23. Patricia Bouyer, Orna Kupferman, Nicolas Markey, Bastien Maubert, Aniello Murano, and Giuseppe Perelli. Reasoning About Quality and Fuzziness of Strategic Behaviours. In *ECAI 2020 - 24th European Conference on Artificial Intelligence, Santiago de Compostela, Spain, August 29 - September 8, 2020*, volume 325 of *Frontiers in Artificial Intelligence and Applications*, pages 2887–2888, 2020.
22. Yehia Abd Alrahman, Giuseppe Perelli, and Nir Piterman. Reconfigurable Interaction for MAS Modelling. In *AAMAS 2020 - 19th International Conference on Autonomous Agents and MultiAgent Systems, Auckland, New Zealand, May 09-13, 2020*, pages 7–15.
21. Julian Gutierrez, Muhammad Najib, Giuseppe Perelli, and Michael Wooldridge. Equilibrium design for concurrent games. In *CONCUR 2019 - 30th International Conference on Concurrency Theory, Amsterdam, the Netherlands, August 27-30, 2019*, pages 22:1–22:16, 2019.
20. Julian Gutierrez, Muhammad Najib, Giuseppe Perelli, and Michael Wooldridge. On Computational Tractability for Rational Verification. In *IJCAI 2019 - 28th International Joint Conference on Artificial Intelligence, Macao, China, August 10-16, 2019*, pages 329–335, 2019.
19. Patricia Bouyer, Orna Kupferman, Nicolas Markey, Bastien Maubert, Aniello Murano, and Giuseppe Perelli. Reasoning about Quality and Fuzziness of Strategic Behaviours. In *IJCAI 2019 - 28th International Joint Conference on Artificial Intelligence, Macao, China, August 10-16, 2019*, pages 1588–1594, 2019.
18. Giuseppe Perelli. Enforcing Equilibria in Multi-Agent Systems. In *AAMAS 2019 - 18th International Conference on Autonomous Agents and MultiAgent Systems, Montreal, QC, Canada, May 13-17, 2019*, pages 188–196, 2019.
17. Julian Gutierrez, Muhammad Najib, Giuseppe Perelli, and Michael Wooldridge. EVE: A Tool for Temporal Equilibrium Analysis. In *ATVA 2018 - 16th International Symposium on Automated Technology for Verification and Analysis, Los Angeles, CA, USA, October 7-10, 2018*, pages 551–557, 2018.
16. Shaull Almagor, Orna Kupferman, and Giuseppe Perelli. Synthesis of Controllable Nash Equilibria in Games with Quantitative Objectives. In *IJCAI 2018 - 27th International Joint Conference on Artificial Intelligence, July 13-19, 2018, Stockholm, Sweden.*, pages 35–41, 2018.
15. Laura Bozzelli, Aniello Murano, Giuseppe Perelli, and Loredana Sorrentino. Hierarchical Cost-Parity Games. In *TIME 2017 - 24th International Symposium on Temporal Representation and Reasoning, October 16-18, 2017, Mons, Belgium*, pages 6:1–6:17, 2017.

14. Julian Gutierrez, Paul Harrenstein, Giuseppe Perelli, and Michael Wooldridge. Nash Equilibrium and Bisimulation Invariance. In *CONCUR 2017 - 28th International Conference on Concurrency Theory, September 5-8, 2017, Berlin, Germany*, pages 17:1–17:16, 2017.
13. Julian Gutierrez, Aniello Murano, Giuseppe Perelli, Sasha Rubin, and Michael Wooldridge. Nash Equilibrium in Concurrent Games with Lexicographic Preferences. In *IJCAI 2017 - 26th International Joint Conference on Artificial Intelligence, Melbourne, Australia, August 19-25, 2017*, pages 1067–1073, 2017.
12. Julian Gutierrez, Giuseppe Perelli, and Michael Wooldridge. Iterated Games with LDL Goals on Finite Traces. In *AAMAS 2017 16th Conference on Autonomous Agents and MultiAgent Systems, São Paulo, Brazil, May 8-12, 2017*, pages 696–704, 2017.
11. Gaëlle Fontaine, Fabio Mogavero, Aniello Murano, Giuseppe Perelli, and Loredana Sorrentino. Cycle Detection in Computation Tree Logic. In *GandALF 2016 - 7th International Symposium on Games, Automata, Logics and Formal Verification, Catania, Italy, 14-16 September 2016*, pages 164–177, 2016.
10. Antonio di Stasio, Aniello Murano, Giuseppe Perelli, and Moshe Vardi. Solving Parity Games by Using an Automata-Based Algorithm. In *CIAA 2016 - 21st International Conference on Implementation and Application of Automata, Seoul, South Korea, July 19-22, 2016*, pages 64–76, 2016.
9. Julian Gutierrez, Paul Harrenstein, Giuseppe Perelli, and Michael Wooldridge. Expressiveness and Nash Equilibrium in Iterated Boolean Games. In *AAMAS 2016 - 15th International Conference on Autonomous Agents and Multiagent Systems, Singapore, May 9-13, 2016*, pages 707–715, 2016.
8. Julian Gutierrez, Giuseppe Perelli, and Michael Wooldridge. Imperfect Information in Reactive Module Games. In *KR 2016 - 15th International Conference on Principles of Knowledge Representation and Reasoning, Cape Town, South Africa, April 25-29, 2016.*, pages 390–400, 2016.
7. Michael Wooldridge, Julian Gutierrez, Paul Harrenstein, Enrico Marchioni, Giuseppe Perelli, and Alexis Toumi. Rational Verification: From Model Checking to Equilibrium Checking. In *AAAI 2016 - 30th Conference on Artificial Intelligence, February 12-17, 2016, Phoenix, Arizona, USA.*, pages 4184–4191, 2016.
6. Aniello Murano, Giuseppe Perelli, and Sasha Rubin. Multi-Agent Path Planning in Known Dynamic Environments. In *PRIMA 2015 - 18th International Conference on Principles and Practice of Multi-Agent Systems, Bertinoro, Italy, October 26-30, 2015*, pages 218–231, 2015.
5. Fabio Mogavero and Giuseppe Perelli. Binding Forms in First-Order Logic. In *CSL 2015 - 24th Annual Conference on Computer Science Logic, September 7-10, 2015, Berlin, Germany*, pages 648–665, 2015.
4. Aniello Murano and Giuseppe Perelli. Pushdown Multi-Agent System Verification. In *IJCAI 2015 - 24th International Joint Conference on Artificial Intelligence, Buenos Aires, Argentina, July 25-31, 2015*, pages 1090–1097, 2015.
3. Orna Kupferman, Giuseppe Perelli, and Moshe Vardi. Synthesis with Rational Environments. In *EUMAS 2014 - 12th European Conference on Multi-Agent Systems, Prague, Czech Republic, December 18-19, 2014*, pages 219–235, 2014.

2. Angelo Montanari, Aniello Murano, Giuseppe Perelli, and Adriano Peron. Checking Interval Properties of Computations. In *TIME 2014 - 21st International Symposium on Temporal Representation and Reasoning, Verona, Italy, September 8-10, 2014*, pages 59–68, 2014.
1. Fabio Mogavero, Aniello Murano, Giuseppe Perelli, and Moshe Vardi. What Makes ATL* Decidable? A Decidable Fragment of Strategy Logic. In *CONCUR 2012 - 23rd International Conference on Concurrency Theory, Newcastle upon Tyne, UK, September 4-7, 2012*, LNCS 7454. Springer, 2012.