

**Marco Faella**  
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# Curriculum Vitae

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*Citizenship:* Italian

## 1 Employment

- Since December 2014. Associate Professor (*Professore Associato*). University of Naples “Federico II”, Italy.  
*Founded in 1224, the University of Naples “Federico II” counts 2400 faculty members and close to 90,000 students, making it the second largest university in Italy. It offers Bachelor, Master, and Ph.D. degrees in computer science.*
- 2005 – 2014. Assistant Professor (*Ricercatore Universitario*). University of Naples “Federico II”, Italy.
- 2004 – 2005. Post-doctoral researcher. School of Engineering. University of California, Santa Cruz, USA. Supervisor: Luca de Alfaro.
- 2002 – 2003. Post-graduate researcher. School of Engineering. University of California, Santa Cruz, USA. Supervisor: Luca de Alfaro.

## 2 Education

- April 2004. Ph.D. in Computer Science (*Dottorato di Ricerca in Informatica*). University of Salerno, Italy. Thesis on “Concurrent Games on Finite or Clocked State Space”. Advisor: Margherita Napoli.  
*The University of Salerno was one of the first universities in Italy to offer a computer science curriculum, in 1972. Its research output in computer science received the highest score in the Italian national evaluation of 2013, in the category of large departments (40 institutions).*
- July 2000. Master cum Laude in Computer Science (*Laurea in Informatica*). University of Salerno, Italy. Advisor: Margherita Napoli.

## 2.1 Schools

- Summer school on logic. Italian Association for Logic and its Applications (AILA). September 21st – 25th, 1998. Cesena, Italy.
- Quantum Computing School. September 11th – 15th, 2000. Vietri sul Mare, Italy.
- New Economy Week. Omnitel Pronto Italia S.p.A. (now Vodafone). September 17th – 22nd, 2000. Colombaro di Cortefranca, Italy.
- 13th European Summer School in Logic, Language and Information (ESSLLI01), August 13th – 24th, 2001. Helsinki, Finland.
- Bertinoro International Spring School (BISS03), March 2nd – 14th, 2003. Bertinoro, Italy.

## 3 Scientific Activity

### 3.1 Research Interests

Formal verification and synthesis, game theory, computational control theory, timed systems, quantitative and probabilistic systems, hybrid systems, temporal logic, description logic.

Decision theory, preference elicitation, Bayesian inference, recommender systems.

### 3.2 Publications on Peer-Reviewed International Journals

1. M. Faella, L. Sauro. “Irrelevant matches in round-robin tournaments”, *Autonomous Agents and Multi-Agent Systems*, 35(5), Springer, 2021.
2. M. Benerecetti, M. Faella. “Tracking Smooth Trajectories in Linear Hybrid Systems”, *Information and Computation*, 257, p. 114-138, Elsevier, 2017.
3. M. Benerecetti, M. Faella. “Automatic Synthesis of Switching Controllers for Linear Hybrid Systems: Reachability Control”, *ACM Transactions on Embedded Computing Systems*, 16(4), ACM, 2017.
4. P.A. Bonatti, M. Faella, L. Sauro. “A New Semantics for Overriding in Description Logics”, *Artificial Intelligence*, 222, p. 1-48. Elsevier, 2015.
5. M. Faella, S. La Torre, A. Murano. “Automata-theoretic Solution of Timed Games”, *Theoretical Computer Science*, 515, p. 46-63. Elsevier, 2014.
6. M. Benerecetti, M. Faella, S. Minopoli. “Automatic Synthesis of Switching Controllers for Linear Hybrid Systems: Safety Control”, *Theoretical Computer Science*, 493, p. 116-138. Elsevier, 2013.
7. K. Chatterjee, L. de Alfaro, M. Faella, R. Majumdar, V. Raman. “Code aware resource management”, *Formal Methods in System Design*, 42(2), p. 146-174. Springer, 2013.
8. A. Bianco, M. Faella, F. Mogavero, A. Murano. “Quantitatively Fair Scheduling”, *Theoretical Computer Science*, 413(1), p. 160-175. Elsevier, 2012.

9. A. Bianco, M. Faella, F. Mogavero, A. Murano. “Exploring the Boundary of Half Positionality”, *Annals of Mathematics and Artificial Intelligence*, 62(1), p. 55-77. Springer, 2011.
10. P.A. Bonatti, M. Faella, L. Sauro. “Defeasible Inclusions in Low-complexity DLs”, *Journal of Artificial Intelligence Research*, 42. AAAI Press, 2011.
11. M. Faella, M. Napoli, M. Parente. “Graded Alternating-time Temporal Logic”, *Fundamenta Informaticae*, vol. 105(1-2), p. 189-210. IOS Press, 2010.
12. L. de Alfaro, K. Chatterjee, M. Faella, A. Legay. “Qualitative Logics and Equivalences for Probabilistic Systems”, *Logical Methods in Computer Science*, vol. 5(2), 2009.
13. L. de Alfaro, M. Faella, M. Stoelinga. “Linear and Branching System Metrics”, *IEEE Transactions on Software Engineering*, vol. 345(1), p. 139-170, 2009.
14. L. de Alfaro, M. Faella, T.A. Henzinger, R. Majumdar, M. Stoelinga. “Model Checking Discounted Temporal Properties”, *Theoretical Computer Science*, vol. 345(1), p. 139-170. Elsevier, 2005.

### 3.3 Publications in Peer-Reviewed International Conferences

In the following, the acronym LNCS stands for Lecture Notes in Computer Science (Springer).

15. M. Faella, A. Finzi, L. Sauro. “A practical query selection framework for real-time Bayesian preference elicitation”, **ICTAI 21**, 33rd IEEE Int. Conf. on Tools with Artificial Intelligence. November 2021 (virtual).
16. M. Faella, L. Sauro. “Preferences over rankings and how to control them using rewards”, **ECAI 20**, 24th European Conf. on AI. Santiago, Spain, August-September 2020 (virtual).
17. M. Faella, A. Finzi, L. Sauro. “Rapidly finding the best arm using variance”, **ECAI 20**, 24th European Conf. on AI. Santiago, Spain, August-September 2020 (virtual).
18. M. Faella, L. Sauro. “Preference theories on weak orders”, **OVERLAY 19**, 1st Workshop on AI and fOrmal VERification, Logic, Automata, and sYnthesis. Rende, Italy, November 2019.
19. M. Faella, L. Sauro. “Do All Tournaments Admit Irrelevant Matches?”, **AAMAS 18**, Int. Conf. on Autonomous Agents and Multiagent Systems. Stockholm, Sweden, July 2018.
20. R. Alur, M. Faella, S. Kannan, N. Singhanian. “Hedging bets in Markov decision processes”, **CSL 16**, 25th EACSL Annual Conf. on Computer Science Logic. Marseille, France, August 2016.
21. P.A. Bonatti, M. Faella, C. Galdi, L. Sauro. “Generalized Agent-mediated Procurement Auctions”, **AAMAS 16**, Int. Conf. on Autonomous Agents and Multiagent Systems. Singapore, May 2016. ACM 2016.
22. M. Faella. “Average Controllability Measures for Solitaire Games”, **AAMAS 16**, Int. Conf. on Autonomous Agents and Multiagent Systems. Singapore, May 2016. ACM 2016.

23. M. Anisetti, C.A. Ardagna, E. Damiani, P.A. Bonatti, M. Faella, C. Galdi, L. Sauro. “e-Auctions for Multi-Cloud Service Provisioning”, *IEEE SCC 2014*, 11th Int. Conference on Services Computing Anchorage, Alaska, USA, June 2014.
24. P.A. Bonatti, M. Faella, L. Sauro. “Partial Preferences for Mediated Bargaining”, **SR**, 2nd International Workshop on Strategic Reasoning. Grenoble, France, April 2014. EPTCS 146.
25. M. Benerecetti, M. Faella. “Tracking Differentiable Trajectories across Polyhedra Boundaries”, **HSCC 2013**, 16th International Conference on Hybrid Systems: Computation and Control, p. 193–202. Philadelphia, USA, April 2013. ACM 2013.
26. P.A. Bonatti, M. Faella, C. Galdi, L. Sauro. “Auctions for Partial Heterogeneous Preferences”, **MFCS 2013**, 38th International Symposium on Mathematical Foundations of Computer Science. Klosterneuburg, Austria, August 2013. LNCS, vol. 8087, p. 183–194, Springer 2013.
27. P.A. Bonatti, L. Sauro, M. Faella, C. Galdi. “An Integrated Formal Approach to Usage Control”. *IEEE Symposium on Security and Privacy Workshops*, p. 8–12.
28. M. Benerecetti, M. Faella, S. Minopoli. “Reachability Games for Linear Hybrid Systems”, **HSCC 2012**, 15th International Conference on Hybrid Systems: Computation and Control, p. 65–74. Beijing, China, April 2012. ACM 2012.
29. M. Benerecetti, M. Faella, S. Minopoli. “Revisiting Synthesis of Switching Controllers for Linear Hybrid Systems”, **CDC 2011**, 50th IEEE Conference on Decision and Control, p. 4753–4758. Orlando, FL, USA, December 2011.
30. P.A. Bonatti, M. Faella, C. Galdi, L. Sauro. “Towards a Mechanism for Incentivating Privacy”, **ESORICS 2011**, European Symposium on Research in Computer Security. Leuven, Belgium, September 2011. LNCS, vol. 6879, p. 472–488, Springer 2011.
31. M. Benerecetti, M. Faella, S. Minopoli. “Towards Efficient Exact Synthesis for Linear Hybrid Systems”, **GandALF 2011**, Second Int. Symposium on Games, Automata, Logics and Formal Verification. Minori, Salerno, Italy, June 2011. Electronic Proceedings in Theoretical Computer Science (EPTCS), vol. 54, 2011.
32. P.A. Bonatti, M. Faella, L. Sauro. “Adding Default Attributes to EL++”, **AAAI-11**, 25th AAAI Conf. on Artificial Intelligence. San Francisco, USA, August 2011, p. 171–176. AAAI Press.
33. P.A. Bonatti, M. Faella, L. Sauro. “On the Complexity of EL with Defeasible Inclusions”, **IJCAI 2011**, 21st Int. Joint Conf. on Artificial Intelligence, Barcelona, Spain, 2011, p. 762–767. AAAI Press/IJCAI.
34. P.A. Bonatti, M. Faella, L. Sauro. “EL with Default Attributes and Overriding”, **ISWC 2010**, 9th Int. Semantic Web Conf., Shanghai, China, November 2010. LNCS, vol. 6496, p. 64–79, Springer 2010.
35. A. Bianco, M. Faella, F. Mogavero, A. Murano. “Exploring the Boundary of Half-positionality”, **CLIMA XI**, 11th Int. Workshop on Computational Logic in Multi-Agent Systems, Lisboa, Portugal, August 2010. LNCS, vol. 6245, p. 171–185. Springer 2010.

36. M. Faella, M. Napoli, M. Parente. “Graded Alternating-time Temporal Logic”, **LPAR-16**, 16th Int. Conf. on Logic for Programming Artificial Intelligence and Reasoning, Dakar, Senegal, April 2010. LNCS, vol. 6355, p. 192–211. Springer 2010.
37. A. Bianco, M. Faella, F. Mogavero, A. Murano. “Quantitative Fairness Games”, **QAPL10**, 8th Workshop on Quantitative Aspects of Programming Languages, Paphos, Cyprus, March 2010. Electronic Proceedings in Theoretical Computer Science, n. 28.
38. A. Bianco, M. Faella, F. Mogavero, A. Murano. “Balanced Paths in Colored Graphs”, **MFCS09**, 34th International Symposium on Mathematical Foundations of Computer Science, Novy Smokovec, Slovakia, August 2009. LNCS, vol. 5734, p. 149–161. Springer 2009.
39. M. Faella. “Admissible Strategies in Infinite Games over Graphs”, **MFCS09**, 34th International Symposium on Mathematical Foundations of Computer Science, Novy Smokovec, Slovakia, August 2009. LNCS, vol. 5734, p. 307–318.
40. B.T. Adler, K. Chatterjee, L. de Alfaro, M. Faella, I. Pye, V. Raman. “Assigning Trust to Wikipedia Content”, **WikiSym08**, 4th International Symposium on Wikis, Porto, Portugal, September 2008.
41. A. Legay, M. Faella, M. Stoelinga. “Model Checking Quantitative Linear Time Logic”, **QAPL08**, 6th Workshop on Quantitative Aspects of Programming Languages, Budapest, Hungary. Electronic Notes on Theoretical Computer Science (ENTCS), 220(3), 2008.
42. M. Faella, A. Legay. “On the Design and the Implementation of a Game-based Model for Open Systems: Current Status and Perspectives”, **AFADL07**, Approches Formelles dans l’Assistance au Développement de Logiciels, Namur, Belgium, June 2007. Presses Universitaires de Namur, 2007.
43. L. de Alfaro, K. Chatterjee, M. Faella, A. Legay. “Qualitative Logics and Equivalences for Probabilistic Systems”, **QEST07**, 4th International Conference on Quantitative Evaluation of Systems, Edinburgh, UK. IEEE Computer Society, 2007.
44. L. de Alfaro, M. Faella. “An Accelerated Algorithm for 3-Color Parity Games with an Application to Timed Games”, **CAV07**, 19th International Conference on Computer Aided Verification, Berlin, Germany. LNCS, vol. 4590, p. 108–120. Springer-Verlag 2007.
45. S. Baselice, P.A. Bonatti, M. Faella. “On Interoperable Trust Negotiation Strategies”, **POLICY07**, 8th IEEE International Workshop on Policies for Distributed Systems and Networks, Bologna, Italy. IEEE Computer Society, 2007.
46. K. Chatterjee, L. de Alfaro, M. Faella, T.A. Henzinger, R. Majumdar, M. Stoelinga. “Compositional Quantitative Reasoning”, **QEST06**, Third International Conference on the Quantitative Evaluation of Systems, Riverside, USA. IEEE Computer Society, 2006.
47. B.T. Adler, L. de Alfaro, L. Dias Da Silva, M. Faella, A. Legay, V. Raman, P. Roy. “TICC: A Tool for Interface Compatibility and Composition”, **CAV06**, 18th International Conference on Computer Aided Verification, Seattle, USA. LNCS, vol. 4144, p. 59–62. Springer 2006. Tool paper.

48. L. de Alfaro, M. Faella, A. Legay. “An Introduction to the Tool TICC”, Workshop on Trustworthy Software, May 2006, Saarbrücken, Germany. IBFI, Schloss Dagstuhl, Germany, 2006.
49. L. de Alfaro, L. Dias da Silva, M. Faella, A. Legay, P. Roy, M. Sorea. “Sociable Interfaces”, **FROCOS05**, 5th International Workshop on Frontiers of Combining Systems, Wien, Austria. LNCS, vol. 3717, 2005. Invited paper.
50. L. de Alfaro, M. Faella, B. Adler. “Average Reward Timed Games”, **FORMATS05**, Third International Conference on Formal Modelling and Analysis of Timed Systems, Uppsala, Sweden. LNCS, vol. 3829, p. 65–80. Springer 2005.
51. L. de Alfaro, M. Faella, R. Majumdar, and V. Raman. “Code Aware Resource Management”, **EMSOFT05**, 5th ACM International Conference on Embedded Software, Jersey City, USA. p. 191–202. ACM Press 2005.
52. L. de Alfaro, M. Faella, M. Stoelinga, “Linear and Branching Metrics for Quantitative Transition Systems”, **ICALP04**, 31st International Colloquium on Automata, Languages and Programming. LNCS, vol. 3142, p. 97–109. Springer 2004.
53. L. de Alfaro, M. Faella, T.A. Henzinger, R. Majumdar, M. Stoelinga, “Model Checking Discounted Temporal Properties”, **TACAS04**, 10th International Conference on Tools and Algorithms for the Construction and Analysis of Systems. LNCS, vol. 2988, p. 77–92. Springer 2004.
54. L. de Alfaro, M. Faella, T.A. Henzinger, R. Majumdar, M. Stoelinga, “The Element of Surprise in Timed Games”, **CONCUR03**, 14th International Conference on Concurrency Theory. LNCS, vol. 2761, p. 142–156. Springer 2003.
55. L. de Alfaro, M. Faella, “Information Flow in Concurrent Games”, **ICALP03**, 30th International Colloquium on Automata, Languages and Programming. LNCS, vol. 2719, p. 1038–1053. Springer 2003.
56. M. Faella, S. La Torre, A. Murano, “Dense Real-time Games”, **LICS02**, 17th Annual IEEE Symposium on Logic in Computer Science. IEEE Computer Society, p. 167–176. IEEE 2002.
57. M. Faella, S. La Torre, A. Murano, “Automata-theoretic Decision of Timed Games”, **VMCAI02**, 3rd International Workshop on Verification, Model Checking and Abstract Interpretation. LNCS, vol. 2294, p. 94–108. Springer 2002.

### 3.4 Technical Publications

58. M. Faella. “Seriously Good Software”, book, Manning publications, 2020.
59. A. Agliata, F. Dell’Anno, M. Faella, M. Falcone. “Guida completa alle certificazioni OCA-OCF Java 7”, book, EasyRead edizioni, 2017.
60. M. Faella. “Functional Programming with Streams in Java 9”, video course, Packt publishing, 2017.

### 3.5 Theses

61. “Concurrent Games on Finite or Clocked State Space”. Ph.D. thesis. University of Salerno, Italy, 2003.
62. “Logiche Temporalì Real-Time e Model Checking” (real-time temporal logic and model checking). Master thesis. University of Salerno, Italy, 2000.

### 3.6 Editorial Activity

- Guest editor for volume 560, part 3 of Theoretical Computer Science (Elsevier).
- Editor for volume 96 of the Electronic Proceedings in Theoretical Computer Science (EPTCS), *Proceedings of the 3rd International Symposium on Games, Automata, Logic, and Formal Verification, GandALF 2012*.
- Referee for the following international conferences: STACS, IEEE CDC, VMCAI, TACAS, FOSSACS, FORMATS, FSTTCS, CAV, ICSE, CONCUR, GandALF, AAI, IJCAI, AAMAS, ECAI, LICS, IJCAR, MFCS, ACM SAC, SOFSEM, RV, KR, ACM SAC.
- Referee for the following journals:
  1. Theoretical Computer Science (Elsevier)
  2. Logical Methods in Computer Science
  3. International Journal of Computers and Applications (ACTA Press)
  4. IEEE Transactions on Software Engineering
  5. Distributed Computing (Springer)
  6. Information and Computation (Elsevier)
  7. Formal Methods in System Design (Springer)
  8. Acta Informatica (Springer)
  9. Science of Computer Programming (Elsevier)
  10. Future Generation Computer Systems (Elsevier)
  11. International Journal of Control (Taylor & Francis)
  12. International Journal of Parallel Programming (Springer)
- Author of reviews for Mathematical Reviews (American Mathematical Society).
- Referee for research proposals for the Netherlands Organisation for Scientific Research (NWO), Innovational Research Incentives Scheme, 2019.
- Referee for research proposals for the University of Verona (Italy), 2015, 2017.

### 3.7 Conference Committees

- **AAMAS 2022**, International Conference on Autonomous Agents and Multiagent Systems. PC member.
- **AAAI 2021**, 35th AAAI Conference on Artificial Intelligence. PC member.
- **ECAI 2020**, 24th European Conference on Artificial Intelligence. PC member.
- **AAAI 2020**, 34th AAAI Conference on Artificial Intelligence. PC member.
- **OVERLAY 2020**, 2nd Workshop on Artificial Intelligence and fOrmal VERification, Logic, Automata, and sYNthesis. PC member.
- **AAAI 2019**, 33rd AAAI Conference on Artificial Intelligence. PC member.
- **OVERLAY 2019** 1st Workshop on Artificial Intelligence and fOrmal VERification, Logic, Automata, and sYNthesis (satellite workshop of AIXIA 2019). PC member.
- **ACM-SAC 2015**, 30th ACM Symposium On Applied Computing. PC member for the track “Software Verification and Testing (SVT)”.
- **ICTCS 2014**, 15th Italian Conference on Theoretical Computer Science. Perugia, Italy, September 2014. PC member.
- **ACM-SAC 2014**, 29th ACM Symposium On Applied Computing. PC member for the track “Software Verification and Testing (SVT)”.
- **RV 2013**, Fourth Int. Conference on Runtime Verification. Proceedings in LNCS, Springer. PC member.
- **GandALF 2012**, Third Int. Symposium on Games, Automata, Logics and Formal Verification. Naples, Italy, September 2012. Electronic Proceedings in Theoretical Computer Science, vol. 96.  
**Co-chair.**
- **FIT 2012**, 4th Int. Workshop on Foundations of Interface Technologies. Satellite Workshop at ETAPS 2012. Tallinn, Estonia, March 2012. PC member.
- **CILC 2011**, 26th Italian Conf. on Computational Logic. Pescara, Italy, 2011. CEUR Workshop Proceedings. PC member.
- **GANDALF 2011**, Second Int. Symposium on Games, Automata, Logics and Formal Verification. Program chairs: S. La Torre and G. D’Agostino. Amalfi, Italy, June 2011. Electronic Proceedings in Theoretical Computer Science, vol. 54. Chair of the organizing committee.
- **GANDALF 2010**, First Int. Symposium on Games, Automata, Logics and Formal Verification. Program chairs: A. Montanari and M. Parente. Amalfi, Italy, June 2010. Electronic Proceedings in Theoretical Computer Science, vol. 25. PC member.

- **FORMATS 2010**, 8th International Conference on Formal Modelling and Analysis of Timed Systems. Program chairs: K. Chatterjee and T.A. Henzinger. Wien, Austria, September 2010. LNCS, vol. 6246, Springer.  
PC member.
- **FIT 2010**, 3rd Workshop on Foundations of Interface Technologies. Program chairs: A. Legay and B. Caillaud. Workshop affiliated with CONCUR 2010. Paris, France, August 2010. Electronic Proceedings in Theoretical Computer Science, vol. 46.  
PC member.
- **CONCUR 2005**, 16th International Conference on Concurrency Theory. San Francisco, USA, August 2005.  
Member of the organizing committee.

### 3.8 Scientific Visits

- University of California, Santa Cruz, USA. Host: Luca de Alfaro. October 2014 - January 2015.
- University of Pennsylvania, Philadelphia, USA. Host: Rajeev Alur. February-July 2015.
- École Normale Supérieure de Cachan, France. Hosts: Laurent Doyen and Patricia Bouyer. February 17th – March 2nd, 2013.
- Université Libre de Bruxelles, Belgium. Host: Jean-Francois Raskin. January 19th–22nd, 2012.
- University of California, Santa Cruz, USA. Host: Luca de Alfaro. November – December 2011.
- University of Twente, Enschede, The Netherlands. Host: Mariëlle Stoelinga. February 9th–18th, 2011.
- Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland. Host: Tom Henzinger. November 2nd–20th, 2008.
- University of California, Santa Cruz, USA. Host: Luca de Alfaro. December 2007 – January 2008.
- University of California, Santa Cruz, USA. Host: Luca de Alfaro. November 2006.
- International Fellow at SRI International, Menlo Park, USA. June – July 2004.

### 3.9 Invited Talks

- “Skill vs Luck: Average controllability in one-player games”. Strategies for Uncertainty (FSTTCS 2020 workshop). December 2020 (virtual).
- “Controller synthesis for Linear Hybrid Systems”. SynCoP, 5th Int. Workshop on Synthesis of Complex Parameters (ETAPS 2018 workshop). Thessaloniki, Greece, April 2018.

- “Controller synthesis for Linear Hybrid Systems”. Summer school on Formal Methods for Cyber-Physical Systems. Verona, Italy, September 2017.
- “Hybrid Systems”. MOVEP’14, 11th Summer School on Modelling and Verification of Parallel Processes, Nantes, France, July 2014.
- “Controller Synthesis Games”. École Normale Supérieure de Cachan, France, February 2013.
- “Selected Topics in Controller Synthesis”. Université Libre de Bruxelles, Belgium, January 2012.
- “Revisiting Controller Synthesis for Hybrid Systems”. University of Twente, Enschede, The Netherlands, March 2011.
- “An Accelerated Algorithm for 3-Color Parity Games”. Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, November 2008.
- “Games you cannot Win”. University of California, Santa Cruz, USA, December 2007.
- “Some Models and Tools for Open Systems”. FIT 2005, Foundations of Interface Technologies. San Francisco, USA, August 2005. Workshop affiliated to CONCUR 2005.

### 3.10 Contributed Talks

- ECAI 2020, 24th European Conf. on AI. Santiago, Spain, August-September 2020 (virtual). Contributed talk on “Preferences over rankings and how to control them using rewards”.
- Highlights of Logic, Games and Automata. Bruxelles, Belgium, September 2016. Contributed talk on “Average Controllability Measures for One-Player Games”.
- CSL 2016, 25th EACSL Annual Conf. on Computer Science Logic. August 2016, Marseille, France. Contributed talk on “Hedging bets in Markov decision processes” [20].
- AAMAS 2016, International Conference on Autonomous Agents and Multiagent Systems. May 2016, Singapore. Contributed talk on “Average Controllability Measures for Solitaire Games” [22].
- Highlights of Logic, Games and Automata. Paris, France, September 2013. Contributed talk on “Best-effort control for Markov decision processes”.
- MFCS 2013, 38th International Symposium on Mathematical Foundations of Computer Science, Klosterneuburg, Austria, August 2013. Contributed talk on “Auctions for Partial Heterogeneous Preferences” [26].
- HSCC 2013, 15th International Conference on Hybrid Systems: Computation and Control. Philadelphia, USA, April 2013. Contributed talk on “Tracking Differentiable Trajectories across Polyhedra Boundaries” [25].
- HSCC 2012, 15th International Conference on Hybrid Systems: Computation and Control. Beijing, China, April 2012. Contributed talk on “Reachability Games for Linear Hybrid Systems” [28].

- CDC 2011, 50th IEEE Conference on Decision and Control, Orlando, FL, USA, December 2011. Contributed talk on “Revisiting Synthesis of Switching Controllers for Linear Hybrid Systems” [29].
- GAMES 2011, Workshop on Games for Design and Verification. Paris, France, September 2011. Contributed talk on “What’s Semi-Decidable about Hybrid Games?”.
- LPAR-16, 16th International Conference on Logic for Programming Artificial Intelligence and Reasoning, Dakar, Senegal, April 2010. Contributed talk on “Graded Alternating-time Temporal Logic” [36].
- QAPL10, 8th Workshop on Quantitative Aspects of Programming Languages, Paphos, Cyprus, March 2010. Contributed talk on “Quantitative Fairness Games” [37].
- MFCS09, 34th International Symposium on Mathematical Foundations of Computer Science, Novy Smokovec, Slovakia, August 2009. Contributed talks on “Balanced Paths in Colored Graphs” [38] and “Admissible Strategies in Infinite Games over Graphs” [39].
- GAMES 2007, Workshop on Games and Automata for Synthesis and Validation. Lausanne, Switzerland, September 2007. Contributed talk on “Games You Cannot Win”.
- CAV 2007. 19th International Conference on Computer Aided Verification. Berlin, Germany, July 2007. Contributed talk on “An Accelerated Algorithm for 3-Color Parity Games with an Application to Timed Games” [44].
- EMSOFT 2005, 5th ACM International Conference on Embedded Software. Jersey City, USA, September 2005. Contributed talk on “Code Aware Resource Scheduling” [51].
- TACAS 2004, 10th International Conference on Tools and Algorithms for the Construction and Analysis of Systems. Barcelona, Spain. Contributed talk on “Model Checking Discounted Temporal Properties” [53].
- CONCUR 2003, 14th International Conference on Concurrency Theory. Marseille, France. Contributed talk on “The Element of Surprise in Timed Games” [54].
- ICALP 2003, 30th International Colloquium on Automata, Languages and Programming. Eindhoven, The Netherlands. Contributed talk on “Information Flow in Concurrent Games” [55].
- VMCAI 2002, 3rd International Workshop on Verification, Model Checking and Abstract Interpretation. Venice, Italy. Contributed talk on “Automata-theoretic Decision of Timed Games” [57].

### 3.11 Software Tools Designed or Developed

- **Quest**: a highly configurable recommender system based on Bayesian preference elicitation. Repository: <https://bitbucket.org/mfaella/quest>  
Leading designer and developer.
- **NYCS**: Naples hYbrid Controller Synthesis. Automatic synthesis of controllers for linear hybrid systems. Website: <http://wpage.unina.it/m.faela/nycs/>. References: 6, 31, 29.  
Leading designer and developer.

- **PHAVER+**: Automatic synthesis of controllers for linear hybrid systems, based on the open-source tool **PHAVER**. See [6,31,29].  
Designer.
- **Ticc**: Analysis and verification of composable modules. See [49] and [47].  
Designer and developer.
- **Cynthesis**: Automatic synthesis of deadlock-avoiding schedulers for multi-threaded C programs. See [51].  
Leading designer and developer.

### 3.12 Grants

- Italian Ministry of Scientific and Technological Research. *Security Horizons*. Project of Relevant National Interest (PRIN). 2012-2013. Participant.
- Gruppo Nazionale per il Calcolo Scientifico (Italian National Group for Scientific Computing). Contribution towards the conference GandALF 2012.
- Gruppo Nazionale per il Calcolo Scientifico (Italian National Group for Scientific Computing). Individual grant for attending the GandALF 2011 conference.
- European Science Foundation (ESF). Individual short visit grant for visiting the Ecole Polytechnique Fédérale de Lausanne. GAMES project. 2009.
- Italian Ministry of Scientific and Technological Research. *Integrating automated reasoning in model checking: towards push-button formal verification of large-scale and infinite-state systems*. Project of Relevant National Interest (PRIN). 2008-2010. Participant.
- University of Naples. Individual short visit grant for visiting the University of California, Santa Cruz. 2007.
- European Union and Switzerland, 6th Framework Programme (FP6), Network of Excellence “Reverse” on *Reasoning on the Web*. 2004-2008. Participant.

### 3.13 Bibliometrics

- As of today, Google Scholar reports 1625 total citations and Hirsh’s h-index of 20.
- Elsevier Scopus reports 929 total citations and Hirsh’s h-index of 17.

## 4 Teaching Activity

Instructor for the following courses, all held at the University of Naples “Federico II”.

1. Undergraduate course on Programming Languages (*Linguaggi di Programmazione I*). 48 hours. Spring 2022.
2. Undergraduate course on Computer Architecture (*Architettura degli Elaboratori, modulo A*). 48 hours. Fall 2016, Fall 2017.

3. Undergraduate course on Laboratory of Operating Systems (*Laboratorio di Sistemi Operativi*). 48 hours. Spring 2006, Spring 2007, Spring 2008, Fall 2019, Fall 2020.
4. Undergraduate course on Advanced Programming (*Linguaggi di Programmazione II*). 48 hours. Spring 2006, Spring 2007, Spring 2008, Spring 2009, Spring 2010, Spring 2012, Spring 2013, Spring 2014, Fall 2014, Spring 2016, Spring 2017, Spring 2018, Spring 2019, Spring 2020, Spring 2021, Spring 2022.
5. Graduate course on Compilers and Program Analysis (*Compilatori e Analisi di Programmi*). 48 hours. Spring 2009, Spring 2010, Spring 2011.
6. Graduate course on Software Engineering (*Ingegneria del Software II*). 48 hours. Spring 2012.
7. Graduate course on Game Design and Development. 48 hours. Spring 2016, Spring 2017, Spring 2018, Spring 2019, Spring 2020, Fall 2021.
8. State-mandated course on basic programming for high-school teachers, allowing them to teach basic computer science. 50 hours. Spring-Summer 2007.
9. Professional course on Java programming for university IT employees. 20 hours. 2009.
10. Professional course on Object Oriented Design (*Progettazione Object Oriented e Design Pattern*) for computer engineering graduates. 20 hours. 2013.

Assistant instructor for the following courses.

11. Graduate course on Formal Verification (*Metodi di Verifica*). University of Naples “Federico II”, Italy. 4 hour seminar. Spring 2012, Spring 2013.
12. Ph.D. course on Games for Verification and Synthesis. University of Salerno, Italy. 4 hour seminar. Spring 2006.
13. Graduate course on Formal Languages and Compilers (*Linguaggi Formali e Compilatori*). University of Salerno, Italy. 4 hour seminar. Spring 2001.

## 4.1 Student Supervision

- Ph.D.’s
  1. Alessandro Bianco, “Models and Algorithms for Fairness and Priority in Scheduling”, 2008–2011. Co-advisor.
  2. Stefano Minopoli, “Synthesis of Switching Controllers for Linear Hybrid Systems”, 2009–2012. Co-advisor. Currently post-doctoral researcher at VERIMAG, Grenoble (France).
- Master’s
  1. Achille Vaccaro, “Verification of Java Programs using ESC/Java2”, 2008.
  2. Antonio Divisato, “Graph Visualization Based on Behavioral Distances”, 2009.

3. Valeria Tedesco, “Exact Symbolic Algorithms for Dynamic Systems”, 2012.
  4. Pietro Neroni, “Hybrid System Verification and Synthesis with SpaceEx”, 2013.
  5. Donatella Eramo, “Sviluppo e Ottimizzazione di Operatori Geometrici per l’Analisi e la Sintesi di Automi Ibridi Lineari”, 2015.
  6. Orlando Aprea, “Algoritmi simbolici per la generazione e risoluzione di giochi di parità”, 2018.
  7. Simone Morra, “Tecniche di query selection basate su item virtuali per Bayesian preference elicitation”, 2021.
  8. Maurizio Moraca, “Estensione e sperimentazione di un framework di preference elicitation”, 2021.
  9. Davide De Vita, “Dynamic difficulty adjustment between Game design and Game development”, 2021.
- Thesis supervisor for more than 30 Bachelor students.
  - Ph.D. thesis committee member for: Maurizio Cembalo, Biagio Cosenza, Barbara Di Giampaolo, Vincenzo Iovino, Fabio Petagna (University of Salerno, Italy, 2011).
  - Member of the selection committee for the award *Best Italian Young Researcher in Theoretical Computer Science*, awarded by the Italian chapter of the EATCS (European Association for Theoretical Computer Science), 2019. Awardee: Emanuele Natale.

## 4.2 Committees within the Computer Science Program

- Orientation representative
- Former member of the Erasmus exchange program committee
- Former member of the multimedia equipment committee
- Former member of the entrance test committee

Naples, March 19, 2022

Marco Faella