

Curriculum Vitae

Stefano Mariani

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1 Contact information

- Name and surname: Stefano Mariani
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- Personal phone: +39 346 3235332
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- Personal web page: <https://smarianimore.github.io>
- Institutional mail: stefano.mariani@unimore.it

2 Abilitazione Scientifica Nazionale

National Academic Qualification (as Associate Professor)¹ in ERC panel code 09/H1 starting 14/04/2021, ending 14/04/2030 (earned in ASN 2018-2020, VI term).

3 Positions

- Tenure track researcher (“RTD lettera b”) in the Department of Science and Methods of Engineering of the University of Modena and Reggio Emilia from 1/7/2023 (**current position**)
- Research grant in the Department of Science and Methods of Engineering of the University of Modena and Reggio Emilia from 16/11/2021 to 30/06/2023
- Tenure track researcher (“RTD lettera a”) in the Department of Science and Methods of Engineering of the University of Modena and Reggio Emilia from 7/11/2016 to 6/11/2019, renewed from 7/11/2019 to 6/11/2021 (maximum renewal allowed)
- Research grant in the Department of Computer Science and Engineering of the University of Bologna from 1/5/2016 to 6/11/2016 (quit due to incompatibility with post-doc research grant)
- PhD grant in the Department of Computer Science and Engineering of the University of Bologna from 1/1/2013 to 31/12/2015
- Research grant in the Department of Computer Science and Engineering of the University of Bologna from 5/4/2012 to 31/12/2012 (quit due to incompatibility with PhD grant)

¹”Abilitazione Scientifica Nazionale”, the Italian peculiar “license” to take jobs as Associate Professor in Italian Universities, more info (in Italian, though) at: <https://www.miur.gov.it/abilitazione-scientifica-nazionale>.

4 Education

- PhD in Computer Science (“Doctor Europaeus”) achieved on 12/5/2016 at the University of Bologna with thesis “*Coordination Issues in Complex Socio-technical Systems: Self-organisation of Knowledge in MoK*”
- Master degree in Computer Science Engineering achieved at the University of Bologna with thesis “*Molecules of Knowledge: a new approach to knowledge production, management and consumption*”

5 Scientific activity

My research activity is rooted in the area of coordination models and languages, multi-agent systems, and self-organising systems. It then evolves in design and application of specific coordination models to pervasive and socio-technical systems, in particular in the broad domain of the Internet of Things vision. Such an interest also leaned towards analysis and exploitation of blockchain as a distributed computing and coordination infrastructure, and towards analysis and exploitation of logic programming as a tool to spread “intelligence” in pervasive systems. In recent times, still within the perspective of coordinating distributed agents in achieving collective goals, my research activity moved towards causal discovery and reasoning, and (multi-agent) reinforcement learning of communication means and coordination protocols. Last but not least, my involvement in “CONNECARE” European H2020 project had me working in data analysis and machine learning, specifically aimed at designing decision support systems in the healthcare domain.

5.1 Competitive projects

5.1.1 Principal Investigator

National:

- **PI** of the inter-department project FAR “Human cooperation for the sustainable management of public goods under institutional punishment and corruption” (CO-OPTION) from 2/12/2024 to 1/12/2026 (contract number E83D24000630005)

5.1.2 WP and task leader

International:

- European project “*Personalised Connected Care for Complex Chronic Patients*” (CONNECARE), EU H2020-RIA (contract number 689802) from 7/11/2016 to 6/11/2019, **task leader** for:
 - Task 3.4 “*Screening and risk stratification DSS*”, aimed at design of a decision support system for health risk assessment and stratification of complex chronic patients
 - Task 3.5 “*Mapping DSS*”, aimed at design of a decision support system for geolocalisation of complex chronic patients and visualisation on map depending on health risk assessed
 - Task 3.6 “*Self-adaptive Clinical Pathways CDSS*”, aimed at design of a decision support system for automated suggestion of personalised clinical interventions
 - Task 4.6 “*Recommender system for self-management*”, aimed at design of a software for the automated sending of motivational messages to complex chronic patients regarding their adherence to medical prescriptions, with the goal of improving and keeping engagement

and **first author** of deliverables:

- D3.2 “*First Screening and Risk Stratification DSS*”
- D3.4 “*Stratification and Mapping DSS*”
- D3.5 “*Self-Adaptive Clinical Pathways CDSS*”
- D4.6 “*Recommender System for Self-management*”

National:

- Italian Project “Fluidware” PRIN 2017 from 7/11/2019 to date, **WP leader** of WP3 “Software engineering”

5.1.3 Participation

International:

- European project “*Big Speech data analytics for contact centres*” (BISON), EU H2020-IA (contract number 645323) from 2/5/2016 to 1/11/2016
- European project “*Self-aware Pervasive Service Ecosystems*” (SAPERE), FP7-ICT-2009.8.5: Self-awareness in Autonomic Systems (contract number 256873) from 5/4/2012 to 31/12/2012

National:

- Department project FAR “Sviluppo di un Sistema Personalizzato a Supporto della Mobilità Urbana tramite Smartphone e Droni” from 1/3/2017 to 30/6/2018

5.2 Visiting

Visiting researcher from 1/4/2014 to 30/6/2014 by the Distributed Systems Group of the Technical University of Wien, Austria², to collaborate with Prof. Schahram Dustdar and Prof. Hong-Linh Truong on “Coordination-aware Elasticity”. Outcomes of the visiting period has been a joint publication³ and new functionalities for the rSYBL software supporting deployment elasticity in the cloud⁴.

5.3 Collaborations

- Pomiager S.r.l., Bologna, Italy
- Department of Computer Science and Engineering (DISI), University of Bologna, Italy
- Research Institute for Human-centred Artificial Intelligence, University of Bologna, Italy
- Dipartimento di Scienze Pure e Applicate, University of Urbino, Italy
- Computer Science Center, University of Geneva, Switzerland

²<http://www.infosys.tuwien.ac.at/index.html>

³<http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=7027526>

⁴<http://github.com/tuwiendsg/rSYBL/tree/coordination>

- School of Computer Science, University of St Andrews, St Andrews, Scotland
- EURECAT Technology Centre, Digital Health Unit, Barcelona, Spain
- Dipartimento di Informatica, Sistemistica e Comunicazione, University of Milano-Bicocca, Italy
- Dipartimento di Ingegneria Informatica, Modellistica, Elettronica e Sistemistica, University of Calabria, Italy
- Institute of Information Systems Engineering, Wien Technical University, Austria
- Dipartimento di Scienze Fisiche, Informatiche e Matematiche, University of Modena and Reggio Emilia, Italy
- AUSL Romagna, Rimini and M. Bufalini Hospital, Cesena, Italy
- Bag-Era, Grenoble, France
- Scuola di Scienze e Tecnologie, University of Camerino, Camerino, Italy
- Cisco Systems, San Jose, Stati Uniti
- Institut d'Investigacions Biomediques August Pi i Sunyer, Barcelona, Spain
- Hospital Clinic de Barcelona, Barcelona, Spain
- Center for Biomedical Network Research in Respiratory Diseases, Madrid, Spain
- Universitair Medisch Centrum Groningen, Groningen, Netherlands
- Dipartimento di Ingegneria e Architettura, University of Parma, Parma, Italy
- Istituto Di Calcolo E Reti Ad Alte Prestazioni, National Research Council, Italy
- University of Applied Sciences Western Switzerland, Delemont, Switzerland
- University of Exeter, Exeter, United Kingdom
- Johannes Kepler University Linz, Linz, Austria

5.4 Invited talks

Invited speaker:

- International conference “Software Technologies: Applications and Foundations” (STAF 2018), later published on Lecture Notes in Computer Science, vol 11176, Springer (“*Coordination of Complex Socio-Technical Systems: Challenges and Opportunities*”). Lecture Notes in Computer Science, vol 11176, Springer.

Invited seminars:

- Picone Marco, Mariani Stefano: “Edge Digital Twins on MEC Software Architectures.” *Intel Converged Edge Meetup*. Online, 08/09/2021.
- Mariani, Stefano: “The quest towards coordination from distributed to socio-technical systems.” *Research seminar “AI: from tutorials to hands on”*. Namur, Belgium, 06/12/2019.
- Mariani, Stefano: “Spatial Multi-Agent Systems.” *18th European Agent Systems Summer School*. Catania, Italy, 28/07/2016.
- Mariani, Stefano: “Advanced Coordination Techniques: Experiments with TuCSoN and ReSpecT.” *Mobile and Distributed Programming course, Faculty of Computer Science, University of Namur*. Namur, Belgium, 28/04/2016.
- Mariani, Stefano: “Molecules of Knowledge: Self-Organisation in Knowledge-Intensive Environments.” *Distributed Systems Group, TU Wien*. Wien, Austria, 29/04/2014.

5.5 Awards

Best paper award:

- Marco Gambelli, Stefano Mariani, Giacomo Cabri, Franco Zambonelli: *Combining Coordination Strategies for Autonomous Vehicles in Intersection Networks*. 14th International Symposium on Intelligent Distributed Computing, Online, 16-18/09/2021.
- Roberta Calegari, Giovanni Ciatto, Stefano Mariani, Enrico Denti, Andrea Omicini: *Micro-Intelligence for the IoT: SE Challenges and Practice in LPaaS*. International Conference on Cloud Engineering, Orlando, FL, USA, 17–20/04/2018.
- Stefano Mariani: *On the “Local-to-Global” Issue in Self-Organisation: Chemical Reactions with Custom Kinetic Rates*. Fundamentals of Collective Adaptive Systems Workshop, Eighth IEEE International Conference on Self-Adaptive and Self-Organizing Systems, London, UK, 08–12/09/2014.

Others:

- Winner of hackaton “DroidCon2020 MEC hackaton” (<https://it.droidcon.com/2020/hackathon/>).

5.6 Editorial activities

Conference and workshop organisation:

- EDAS co-chair of the international conference “24th International Conference on Pervasive Computing and Communications”, Pisa, Italy, 16-20/3/2026 (<https://percom.org/organizing-committee>)

- EDAS co-chair of the international conference “22nd International Conference on Pervasive Computing and Communications”, Biarritz, France, 11-15/3/2024 (<https://percom.org/2024/organizing-committee>)
- EDAS co-chair of the international conference “21st International Conference on Pervasive Computing and Communications”, Atlanta, USA, 13-17/3/2023 (<https://www.percom.org/2023/organizing-committee>)
- co-chair of “XIV Workshop on Agents Applied to Healthcare”, Online, 9/5/2022 (<https://a2hc.github.io/a2hc2022/committees/>)
- co-chair of the international workshop “XIII Workshop on Agents Applied in Healthcare”, Online, 4/5/2021 (<https://a2hc2021.github.io/committees/>)
- co-chair of the international workshop “International Workshop on Healthcare Intelligent Multi-Agent Systems”, Online, 8/5/2020 (<https://apice.unibo.it/xwiki/bin/view/HIMAS2020/Organizers>)
- co-chair of “XII Workshop on Agents Applied in Health Care”, Turin, 28/10/2019 (https://www.up.pt/arquivoweb/web.fe.up.pt/_a2hc19/organisation.html)

Editorial committee member:

- American Journal of Engineering and Applied Sciences, Science Publications

Guest-editor:

- “Emerging Techniques in Engineering Intelligent Agents and Multi-Agent Systems”, Applied Sciences, MDPI (2025, ISSN 2076-3417)
- “Agent-based Systems in Healthcare”, Computer Methods and Programs in Biomedicine, Elsevier (2024, ISSN 1872-7565)
- “Autonomous Agents and Multi-Agent Systems Applied in Healthcare”, Electronics, MDPI (2021, ISSN 2079-9292)
- “Advances in Multi-Agent Systems”, Applied Sciences, MDPI (2021, ISSN 2076-3417)
- “Multi-Agent Systems 2019”, Applied Sciences, MDPI (2019, ISSN 2076-3417)
- “Multi-Agent Systems”, Applied Sciences, MDPI (2018, ISSN 2076-3417)

Program committee member:

- The 24th International Conference on Pervasive Computing and Communications, 2026
- The 28th European Conference on Artificial Intelligence, 2025
- The 1st International Workshop on Logic, Statistical and Neural AI, 2025

- 1st International Conference on Explainable AI for Neural and Symbolic Methods, 2025
- 26th Workshop “From Objects to Agents”, 2025
- 4th DISCOLI Workshop on DIStributed COLlective Intelligence, 2025
- 1st International Workshop on Advanced Neuro-Symbolic Applications, 2025
- AREA, 2025
- IEEE Symposium on Computers and Communications, 2025
- 38th International Symposium on Computer Based Medical Systems, 2025
- 6th IEEE International Conference on Autonomic Computing and Self-Organizing Systems, 2025
- 34th International Joint Conference on Artificial Intelligence, 2025
- 23rd International Conference on Practical Applications of Agents and Multi-Agent Systems, 2025
- The 7th edition of the International Congress on Blockchain and Applications, 2025
- Third World Conference on eXplainable Artificial Intelligence, 2025
- 5th International Workshop on Communication and Networking for Swarms Robotics, 2025
- The 25th International Conference on Principles and Practice of Multi-Agent Systems, 2024
- The 23rd International Conference on Autonomous Agents and Multi-Agent Systems, 2024
- The 2nd World Conference on eXplainable Artificial Intelligence, 2024
- 3rd DISCOLI Workshop on DIStributed COLlective Intelligence, 2024
- 6th International Congress on Blockchain and Applications, 2024
- 22nd International Conference on Practical applications of Agents and Multi-Agent Systems, 2024
- 25th Workshop “From Objects to Agents”, 2024
- 37th International Symposium on Computer Based Medical Systems, 2024
- The 22nd International Conference on Autonomous Agents and Multi-Agent Systems, 2023
- 5th International Congress on Blockchain and Applications, 2023
- The 1st World Conference on eXplainable Artificial Intelligence, 2023

- 11th Ecuadorian Conference on Information and Communication Technologies, 2023
- International Conference on Intelligent Metaverse Technologies & Applications, 2023
- 24th Workshop “From Objects to Agents”, 2023
- 36th International Symposium on Computer Based Medical Systems, 2023
- 25th International Conference on Coordination Models and Languages, 2023 (Artifacts evaluation committee member)
- 37th AAAI Conference on Artificial Intelligence, 2023 (Senior PC member)
- 2023 IEEE Consumer Communications & Networking Conference
- 4th International Congress on Blockchain and Applications, 2022
- Fourth International IEEE Workshop on Social (Media) Sensing, 2022
- 23rd Workshop “From Objects to Agents”, 2022
- 15th International Symposium on Intelligent Distributing Computing, 2022
- Coordination, Organisations, Institutions, and Norms at the 21st International Conference on Autonomous Agents and Multiagent Systems, 2022
- 1st DISCOLI Workshop on DIStributed COLlective Intelligence, 2022
- 10th Ecuadorian Conference on Information and Communication Technologies, 2022
- 14th International Symposium on Intelligent Distributed Computing, 2021
- 20th International Conference on Autonomous Agents and Multiagent Systems, 2021
- 22nd Workshop “From Objects to Agents”, 2021
- 3rd International Congress on Blockchain and Applications, 2021
- 9th Ecuadorian Conference on Information and Communication Technologies, 2021
- Eleventh International Conference on Cloud Computing, GRIDs, and Virtualization, 2020
- 2nd International Congress on Blockchain and Applications, 2020
- 24th European Conference on Artificial Intelligence, 2020
- 1st International Congress on Blockchain and Applications, 2019
- 19th Workshop “From Objects to Agents”, 2018
- 1st workshop on Architectures, Languages and Paradigms for IoT, 2017

- 14th IEEE International Conference on Networking, Sensing and Control, 2017
- 18th Workshop “From Objects to Agents”, 2017
- 17th Workshop “From Objects to Agents”, 2016
- 10th IEEE International Conference on Self-Adaptive and Self-Organizing Systems, 2016
- 15th Workshop “From Objects to Agents”, 2014
- 14th Workshop “From Objects to Agents”, 2013

Reviewer:

- Elsevier Engineering Applications of Artificial Intelligence (EAAI)
- Springer SN Computer Science
- Elsevier Journal of Information Security and Applications (JISA)
- Elsevier Future Generation Computing Systems (FGCS)
- IEEE International Conference on Pervasive Computing and Communications (PerCom)
- IFAAMAS International Conference on Autonomous Agents and Multiagent Systems (AAMAS)
- AAAI Conference on Artificial Intelligence (AAAI)
- Springer Journal of Medical Systems
- Pervasive and Mobile Computing, Elsevier, ISSN: 1574-1192
- ACM Transactions on Autonomous and Adaptive Systems (TAAS)
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS)
- International Joint Conferences on Artificial Intelligence (IJCAI)
- IEEE Internet of Things Journal
- Artificial Intelligence in Medicine, Elsevier, ISSN: 0933-3657
- Science of Computer Programming, Elsevier, ISSN: 0167-6423
- European Conference on Artificial Intelligence (ECAI)

5.7 Conference presentations

- T31** *7th International Workshop on Intelligent Systems for the Internet of Things (ISIoT)*. Lucca, Italy, 9/6/2025. Mariani, Stefano: “Towards Intelligent Monitoring and Control of Industrial Internet of Things Deployments with Causality-aware Digital Twins.”
- T30** *20th Workshop on Context and Activity Modelling and Recognition (Co-MoReA)*. Biarritz, France, 11/3/2024. Mariani, Stefano: “Distributed Discovery of Causal Networks in Pervasive Environments.”
- T29** *4th IEEE International Conference on Autonomic Computing and Self-Organizing Systems (ACSOS)*. Toronto, Canada, 25-29/09/2023. Mariani, Stefano: “Learning Stigmergic Communication for Self-organising Coordination.”
- T28** *21st International Conference on Practical Applications of Agents and Multi-Agent Systems (PAAMS)*. Guimaraes, Portugal, 12-14/07/2023. Mariani, Stefano: “Multi-agent Learning of Causal Networks in the Internet of Things.”
- T27** *11th International Workshop on Engineering Multi-Agent Systems (EMAS)*. London, UK, 29-30/06/2023. Mariani, Stefano: “Towards developing Digital Twin enabled Multi-Agent Systems.”
- T26** *24th International Conference on Principles and Practice of Multi-Agent Systems (PRIMA)*. Valencia, Spain, 16-18/11/2022. Mariani, Stefano: “Cooperative Driving at Intersections Through Agent-Based Argumentation.”
- T25** *10th International Workshop on Engineering Multi-Agent Systems (EMAS)*. Online, 9-10/5/2022. Mariani, Stefano: “About Digital Twins, agents, and multiagent systems: a cross-fertilisation journey”.
- T24** *30th IEEE International Conference on Enabling Technologies: Infrastructure for Collaborative Enterprises (WETICE)*. Online, 27–29/10/2021. Mariani, Stefano: “An Adaptive Approach for the Coordination of Autonomous Vehicles at Intersections.”
- T23** *10th International Symposium On Leveraging Applications of Formal Methods, Verification and Validation (ISOLA)*. Online, 25–29/10/2021. Mariani, Stefano: “Degrees of Autonomy in Coordinating Collectives of Self-Driving Vehicles.”
- T22** *14th International Symposium on Intelligent Distributed Computing (IDC)*. Online, 16/9/2021. Mariani, Stefano: “Combining Coordination Strategies for Autonomous Vehicles in Intersection Networks.”
- T21** *XIII International Workshop on Agents Applied in Healthcare (A2HC)*. Online, 04/05/2021. Mariani, Stefano: “Augmenting BDI agency with a Cognitive Service: general architecture and validation in healthcare domain.”

- T20** *XVII International Workshop on Context and Activity Modeling and Recognition (CoMoReA)*. Online, 22/03/2021. Mariani, Stefano: “Developing a “Sense of Agency” in IoT Systems: Preliminary Experiments in a Smart Home Scenario.”
- T19** *12th International Conference on Internet and Distributed Computing Systems*. Napoli, Italy, 10–12/10/2019. Mariani, Stefano: “Argumentation-based Coordination in IoT: a Speaking Objects Proof-of-Concept.”
- T18** *32nd IEEE International Symposium on Computer-Based Medical Systems*. Cordoba, Spain, 05–07/06/2019. Mariani, Stefano: “Risk Prediction as a Service: a DSS architecture promoting interoperability and collaboration.”
- T17** *16th International Workshop on Foundations of Coordination Languages and Self-Adaptive Systems*. Toulouse, France, 26/06/2018. Mariani, Stefano: “Coordination of Complex Socio-technical Systems: Challenges and Opportunities.”
- T16** *20th International Conference on Coordination Models and Languages*. Madrid, Spain, 18–22/06/2018. Mariani, Stefano: “Twenty Years of Coordination Technologies: State-of-the-Art and Perspectives.”
- T15** *11th International Symposium on Intelligent Distributed Computing*. Belgrade, Serbia, 12/10/2017. Mariani, Stefano: “Programming the Interaction Space Effectively with ReSpecTX.”
- T14** *2017 IEEE/WIC/ACM International Conference on Web Intelligence*. Leipzig, Germany, 23–26/08/2017. Mariani, Stefano: “Nature-inspired Coordination: Current Status and Research Trends.”
- T13** *XIV Conference of the Italian Association for Artificial Intelligence*. Ferrara, Italy, 23–25/09/2015. Mariani, Stefano: “Anticipatory Coordination in Socio-technical Knowledge-intensive Environments: Behavioural Implicit Communication in MoK.”
- T12** *17th International Conference on Coordination Models and Languages*. Grenoble, France, 02–05/06/2015. Mariani, Stefano: “Blending Event-Based and Multi-Agent Systems around Coordination Abstractions.”
- T11** *Collective Adaptive Systems: Qualitative and Quantitative Modelling and Analysis*. Dagstuhl, Germany, 14–19/12/2014. Mariani, Stefano: “Stochastic Coordination in CAS: Expressiveness & Predictability.”
- T10** *Fundamentals of Collective Adaptive Systems*. London, UK, 08/09/2014. Mariani, Stefano: “On the “Local-to-Global” Issue in Self-Organisation: Chemical Reactions with Custom Kinetic Rates.”
- T9** *8th International Symposium on Intelligent Distributed Computing*. Madrid, Spain, 03–05/09/2014. Mariani, Stefano: “Models of Autonomy and Coordination: Integrating Subjective & Objective Approaches in Agent Development Frameworks.”

- T8** *14th Workshop “From Objects to Agents”*. Torino, Italy, 02–03/12/2013. Mariani, Stefano: “Parameter Engineering vs. Parameter Tuning: the Case of Biochemical Coordination in MoK.”
- T7** *Workshop on Agent Based Computing: From Model to Implementation* X. Koblenz, Germany, 16–17/09/2013. Mariani, Stefano: “Event-driven Programming for Situated MAS with ReSpecT Tuple Centres.”
- T6** *15th International Conference on Coordination Models and Languages*. Florence, Italy, 03–06/06/2013. Mariani, Stefano: “Probabilistic Modular Embedding for Stochastic Coordinated Systems.”
- T5** *Spatial Computing Workshop*. Saint Paul, Minnesota, USA, 06/05/2013. Mariani, Stefano: “Promoting Space-Aware Coordination: ReSpecT as a Spatial-Computing Virtual Machine.”
- T4** *Social Coordination: Principles, Artifacts and Theories Symposium at the AISB Annual Convention*. Exeter, UK, 03–05/04/2013. Mariani, Stefano: “MoK: Stigmergy Meets Chemistry to Exploit Social Actions for Coordination Purposes.”
- T3** *28th ACM Symposium on Applied Computing*. Coimbra, Portugal, 21/03/2013. Mariani, Stefano: “Probabilistic Embedding: Experiments with Tuple-based Probabilistic Languages.”
- T2** *6th International Symposium on Intelligent Distributed Computing*. Calabria, Italy, 25/09/2012. Mariani, Stefano: “Molecules of Knowledge: Self-Organisation in Knowledge-Intensive Environments.”
- T1** *1st International Workshop on Adaptive Service Ecosystems: Natural and Socially Inspired Solutions*. Lyon, France, 10/09/2012. Mariani, Stefano: “Self-Organising News Management: The Molecules of Knowledge Approach.”

5.8 Software development

Created / contributed software:

- Simulation environment for multi-agent reinforcement learning research in swarm intelligence: <https://github.com/smarianimore/RL-swarms>
- Client Java for “Open Network Edge Services Software APIs” toolkit developed by Intel to enable access to MEC infrastructure in 5G cellular networks: <https://github.com/openness-4-java>
- Machine Learning pipeline for clinical risk prediction within a clinical decision support system, and to provide personalised treatment suggestions, WP3 of European project H2020 “CONNECARE”: <https://gitlab.com/SteMore/umcg-data-exploration>
- Decision support system for patient monitoring, WP3 of European project H2020 “CONNECARE”: <https://github.com/s-mariani/settimo-tentativo-ufficiale>
- Decision support system for clinical risk prediction, WP3 of European project H2020 “CONNECARE”:

- “learning mode”: <https://github.com/AgentGroup/Connecare-Learning>
- “plugin mode”: <https://bitbucket.org/agentgroup/cdss-scala/>
- Recommender System for WP4 of European project H2020 “CONNECARE”: <https://bitbucket.org/agentgroup/rs-physical-activity/>
- *MoK* coordination middleware: <http://apice.unibo.it/xwiki/bin/view/MoK/WebHome> (source repository: <https://bitbucket.org/smariani/mok-projects/src/master/>)
- TuCSoN coordination middleware: <http://apice.unibo.it/xwiki/bin/view/TuCSoN/WebHome>
- ReSpecT coordination language, distributed (open source) as part of TuCSoN coordination middleware: <http://apice.unibo.it/xwiki/bin/view/ReSpecT/WebHome>

6 Teaching activity

PhD courses:

- “Multi-agent Reinforcement Learning” (12 hours), Ph.D course “Industrial innovation engineering”, University of Modena and Reggio Emilia, 2024 (<http://www.iii.unimore.it/site/home/courses/year-2024-2025.html>)
- “Emerging IT Technologies: Autonomous Systems and Blockchains” (12 hours), Ph.D course “Industrial innovation engineering”, University of Modena and Reggio Emilia, 2023 (<http://www.iii.unimore.it/site/home/courses/year-2022-2023.html>)
- “Introduction to Autonomous Systems” (12 hours), Ph.D course “Industrial innovation engineering”, University of Modena and Reggio Emilia, 2022 (<http://www.iii.unimore.it/site/home/courses/year-2021-2022.html>)
- “Emerging Software Technologies: Blockchains and Autonomous Systems” (12 hours), Ph.D course “Industrial innovation engineering”, University of Modena and Reggio Emilia, 2021 (<https://www.iii.unimore.it/site/home/courses/year-2021.html>)
- “Emerging IT Technologies: Blockchains and Autonomous Systems” (12 hours), Ph.D course “Industrial innovation engineering”, University of Modena and Reggio Emilia, 2020 (<https://www.iii.unimore.it/site/home/courses/year-2020.html>)

Master degree courses:

- “Data Science & Artificial Intelligence” (12 CFU), masters degree in digital automation engineering (D.M.270/04), University of Modena and Reggio Emilia, academic year 2024/2025

Bachelor degree courses:

- “Fondamenti di Informatica” (3 CFU), bachelor degree in mechatronic engineering (D.M.270/04), University of Modena and Reggio Emilia, academic year 2023/2024
- “Fondamenti di Programmazione” (6 CFU), bachelor degree in management engineering (D.M.270/04), University of Modena and Reggio Emilia, academic years 2019/2020, 2020/2021, 2021/2022, 2022/2023, 2023/2024, 2024/2025
- “Fondamenti di Informatica” (9 CFU), bachelor degree in management engineering (D.M.270/04), University of Modena and Reggio Emilia, academic years 2016/2017, 2017/2018, and 2018/2019
- “Programmazione Concorrente e Distribuita” (3 CFU), master degree in Computer Science Engineering, ALMA MATER STUDIORUM–University of Bologna, academic year 2011/2012
- “Sistemi Distribuiti” (3 CFU), master degree in Computer Science Engineering, ALMA MATER STUDIORUM–University of Bologna, academic year 2012/2013

Other teaching activities:

- Regional “Corsi di Istruzione e Formazione Tecnica Superiore”:
 - IFTS “Tecnico del disegno e progettazione industriale specializzato in smart manufacturing” (2018/2019): learning modules “Internet of Things” (8 hours) and “Cloud computing” (8 hours)
 - IFTS “Tecniche per la progettazione e lo sviluppo di applicazioni informatiche” (2015/2016): learning module “Sistemi Informatici e loro Gestione” (20 hours)
- Supervisor and co-supervisor of several bachelor and master theses (<https://smarianimore.github.io/students/>)

7 Institutional activity

- Committee member at the University of Namur, Belgium, for the PhD candidate Manel Barkallah, from 2021, PhD in computer science awarded in 2025
- Committee member of the Ph.D course “Industrial innovation engineering”, University of Modena and Reggio Emilia, academic years 2024/2025, 2025/2026 (<https://www.iii.unimore.it/site/home/teaching-board.html>)
- TOLC (test to enroll in closed number Universities) committee member, University of Modena and Reggio Emilia, from academic year 2016/2017 to academic year 2020/2021
- Committee member for testing Italian language knowledge of incoming foreign students, University of Modena and Reggio Emilia, from academic year 2016/2017 to academic year 2020/2021

8 Publications

List of publications categorised by venue and sorted most recent first.

8.1 Monographs

- M1** Mariani, Stefano. 2016. “Coordination of Complex Sociotechnical Systems: Self-organisation of Knowledge in MoK.” *Artificial Intelligence: Foundations, Theory, and Algorithms*, Springer International Publishing. Hardcover ISBN: 978-3-319-47108-2 (234 pages).

8.2 Peer-reviewed international journals

- R29** Finistrella, Salvo; Mariani, Stefano; Zambonelli, Franco. 2025. “Multi-Agent Reinforcement Learning for Cybersecurity: Classification and survey”. Elsevier *Intelligent Systems with Applications*. Volume 26 (pages 1–21).
- R28** Burattini, Samuele; Mariani, Stefano; Montagna, Sara; Picone, Marco; Ricci, Alessandro. 2025. “Distributing intelligent functionalities in the Internet of Things with agents and Digital Twins”. Elsevier *Internet of Things*. Volume 31 (pages 1–23).
- R27** Casadei, Roberto; Fornari, Fabrizio; Mariani, Stefano; Savaglio, Claudio. 2025. “Programming IoT systems: A focused conceptual framework and survey of approaches”. Elsevier *Internet of Things*. Volume 31 (pages 1–27).
- R26** Lippi, Marco; Mariani, Stefano; Martinelli, Matteo; Zambonelli, Franco. 2024. “Autonomous Mental Development at the Individual and Collective Levels: Concept and Challenges”. IEEE *Access*. Volume 13 (pages 5907–5921).
- R25** Zambonelli, Franco; Bergenti, Federico; Mariani, Stefano; Monica, Stefania. 2024. “Islands of cooperation emerge by stigmergic interactions in iterated spatial games”. *PLOS ONE*. Volume 19, Issue 7 (pages 1–17).
- R24** Casadei, Roberto; Mariani, Stefano; Pianini, Danilo; Viroli, Mirko; Zambonelli, Franco. 2023. “Space-Fluid Adaptive Sampling by Self-Organisation”. EPISciences *Logical Methods in Computer Science*. Volume 19, Issue 4 (pages 1–33).
- R23** Francia, Alberto; Mariani, Stefano; Adduce, Giuseppe; Vecchiarelli, Sandro ; Zambonelli, Franco. 2023. “Digital Management of Competencies in Web 3.0: The C-Box Approach”. MDPI *Future Internet* 15, no. 11: 350 (pages 1–28).
- R22** Mariani, Stefano; Picone, Marco; Ricci, Alessandro. 2023. “Agents and Digital Twins for the engineering of Cyber-Physical Systems: opportunities, and challenges”. Springer *Annals of Mathematics and Artificial Intelligence*. DOI: 10.1007/s10472-023-09884-9 (pages 1–22).

- R21** Sulis, Emilio; Mariani, Stefano; Montagna, Sara. 2023. “A survey on agents applications in healthcare: Opportunities, challenges and trends”. Elsevier *Computer Methods and Programs Biomedicine*. Volume 236: 107525 (pages 1–18).
- R20** Ricci, Alessandro; Croatti, Angelo; Mariani, Stefano; Montagna, Sara; Picone, Marco. 2022. “Web of Digital Twins”. ACM *Transactions on Internet Technology*. Volume 22, Issue 4 (pages 1–30).
- R19** Pianini, Danilo; Casadei, Roberto; Viroli, Mirko; Mariani, Stefano; Zambonelli, Franco. 2021. “Time-Fluid Field-Based Coordination through Programmable Distributed Schedulers” EPIsciences *Logical Methods in Computer Science* Volume 17, Issue 4 (pages 1–48).
- R18** Montagna, Sara; Mariani, Stefano; Gamberini, Emiliano. 2021. “Augmenting BDI Agency with a Cognitive Service: Architecture and Validation in Healthcare Domain.” Springer *Journal of Medical Systems* 45, 103 (pages 1–10).
- R17** Mariani, Stefano; Metting, Esther; Lahr, Maarten M. H.; Vargiu, Eloisa; Zambonelli, Franco. 2021. “Developing an ML pipeline for asthma and COPD: The case of a Dutch primary care service.” Wiley *International Journal of Intelligent Systems* 36 (pages 6763–6790).
- R16** Mariani, Stefano; Cabri, Giacomo; Zambonelli, Franco. 2021. “Coordination of Autonomous Vehicles: Taxonomy and Survey.” ACM *Computing Surveys* 54, no. 1: 19 (pages 1–33).
- R15** Ciatto, Giovanni; Mariani, Stefano; Omicini, Andrea; Zambonelli, Franco. 2020. “From Agents to Blockchain: Stairway to Integration.” MDPI *Applied Sciences* 10, no. 21: 7460 (pages 1–22).
- R14** Ciatto, Giovanni; Mariani, Stefano; Di Marzo Serugendo, Giovanna; Louvel, Maxime; Omicini, Andrea; Zambonelli, Franco. 2020. “Twenty years of coordination technologies: COORDINATION contribution to the state of art.” Elsevier *Journal of Logical and Algebraic Methods in Programming* 113, no. 100531 (pages 1–25).
- R13** Montagna, Sara; Mariani, Stefano; Gamberini, Emiliano; Ricci, Alessandro; Zambonelli, Franco. 2020. “Complementing Agents with Cognitive Services: A Case Study in Healthcare.” Springer *Journal of Medical Systems* 44, no. 188 (pages 1–10).
- R12** Ciatto, Giovanni; Mariani, Stefano; Maffi, Alfredo; Omicini, Andrea. 2020. “Blockchain-Based Coordination: Assessing the Expressive Power of Smart Contracts.” MDPI *Information* 11, no. 1: 52 (pages 1–20).
- R11** Mamei, Marco; Bicocchi, Nicola; Lippi, Marco; Mariani, Stefano; Zambonelli, Franco. 2019. “Evaluating Origin–Destination Matrices Obtained from CDR Data.” MDPI *Sensors* 19, no. 20: 4470 (pages 1–17).
- R10** Mariani, Stefano. 2019. “Coordination in Socio-technical Systems: Where are we now? Where do we go next?” Elsevier *Science of Computer Programming* 184: 102317 (pages 1–15).

- R9** Calegari, Roberta; Denti, Enrico; Mariani, Stefano; Omicini, Andrea. 2019. “Logic programming as a service in multi-agent systems for the Internet of Things.” *Inderscience International Journal of Grid and Utility Computing* 10, no. 4 (pages 344–360).
- R8** Calegari, Roberta; Ciatto, Giovanni; Mariani, Stefano; Denti, Enrico; Omicini, Andrea. 2018. “LPaaS as Micro-Intelligence: Enhancing IoT with Symbolic Reasoning.” *MDPI Big Data & Cognitive Computing* 2, no. 3: 23 (pages 1–26).
- R7** Ricci, Alessandro; Viroli, Mirko; Omicini, Andrea; Mariani, Stefano; Croatti, Angelo; Pianini, Danilo. 2018. “Spatial Tuples: Augmenting Reality with Tuples.” *Elsevier Expert Systems* 35: e12273 (pages 1–31).
- R6** Calegari, Roberta; Denti, Enrico; Mariani, Stefano; Omicini, Andrea. 2018. “Logic Programming as a Service.” *Cambridge University Press Theory and Practice of Logic Programming* 18, no. 5-6 (pages 846–873).
- R5** Ciatto, Giovanni; Mariani, Stefano; Omicini, Andrea. 2018. “ReSpecTX: Programming interaction made easy.” *ComSIS Consortium Computer Science and Information Systems* 15, 3 (pages 655–682).
- R4** Lippi, Marco; Mamei, Marco; Mariani, Stefano; Zambonelli, Franco. 2017. “An Argumentation-Based Perspective Over the Social IoT.” *IEEE Internet of Things Journal* 5, no. 4 (pages 2537–2547).
- R3** Zambonelli, Franco; Omicini, Andrea; Anzenberger, Bernhard; Castelli, Gabriella; De Angelis, Francesco L.; Di Marzo Serugendo, Giovanna; Dobson, Simon; Fernandez-Marquez, Jose Luis; Ferscha, Alois; Mamei, Marco; Mariani, Stefano; Molesini, Ambra; Montagna, Sara; Nieminen, Jussi; Pianini, Danilo; Risoldi, Matteo; Rosi, Alberto; Stevenson, Graeme; Viroli, Mirko; Yee, Juan. 2015. “Developing pervasive multi-agent systems with nature-inspired coordination.” *Elsevier Pervasive and Mobile Computing* 17: Part B (pages 236–252).
- R2** Mariani, Stefano; Omicini, Andrea. 2015. “Coordinating activities and change.” *Elsevier Engineering Application of Artificial Intelligence* 41, C (pages 298–309).
- R1** Mariani, Stefano; Omicini, Andrea. 2014. “Coordination Mechanisms for the Modelling and Simulation of Stochastic Systems: The Case of Uniform Primitives.” *Society for Modeling & Simulation International Modeling & Simulation Magazine* IV, no. 3 (pages 6–25).

8.3 Peer-reviewed international conference and workshop proceedings

- C56** Briglia, Giovanni; Lippi, Marco; Mariani, Stefano; Zambonelli, Franco. 2024. “Improving Reinforcement Learning-Based Autonomous Agents with Causal Models.” 25th International Conference on Principles and Practice of Multi-Agent Systems (PRIMA), Kyoto, Japan, 18-24/11/2024. *Springer Lecture Notes in Computer Science* (pages 267–283)

- C55** Ricci, Alessandro; Mariani, Stefano; Zambonelli, Franco; Burattini, Samuele; Castelfranchi, Cristiano. 2024. “The Cognitive Hourglass: Agent Abstractions in the Large Models Era.” 23rd International Conference on Autonomous Agents and Multiagent Systems (AAMAS), Auckland, New Zealand, 6–10/05/2024. *International Foundation for Autonomous Agents and Multiagent Systems*, Proceedings (pages 2706–2711).
- C54** Mariani, Stefano; Zambonelli, Franco. 2024. “Distributed Discovery of Causal Networks in Pervasive Environments.” IEEE International Conference on Pervasive Computing and Communications Workshops and other Affiliated Events (PerCom Workshops), Biarritz, Francia, 11–15/03/2024. *IEEE Proceedings* (pages 1–6).
- C53** Picone, Marco; Mariani, Stefano; Cavicchioli, Roberto; Burgio, Paolo; Hamza Cherif, Arslane. 2024. “The Degree of Entanglement: Cyber-Physical Awareness in Digital Twin Applications.” 21st IEEE Consumer Communications & Networking Conference (CCNC), Las Vegas, USA, 6–9/01/2024. *IEEE Proceedings* (pages 736–744).
- C52** Mariani, Stefano; Zambonelli, Franco. 2023. “Learning Stigmergic Communication for Self-organising Coordination.” IEEE International Conference on Autonomic Computing and Self-Organizing Systems (ACSOS), Toronto, Canada, 25–29/09/2023. *IEEE Proceedings* (pages 47–56).
- C51** Mariani, Stefano; Picone, Marco; Ricci, Alessandro. 2023. “Towards Developing Digital Twin Enabled Multi-Agent Systems.” International Workshop on Engineering Multi-Agent Systems (EMAS), London, United Kingdom, 29/05/2023. *Springer Lecture Notes in Computer Science (LNAI)* 14378 (pages 178–187).
- C50** Picone, Marco; Mariani, Stefano; Viridis, Antonio; Castagnetti, Paolo. 2023. “Digital Twin & Blockchain: Technology Enablers for Metaverse Computing.” IEEE International Conference on Metaverse Computing, Networking and Applications (MetaCom), Kyoto, Japan, 26–28/06/2023. *IEEE Proceedings* (pages 1–8).
- C49** Montagna, Sara; Mariani, Stefano; Pengo, Martino Francesco. 2023. “A Chatbot-based Recommendation Framework for Hypertensive Patients.” IEEE 36th International Symposium on Computer-Based Medical Systems (CBMS), L’Aquila, Italy, 22–24/06/2023. *IEEE Proceedings* (pages 730–733).
- C48** Mariani, Stefano; Roseti, Pasquale; Zambonelli, Franco. 2023. “Multi-agent Learning of Causal Networks in the Internet of Things.” International Conference on Practical Applications of Agents and Multi-Agent Systems (PAAMS), Guimaraes, Portugal, 12–14/07/2023. *Advances in Practical Applications of Agents, Multi-Agent Systems, and Cognitive Mimetics, The PAAMS Collection. Springer Lecture Notes in Computer Science (LNAI)* 13955 (pages 163–174).
- C47** Mariani, Stefano; Roseti, Pasquale; Zambonelli, Franco. 2023. “Towards Multi-Agent Learning of Causal Networks.” 22nd International Conference on Autonomous Agents and Multiagent Systems (AAMAS), London,

United Kingdom, May 29 – June 2, 2023. *International Foundation for Autonomous Agents and Multiagent Systems*, Proceedings (pages 1–3).

- C46** Mariani, Stefano; Ferrari, Dario; Zambonelli, Franco. 2022. “Cooperative Driving at Intersections Through Agent-Based Argumentation.” Proceedings of the 24th International Conference on Principles and Practice of Multi-Agent Systems (PRIMA), Valencia, Spain, 16–18/11/2022. *Springer*, Lecture Notes in Computer Science 13753 (pages 37–53).
- C45** Mariani, Stefano; Picone, Marco; Ricci, Alessandro. 2022. “About Digital Twins, Agents, and Multiagent Systems: A Cross-Fertilisation Journey.” Autonomous Agents and Multiagent Systems. Best and Visionary Papers (AAMAS 2022 Workshops), Online, 9–13/05/2022. *Springer*, Lecture Notes in Computer Science 13441 (pages 114–129).
- C44** Lippi, Marco; Mariani, Stefano; Martinelli, Matteo; Zambonelli, Franco. 2022. “Individual and Collective Self-Development: Concepts and Challenges.” Proceedings of the 17th Conference on Computer Science and Intelligence Systems (FedCSIS), Sofia, Bulgaria, 4–7/09/2022. *Annals of Computer Science and Information Systems* (pages 15–21).
- C43** Martinelli, Matteo; Mariani, Stefano; Lippi, Marco; Zambonelli, Franco. 2022. “Self-Development and Causality in Intelligent Environments.” Workshops at 18th International Conference on Intelligent Environments (IE2022), Biarritz, France, 20–23/06/2022. *IOS Press*, Ambient Intelligence and Smart Environments (pages 248–257).
- C42** Casadei, Roberto; Mariani, Stefano; Pianini, Danilo; Viroli, Mirko; Zambonelli, Franco. 2022. “Space-Fluid Adaptive Sampling: A Field-Based, Self-organising Approach.” 17th International Federated Conference on Distributed Computing Techniques (DisCoTec), Lucca, Italy, 13–17/06/2022. *Springer*, *Lecture Notes in Computer Science* 13271 (pages 99–117).
- C41** Gambelli, Marco; Mariani, Stefano; Cabri, Giacomo; Zambonelli, Franco. 2022. “Combining Coordination Strategies for Autonomous Vehicles in Intersections Networks.” 14th International Symposium on Intelligent Distributed Computing (IDC), Online, 16–18/09/2021. *Springer Studies in Computational Intelligence* 1026 (pages 147–157).
- C40** Glorio, Nicholas; Mariani, Stefano; Cabri, Giacomo; Zambonelli, Franco. 2021. “An Adaptive Approach for the Coordination of Autonomous Vehicles at Intersections.” IEEE 30th International Conference on Enabling Technologies: Infrastructure for Collaborative Enterprises (WETICE), Bayonne, France, 27–29/10/2021. *IEEE Proceedings* (pages 1–6).
- C39** Picone, Marco; Mariani, Stefano; Mamei, Marco; Zambonelli, Franco; Berlier, Mirko. 2021. “WIP: Preliminary Evaluation of Digital Twins on MEC Software Architecture.” 22nd IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM), Online, 7–11/06/2021. *IEEE*, Proceedings (pages 256–259).
- C38** Lippi, Marco; Mariani, Stefano; Zambonelli, Franco. 2021. “Developing a “Sense of Agency” in IoT Systems: Preliminary Experiments in a Smart

Home Scenario.” 17th Workshop on Context and Activity Modeling and Recognition (CoMoReA), Online, 22/03/2021. *IEEE PerCom Workshops 2021*: 44-49 (pages 44–49).

- C37** Mariani, Stefano; Zambonelli, Franco. 2020. “Degrees of Autonomy in Coordinating Collectives of Self-Driving Vehicles.” International Symposium on Leveraging Applications of Formal Methods, Rhodes, Greece, 20–30/10/2020. Leveraging Applications of Formal Methods, Verification and Validation: Engineering Principles, *Springer Lecture Notes in Computer Science* 12477 (pages 189–204).
- C36** Pianini, Danilo; Mariani, Stefano; Viroli, Mirko; Zambonelli, Franco. 2020. “Time-Fluid Field-Based Coordination.” International Conference on Coordination Languages and Models, Valletta, Malta, 15–19/06/2020. Coordination Models and Languages, *Springer Lecture Notes in Computer Science* 12134 (pages 193–210).
- C35** Ciatto, Giovanni; Maffi, Alfredo; Mariani, Stefano; Omicini, Andrea. 2019. “Smart Contracts are More than Objects: Pro-activeness on the Blockchain.” International Congress on Blockchain and Applications, Avila, Spain, 26–28/06/2019. Blockchain and Applications, *Springer Advances in Intelligent Systems and Computing* 1010 (pages 45–53).
- C34** Mariani, Stefano; Croatti, Angelo; Ricci, Alessandro; Prati, Andrea; Vizari, Giuseppe. 2019. “ViTALiSE: Virtual to Augmented Loop in Smart Environments.” 18th International Conference on Autonomous Agents and MultiAgent Systems, Montreal, Canada, 13–17/05/2019. *International Foundation for Autonomous Agents and Multiagent Systems, Proceedings* (pages 2114–2116).
- C33** Mariani, Stefano; Casadei, Roberto; Fornari, Fabrizio; Fortino, Giancarlo; Pianini, Danilo; Re, Barbara; Russo, Wilma; Savaglio, Claudio; Viroli, Mirko; Zambonelli, Franco. 2019. “Case studies for a new IoT programming paradigm: Fluidware.” 1st Workshop on Artificial Intelligence and Internet of Things, Rende, Italy, 22/11/2019. Sun SITE Central Europe, RWTH Aachen University, *CEUR Workshop Proceedings* 2502 (pages 82–96).
- C32** Ciatto, Giovanni; Bosello, Michael; Mariani, Stefano; Omicini, Andrea. 2019. “Comparative Analysis of Blockchain Technologies under a Coordination Perspective.” International Conference on Practical Applications of Agents and Multi-Agent Systems, Avila, Spain, 26–28/06/2019. Highlights of Practical Applications of Survivable Agents and Multi-Agent Systems, The PAAMS Collection. *Springer Communications in Computer and Information Science* 1047 (pages 80–91).
- C31** Ciatto, Giovanni; Rizzato, Lorenzo; Omicini, Andrea; Mariani, Stefano. 2019. “TuSoW: Tuple Spaces for Edge Computing.” 28th International Conference on Computer Communication and Networks, Valencia, Spain, 29/97–01/08/2019. *IEEE, Proceedings* (pages 1–6).

- C30** Mariani, Stefano; Zambonelli, Franco; Tenyi, Akos; Cano, Isaac; Roca, Josep. 2019. “Risk Prediction as a Service: a DSS architecture promoting interoperability and collaboration.” 32nd International Symposium on Computer-Based Medical Systems, Cordoba, Spain, 05–07/06/2019. *IEEE, Proceedings* (pages 300–305).
- C29** Mariani, Stefano; Bicego, Andrea; Lippi, Marco; Mamei, Marco; Zambonelli, Franco. 2019. “Argumentation-Based Coordination in IoT: A Speaking Objects Proof-of-Concept.” International Conference on Internet and Distributed Computing Systems, Napoli, Italy, 10–12/10/2019. Internet and Distributed Computing Systems, *Springer Lecture Notes in Computer Science* 11874 (pages 169–180).
- C28** Ciatto, Giovanni; Maffi, Alfredo; Mariani, Stefano; Omicini, Andrea. 2019. “Towards Agent-oriented Blockchains: Autonomous Smart Contracts.” International Conference on Practical Applications of Agents and Multi-Agent Systems, Avila, Spain, 26–28/06/2019. Advances in Practical Applications of Survivable Agents and Multi-Agent Systems, The PAAMS Collection. *Springer Lecture Notes in Computer Science* 11523 (pages 29–41).
- C27** Pianini, Danilo; Ciatto, Giovanni; Casadei, Roberto; Mariani, Stefano; Virolì, Mirko; Omicini, Andrea. 2018. “Transparent Protection of Aggregate Computations from Byzantine Behaviours via Blockchain.” 4th EAI International Conference on Smart Objects and Technologies for Social Good, Bologna, Italy, 28–30/11/2018. *ACM, Proceedings* (pages 271–276).
- C26** Ciatto, Giovanni; Mariani, Stefano; Omicini, Andrea. 2018. “Blockchain for Trustworthy Coordination: A First Study with Linda and Ethereum.” IEEE/WIC/ACM International Conference on Web Intelligence, Santiago, Chile, 03/12/2018. *IEEE, Proceedings* (pages 696–703).
- C25** Lippi, Marco; Mamei, Marco; Mariani, Stefano; Zambonelli, Franco. 2018. “Distributed Speaking Objects: a Case for Massive Multiagent Systems.” International Workshop on Massively Multiagent Systems II, Stockholm, Sweden, 14/07/2018. Massively Multi-Agent Systems II, *Springer Lecture Notes in Computer Science* 11422 (pages 3–20).
- C24** Ciatto, Giovanni; Mariani, Stefano; Omicini, Andrea; Zambonelli, Franco; Louvel, Maxime. 2018. “Twenty Years of Coordination Technologies: State-of-the-Art and Perspectives.” International Conference on Coordination Languages and Models, Madrid, Spain, 18–21/06/2019. Coordination Models and Languages, *Springer Lecture Notes in Computer Science* 10852 (pages 51–80).
- C23** Mariani, Stefano. 2018. “Coordination of Complex Socio-technical Systems: Challenges and Opportunities.” Federation of International Conferences on Software Technologies: Applications and Foundations, Toulouse, France, 25–29/06/2018. Software Technologies: Applications and Foundations, *Springer Lecture Notes in Computer Science* 11176 (pages 295–310).
- C22** Calegari, Roberta; Ciatto, Giovanni; Mariani, Stefano; Denti, Enrico; Omicini, Andrea. 2018. “Micro-intelligence for the IoT: SE Challenges

- and Practice in LPaaS.” International Conference on Cloud Engineering, Orlando, FL, USA, 17–20/04/2018. *IEEE, Proceedings* (pages 292–297).
- C21** Fernandez, Juan Manuel; Mamei, Marco; Mariani, Stefano; Miralles, Felipe; Steblin, Alexander; Vargiu, Eloisa; Zambonelli, Franco. 2017. “Towards Argumentation-based Recommendations for Personalised Patient Empowerment.” 2nd International Workshop on Health Recommender Systems, Como, Italy, 27–31/08/2017. *ACM, Proceedings* (pages 374–375).
- C20** Calegari, Roberta; Denti, Enrico; Mariani, Stefano; Omicini, Andrea. 2017. “Logic Programming as a Service (LPaaS): Intelligence for the IoT.” 14th International Conference on Networking, Sensing and Control, Calabria, Italy, 16–18/05/2017. *IEEE, Proceedings* (pages 72–77).
- C19** Lippi, Marco; Mamei, Marco; Mariani, Stefano; Zambonelli, Franco. 2017. “Coordinating Distributed Speaking Objects.” 37th International Conference on Distributed Computing Systems, Atlanta, USA, 05–08/06/2017. *IEEE, Proceedings* (pages 1949–1960).
- C18** Ricci, Alessandro; Viroli, Mirko; Omicini, Andrea; Mariani, Stefano; Croatti, Angelo; Pianini, Danilo. 2017. “Spatial Tuples: Augmenting Physical Reality with Tuple Spaces.” 10th International Symposium on Intelligent Distributed Computing, Paris, France, 10–12/10/2016. *Intelligent Distributed Computing X, Springer Studies in Computational Intelligence* 678 (pages 121–130).
- C17** Ciatto, Giovanni; Mariani, Stefano; Omicini, Andrea. 2017. “Programming the Interaction Space Effectively with ReSpecTX.” International Symposium on Intelligent and Distributed Computing, Paris, France, 10–12/10/2017. *Intelligent Distributed Computing XI, Springer Studies in Computational Intelligence* 737 (pages 89–101).
- C16** Mariani, Stefano; Omicini, Andrea. 2015. “Anticipatory Coordination in Socio-technical Knowledge-intensive Environments: Behavioural Implicit Communication in MoK.” XIVth International Conference of the Italian Association for Artificial Intelligence, Ferrara, Italy, 23–25/09/2015. *Advances in Artificial Intelligence, Springer Lecture Notes in Computer Science* 9336 (pages 102–115).
- C15** Omicini, Andrea; Fortino, Giancarlo; Mariani, Stefano. 2015. “Blending Event-Based and Multi-Agent Systems around Coordination Abstractions.” International Conference on Coordination Languages and Models, Grenoble, France, 02–04/06/2015. *Coordination Models and Languages, Springer Lecture Notes in Computer Science* 9037 (pages 186–193).
- C14** Omicini, Andrea; Mariani, Stefano. 2015. “Reconciling Event- and Agent-Based Paradigms in the Engineering of Complex Systems: The Role of Environment Abstractions.” 4th International Workshop E4MAS, Paris, France, 06/05/2014. *Agent Environments for Multi-Agent Systems IV, Springer Lecture Notes in Computer Science* 9068 (pages 117–130).

- C13** Mariani, Stefano; Omicini, Andrea; Sangiorgi, Luca. 2015. “Models of Autonomy and Coordination: Integrating Subjective & Objective Approaches in Agent Development Frameworks.” 8th International Symposium on Intelligent Distributed Computing, Madrid, Spain, 3–5/09/2014. *Intelligent Distributed Computing VIII, Springer Studies in Computational Intelligence* 570 (pages 69–79).
- C12** Mariani, Stefano; Truong, Hong-Linh; Copil, Georgiana; Omicini, Andrea; Dustdar, Schahram. 2014. “Coordination-aware Elasticity.” IEEE/ACM 7th International Conference on Utility and Cloud Computing, London, UK, 8–11/12/2014. *IEEE, Proceedings* (pages 465–472).
- C11** Mariani, Stefano; Omicini, Andrea. 2014. “Coordination in Situated Systems: Engineering MAS Environment in TuCSon.” 7th International Conference on Internet and Distributed Computing Systems, Calabria, Italy, 22–24/09/2014. *Internet and Distributed Computing Systems, Springer Lecture Notes in Computer Science* 8729 (pages 99–110).
- C10** Mariani, Stefano. 2014. “On the “Local-to-Global” Issue in Self-Organisation: Chemical Reactions with Custom Kinetic Rates.” Eighth IEEE International Conference on Self-Adaptive and Self-Organizing Systems Workshops, London, UK, 08–12/09/2014. *IEEE, Proceedings* (pages 61–67).
- C9** Mariani, Stefano; Omicini, Andrea. 2013. “Probabilistic Embedding: Experiments with Tuple-based Probabilistic Languages.” 28th ACM Symposium on Applied Computing, Coimbra, Portugal, 18–22/03/2013. *ACM, Proceedings* (pages 1380–1382).
- C8** Mariani, Stefano; Omicini, Andrea. 2013. “Coordination for Situated MAS: Towards an Event-driven Architecture.” International Workshop on Petri Nets and Software Engineering, Milano, Italy, 24–25/06/2013. Sun SITE Central Europe, RWTH Aachen University, *CEUR Workshop Proceedings* 989 (pages 17–22).
- C7** Mariani, Stefano; Omicini, Andrea. 2013. “Promoting Space-Aware Coordination: ReSpecT as a Spatial-Computing Virtual Machine.” 6th International Spatial Computing Workshop, Saint Paul, Minnesota, USA, 06/05/2013. *International Foundation for Autonomous Agents and Multiagent Systems, Proceedings* (pages 29–34).
- C6** Mariani, Stefano; Omicini, Andrea. 2013. “Probabilistic Modular Embedding for Stochastic Coordinated Systems.” 15th International Conference on Coordination Languages and Models, Florence, Italy, 3–6/06/2013. *Coordination Models and Languages, Springer Lecture Notes in Computer Science* 7890 (pages 151–165).
- C5** Mariani, Stefano; Omicini, Andrea. 2013. “MoK: Stigmergy Meets Chemistry to Exploit Social Actions for Coordination Purposes.” Social Coordination: Principles, Artifacts and Theories Symposium at the AISB Annual Convention, Exeter, UK, 03–05/04/2013. *The Society for the Study of Artificial Intelligence and the Simulation of Behaviour, Proceedings* (pages 50–57).

- C4** Mariani, Stefano; Omicini, Andrea. 2013. “TuCSon on Cloud: An Event-driven Architecture for Embodied / Disembodied Coordination.” 13th International Conference on Algorithms and Architectures for Parallel Processing, Vietri sul Mare, Italy, 18–20/12/2013. Algorithms and Architectures for Parallel Processing, *Springer Lecture Notes in Computer Science* 8286 (pages 285–294).
- C3** Mariani, Stefano; Omicini, Andrea. 2013. “Molecules of Knowledge: Self-Organisation in Knowledge-Intensive Environments.” 6th International Symposium on Intelligent Distributed Computing, Calabria, Italy, 24–26/09/2012. Intelligent Distributed Computing VI, *Springer Studies in Computational Intelligence* 446 (pages 17–22).
- C2** Mariani, Stefano; Omicini, Andrea. 2013. “Event-driven Programming for Situated MAS with ReSpecT Tuple Centres.” 11th German Conference on Multi-Agent System Technologies, Koblenz, Germany, 16–20 September 2013. Multiagent System Technologies, *Springer Lecture Notes in Computer Science* 8076 (pages 306–319).
- C1** Mariani, Stefano; Omicini, Andrea. 2012. “Self-Organising News Management: The Molecules of Knowledge Approach.” Sixth International Conference on Self-Adaptive and Self-Organizing Systems Workshops, Lyon, France, 10/09/2012. *IEEE, Proceedings* (pages 11–16).

8.4 Peer-reviewed national conference and workshop proceedings

- CN12** Ciatto, Giovanni; Calegari, Roberta; Mariani, Giovanni; Denti, Enrico; Omicini, Andrea. 2018. “From the Blockchain to Logic Programming and Back: Research Perspectives.” 19th Workshop “From Objects to Agents”, Palermo, Italy, 28–29/06/2018. Sun SITE Central Europe, RWTH Aachen University, *CEUR Workshop Proceedings* 2215 (pages 69–74).
- CN11** Calegari, Roberta; Ciatto, Giovanni; Mariani, Giovanni; Denti, Enrico; Omicini, Andrea. 2018. “Logic Programming in Space-Time: The Case of Situatedness in LPaaS.” 19th Workshop “From Objects to Agents”, Palermo, Italy, 28–29/06/2018. Sun SITE Central Europe, RWTH Aachen University, *CEUR Workshop Proceedings* 2215 (pages 63–68).
- CN10** Mariani, Stefano; Omicini, Andrea; Ciatto, Giovanni. 2017. “Novel Opportunities for Tuple-based Coordination: XPath, the Blockchain, and Stream Processing.” 18th Workshop “From Objects to Agents”, Scilla (RC), Italy, 15–17/06/2017. Sun SITE Central Europe, RWTH Aachen University, *CEUR Workshop Proceedings* 1867 (pages 61–64).
- CN9** Calegari, Roberta; Denti, Enrico; Mariani, Stefano; Omicini, Andrea. 2016. “Towards Logic Programming as a Service: Experiments in tuProlog.” 17th Workshop “From Objects to Agents”, Catania, Italy, July 29–30/07/2016. Sun SITE Central Europe, RWTH Aachen University, *CEUR Workshop Proceedings* 1664 (pages 79–84).

- CN8** Mariani, Stefano; Omicini, Andrea. 2016. “Game Engines to Model MAS: A Research Roadmap.” 17th Workshop “From Objects to Agents”, Catania, Italy, July 29–30/07/2016. Sun SITE Central Europe, RWTH Aachen University, *CEUR Workshop Proceedings* 1664 (pages 106–111).
- CN7** Mariani, Stefano; Omicini, Andrea. 2016. “Multi-paradigm Coordination for MAS: Integrating Heterogeneous Coordination Approaches in MAS Technologies.” 17th Workshop “From Objects to Agents”, Catania, Italy, July 29–30/07/2016. Sun SITE Central Europe, RWTH Aachen University, *CEUR Workshop Proceedings* 1664 (pages 91–99).
- CN6** Mariani, Stefano; Omicini, Andrea. 2014. “TuCSoN Coordination for MAS Situatedness: Towards a Methodology.” XV Workshop “From Objects to Agents”, Catania, Italy, 24–26/09/2014. Sun SITE Central Europe, RWTH Aachen University, *CEUR Workshop Proceedings* 1260 (pages 62–71).
- CN5** Mariani, Stefano; Omicini, Andrea. 2013. “Tuple-based Coordination of Stochastic Systems with Uniform Primitives.” 14th Workshop “From Objects to Agents”, Torino, Italy, 2–3/12/2013. Sun SITE Central Europe, RWTH Aachen University, *CEUR Workshop Proceedings* 1099 (pages 8–15).
- CN3** Mariani, Stefano; Omicini, Andrea. 2013. “Space-aware Coordination in ReSpecT.” 14th Workshop “From Objects to Agents”, Torino, Italy, 02–03/12/2013. Sun SITE Central Europe, RWTH Aachen University, *CEUR Workshop Proceedings* 1099 (pages 1–7).
- CN2** Mariani, Stefano. 2013. “Parameter Engineering vs. Parameter Tuning: the Case of Biochemical Coordination in MoK.” 14th Workshop “From Objects to Agents”, Torino, Italy, 02–03/12/2013. Sun SITE Central Europe, RWTH Aachen University, *CEUR Workshop Proceedings* 1099 (pages 16–23).
- CN1** Mariani, Stefano; Omicini, Andrea. 2012. “Molecules of Knowledge: A Novel Perspective over Knowledge Management.” Doctoral Consortium of the 12th Symposium of the Italian Association for Artificial Intelligence, Roma, Italy, 15/06/2012. Sun SITE Central Europe, RWTH Aachen University, *CEUR Workshop Proceedings* 926 (pages 23–27).

8.5 Invited papers and editorials

- A9** Montagna, Sara; Mariani, Stefano; Schumacher, Michael I.; Manzo, Gaetano. 2024. “Agent-based systems in healthcare.” *Springer Computer Systems and Programs in Biomedicine* Volume 248, 108140 (pages 1–3).
- A8** Mariani, Stefano; Omicini, Andrea. 2023. “Special Issue “Advances in Multi-Agent Systems”: Editorial.” *MDPI Applied Sciences* 13(5) (pages 1–4).
- A7** Mariani, Stefano; Omicini, Andrea. 2020. “Special Issue “Multi-Agent Systems”: Editorial.” *MDPI Applied Sciences* 9(5) (pages 1–6).

- A6** Vaughan, Neil; Vargiu, Eloisa; Mariani, Stefano; Montagna, Sara; Schumacher, Michael I. 2020. “Guest Editorial: Healthcare Intelligent Multi Agent Systems.” *Journal of Medical Systems* 44(138) (pages 1–2).
- A5** Mariani, Stefano; Vargiu, Eloisa; Mamei, Marco; Zambonelli, Franco; Miralles, Felip. 2019. “Deliver intelligence to integrate care: the Connecare way.” *International Journal of Integrated Care* 19(4) (pages 176).
- A4** Mariani, Stefano; Omicini, Andrea. 2019. “Special Issue “Multi-Agent Systems”: Editorial.” *MDPI Applied Sciences* 9(5) (pages 1–9).
- A3** Garro, Alfredo; Mühlhäuser, Max; Tundis, Andrea; Mariani, Stefano; Omicini, Andrea; Vizzari, Giuseppe. 2019. “Intelligent Agents and Environment.” Reference Module in Life Sciences, *Encyclopedia of Bioinformatics and Computational Biology*, Volume 1 (pages 309–314).
- A2** Mariani, Stefano; Omicini, Andrea. 2017. “State-of-the-Art and Trends in Nature-inspired Coordination Models.” *IEEE Intelligent Informatics Bulletin* 18(2) (pages 35–40).
- A1** Omicini, Andrea; Mariani, Stefano. 2013. “Agents & multiagent systems: En route towards complex intelligent systems.” IOS Press *Intelligenza Artificiale* 7, no. 2 (pages 153–164).

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