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Abilitazione Scientifica Nazionale (Italian National Academic Qualification):
09/H1 – Sistemi di Elaborazione delle Informazioni (Information Processing Systems),
II Fascia (Associate Professor), valid from 14/04/2021 to 14/04/2033.

Short Biography:

Since spring 2024, I am an Assistant Professor (RTT) at the Dept. of Medicine for Innovation Medicine at the University of Verona, in the Industrial Computer Engineering (ICE) Laboratory and the Electronic System Design (ESD) Research Group.

In February 2020 I have been awarded a prestigious three-years Marie Skłodowska-Curie Individual Fellowships (Global Fellowship) by the European Commission to implement the *DeFacto – Design automation for smart Factories* project. To implement the DeFacto project, starting October 2020 I held a joint appointment at the University of Verona (Italy) and University of Southern California (USA) as a Marie Skłodowska-Curie fellow.

My research activities concern modeling, simulation, and verification of heterogeneous embedded systems and cyber-physical systems, with a special interest in cyber-physical production systems and smart manufacturing. Since my Master's degree, I have focused on techniques and methodologies for the automatic generation of homogeneous executable models for the efficient simulation of heterogeneous systems. I have expertise in the manipulation of modeling and description languages for heterogeneous systems. In this field, my main achievement was the definition of a methodology to automatically abstract analog models expressed using analog and mixed-signal extensions of HW description languages, and integrate them into homogeneous models for efficient simulation of smart devices.

Since 2015 I have also started to focus on the application of formal methods to the design automation and verification of cyber-physical systems. In particular, I focus on the application of Assume-Guarantee Contracts as a formal model to represent components and requirements within model-based and platform-based design flows. In this field, I have been collaborating with Prof. Pierluigi Nuzzo at the University of Southern California. The collaboration involves the development of CHASE (Contract-based Heterogeneous Analysis and System Exploration), a contract-based end-to-end requirement engineering framework for system-level design of cyber-physical systems.

From April 2018 and August 2020, I have been a Postdoctoral Research Fellow in the Automated System Security Research Group at the Singapore University of Technology and Design (SUTD). Before joining SUTD I was with the Dept. of Computer Science of the University of Verona (Italy), where I also obtained my Ph.D. in Computer Science in May 2016. While working toward my Ph.D., I spent eight months at the Donald O. Pederson Center of the University of California at Berkeley.

Previously, I received my Master's and Bachelor's degrees from the University of Verona in 2012 and 2010, respectively. During my undergraduate studies, I spent one year at the University of Linkoping (Sweden) funded by an Erasmus fellowship. In Linkoping, I had my first research experience, carrying on research on fault-tolerant architectures.

So far, I published 1 book, 7 book chapters, 12 peer-reviewed journal papers, and 37 conference papers; I received the Best Paper Award for track E at DATE 2024. Furthermore, I have been actively involved in multiple projects funded by the European Commission, the Defense Advanced Research Projects Agency (DARPA), the Office of Naval Research (ONR), and the Agency for Science Technology and Research (A*STAR) of Singapore, and in several industrial collaborations. I am a IEEE member since 2014.

In 2023 I co-founded FACTORYAL S.r.l., an innovative start-up operating in the market of factory automation software. It is part of the EXOR International group and a spin-off company from the University of Verona.

Current position:

01/04/2024 –: **Assistant Professor (RTT)**
Department of Engineering for Innovation Medicine – Section of Physics and Engineering,
University of Verona (Italy).

26/04/2023 – current: **Co-Founder** and **Scientific Advisor** for FACTORYAL S.r.l.

Previous Positions:

01/10/2023 – 31/03/2024: **Contracted Professor of Computer Architecture** and
Research Scholarship Holder
Department of Engineering for Innovation Medicine – Section of Physics and Engineering,
University of Verona (Italy).

01/10/2020 – 30/09/2023: **Marie Skłodowska-Curie Fellow – Global Fellowship**,
Department of Computer Science, University of Verona (Italy) and
Department of Electrical and Computer Engineering, University of Southern California (USA).
Project: *Design Automation for Smart Factories (DeFacto)* – European Commission grant: H2020-MSCA-IF-894237.

26/03/2018 – 18/08/2020: **Postdoctoral Research Fellow**,
Singapore University of Technology and Design (Singapore) - ASSET Research Group.
Projects: *Security and Performance Validation of Robots (part of the National Robotics Program of Singapore). Cyber-Physical Systems and Internet of Things Security and Safety.*

01/01/2016 – 28/02/2018: **Assegnista di Ricerca** (Postdoctoral Research Fellow),
Department of Computer Science, University of Verona (Italy),
Project title: A *Virtual Prototyping Environment for Smart Cyber-Physical Systems Design.*

Education:

01/01/2013 – 11/05/2016: ***Ph.D. in Computer Science***,
Dept. of Computer Science, University of Verona (Italy),
Thesis: A *Unifying Platform-Based Approach for the Design of Heterogeneous Systems*,
Advisor: Prof. Franco Fummi.

01/10/2010 – 18/10/2012: ***Master's degree in Computer Science and Engineering***,
Dept. of Computer Science, University of Verona (Italy),
Grade: 110/110 with Honors,
Thesis: *SysML as a Unifying Language for Platform-Based Design*,
Advisor: Prof. Franco Fummi.

01/10/2005 – 20/10/2010: ***Bachelor's degree in Computer Science***,
Faculty of Mathematical, Physical and Natural Sciences, University of Verona (Italy),
Grade: 100/110,
Thesis: *Optimization of Assertion Placement in Time-Constrained Embedded Systems*,
Advisors: Prof. Graziano Pravadelli, Prof. Zebo Peng (Linkoping University).

Visiting Experiences:

Date: January 2015 – September 2015
Institution: Dept. of Electrical Engineering and Computer Science - University of California at Berkeley (USA)
Supervisor: Prof. Alberto Sangiovanni-Vincentelli, and Dr. Pierluigi Nuzzo.

Date: January 2009 – December 2009
Institution: Linkoping Institute of Technology, University of Linkoping, Linkoping, (Sweden),
Supervisor: Prof. Zebo Peng (Co-supervisor: Viacheslav Izosimov).

Awards and recognitions:

2024: Best Paper Award at the Design Automation and Testing in Europe (DATE) 2024.
2020: Marie Sklodowska-Curie Actions, Individual Fellowship – Global Fellowship.
2019: Marie Sklodowska-Curie Actions, Seal of Excellence.
2018: Marie Sklodowska-Curie Actions, Seal of Excellence.
2008: ERASMUS European Exchange Program Scholarship.

Funded pojects:

Project title: Design automation for smart Factories (DeFacto)
Funding organization: Commissione Europea (H2020, Marie Sklodowska-Curie Actions)
Financed amount: 269,002.56 Euro
Project duration: 1/10/2020 – 30/9/2023

Project title: CollaborICE: una piattaforma per la modellazione, gestione e manutenzione di sistemi di produzione collaborativi.
Funding organization: Bando a cascata Next Generation EU (PNRR) del partenariato esteso MICS
Financed amount: 349,978.75 Euro
Project duration: 1/7/2024 – 30/6/2025

Project title: Sustainable Manufacturing with Advanced Resource Tracking (SMART)
Funding organization: Fondazione Cariverona
Financed amount: 95,000.00 Euro
Project duration: 31/3/2026 – 30/3/2028

Teaching Activities:

Course: Computer architectures and networks with laboratory – Laboratory module.
Institution: Dept. of Engineering for Innovation Medicine - University of Verona.
Program: Bachelor's degrees in Engineering for Robotic and Intelligent Systems.
Academic Years: 2024-25, 2025-26, 2026-27.

Course: Digital design and computer architecture – Computer Architecture module.
Institution: Dept. of Engineering for Innovation Medicine - University of Verona.
Program: Bachelor's degrees in Computer Science, and in Human Centered Medical System Engineering.
Academic Years: 2024-25, 2025-26, 2026-27.

Course: Computer architecture, advanced theory section.
Institution: Dept. of Computer Science - University of Verona.
Program: Bachelor's degrees in Computer Science, and in Human Centered Medical System Engineering.
Academic Years: 2022-23, 2023-24.

Course: Computer Architectures, practice section.
Institution: Dept. of Computer Science - University of Verona.
Program: Bachelor's degree in Computer Science.
Academic Years: 2015-16, 2016-17, 2017-18, and 2023-24.

Course: Computer Architectures – Laboratory.
Institution: Dept. of Computer Science - University of Verona.
Program: Bachelor's degrees in Computer Science, and in Human Centered Medical System Engineering.
Academic Years: 2023-24.

Position: Course projects mentor – Mathematical Foundations for System Design: Modeling and Analysis,
Institution: Dept. of Electrical and Computer Engineering – University of Southern California.
Program: Granduate (Ph.D. and M.Sc.) program in Electrical and Computer Engineering.
Academic Year: 2021-22.

Position: Lecturer of advanced course on System-level design,
Institution: Dept. of Computer Science – University of Verona.
Program: Ph.D. program in Computer Science.
Academic Year: 2020-21.

Position: Lecturer of Hardware design on FPGA.
Institution: Dept. of Computer Science - University of Verona.
Program: Bachelor's degree in Computer Science.
Academic Years: 2020-21, 2022-23, 2023-24.

Position: Lecturer of Informatica B,
Institution: Dept. of Electronics, Information, and Bioengineering – Polytechnic University of Milan.
Program: Bachelor's degree in Mechanical Engineering.
Academic Year: 2017-18.

Position: Instructor of Embedded Systems Design, laboratory section.
Institution: Dept. of Computer Science - University of Verona.
Program: Master's degree in Computer Science and Engineering.
Academic Years: 2013-14, 2014-15, 2015-16, 2016-17, and 2017-18.

Position: Temporary Professor of Operating Systems, laboratory section.
Institution: Dept. of Computer Science - University of Verona.
Program: Bachelor's degree in Computer Science.
Academic Year: 2016-17.

Most relevant participation in funded projects

Name: Collaborative robotics in the ICE laboratory (CollaborICE).
Funding organization and funding programme: Next-Generation EU (PNRR) via cascade funding of the MICS Extended Partnership.
Grant number: D43C22003120001
Period of the project: July 2024 – June 2025.
Role in the project: Project Coordinator.
Funded amount: 349,978.75 Euro

Name: Design Automation for Smart Factories (DaFacto).
Funding organization and funding programme: European Commission – Marie Skłodowska-Curie Actions.
Grant number: H2020-MSCA-IF-894237.
Period of the project: October 2020 – September 2023.
Role in the project: Principal Investigator.
Funded amount: 269.002 Euro.

Name: Ermine: A Self-reconfigurable Class of Maintenance Robots
Funding organization and funding programme: Singapore National Robotics Programme - Agency for Science Technology and Research (A*STAR).
Period of the project: August 2017 (Joined in March 2018) – August 2019.
Role in the project: Responsible for the definition of a methodology to verify control SW for a set of self-reconfigurable maintenance robots. The methodology must assure safety and security by design.

Name: Functional mockup Interface extension with support for Discrete Event Languages (FIDEL).
Funding organization and funding programme: University of Verona – Joint Project 2017.
Period of the project: February 2017 – January 2019.
Role in the project: Definition of a methodology for the synchronization of multiple discrete-time Functional Mockup Units within a dataflow model.

Name: Design of embedded mixed-criticality CONTRol systems under consideration of EXtra-functional properties (CONTREX).
Funding organization and funding programme: European Union – Framework Programme 7.
Period of the project: October 2013 – September 2016.
Role in the project: Research on different Work Packages.

Name: SMArt systems Codesign (SMAC).
Funding organization and funding programme: European Union – Framework Programme 7.
Period of the project: October 2011 – March 2015.
Role in the project: Research on different Work Packages; development of two project demonstrators.
Name: Toolchain for next generation Heterogeneous Multicore platforms (ToucHMore).
Funding organization and funding programme: European Union – Framework Programme 7.
Period of the project: September 2011 – May 2014.
Role in the project: Development of an automatic abstraction methodology to automatically produce SysML models from HW description language specifications.

Participation in Industrial Innovation

Company: FACTORYAL S.r.l., San Giovanni Lupatoto (Verona), Italy.
Sector: Industrial automation, Smart Manufacturing, Industrial Internet of Things.
Type of collaboration: Co-Founder, Partner, and Scientific Advisor.
Activities: Consulting and advising in the research activities of the company.

Organization: Industrial Cyber-Physical Systems Center (iCyPhy) - University of California, Berkeley.
Funding companies: IBM Corporation, United Technology Corporation.
Sector: Industrial Cyber-Physical Systems.
Type of collaboration: Visiting Research Scholar from January 2015 to September 2015.
Activities: Development of a prototypical architectural exploration tool for cyber-physical systems.

Company: EDALab S.r.l., San Giovanni Lupatoto (Verona), Italy.
Sector: Electronic Design Automation, Domotics, Internet of Things, Industrial automation.
Type of collaboration: technology transfer and prototypization of research products.

Services to the Scientific Community

- **Ph.D. Forum and Ph.D. School chair**: IEEE Forum on Design and Specification Languages (FDL) 2023, 2024, 2025.
- **Topic chair**: Topic E1 (Embedded software architecture, compilers and tool chains) at the IEEE/ACM Design Automation and Test in Europe (DATE) Conference 2026 and 2027.
- **Technical Program Committee co-chair:** IEEE International Conference on Omni-layer Intelligent systems (COINS) 2021 – track: EDA for AI, IoT, and Cyber-physical Systems.
- **Hands-on Tutorial Chair**, for the IEEE Forum on Design and Specification Languages (FDL) 2017.
- **Member of the Organizing Committee** for the IEEE International Conference on Electromagnetics in Advanced Applications (ICEAA) 2017.
- **Member of the Technical Program Committee**
  - IEEE/ACM Design Automation and Test in Europe (DATE) 2019 - 2027.
  - IEEE/ACM CODES+ISSS 2024 - 2027,
  - IEEE/ACM Design Automation Conference (DAC) 2024 - 2026,

- 28th IFIP/IEEE International Conference on Very Large Scale Integration (VLSI-SOC) 2020,
- Euromicro Conference on Digital Systems Design (DSD) 2016 – 2017.

- **Technical Reviewer for peer-reviewed journals:**
  - IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD),
  - IEEE Access,
  - IEEE Transactions on Software Engineering (TSE),
  - ACM Transactions on Embedded Computing Systems (TECS),
  - ACM Transactions on Cyber-Physical Systems (TCPS),
  - Wiley Journal of Software: Testing, Verification and Reliability (STVR),
  - IEEE Transactions on Computational Social Systems (TCSS),
  - Elsevier Science of Computer Programming,

Publications

Books (in Italian):

1. F. Fummi, M. Lora, M. G. Sami, C. Silvano "*Progettazione Digitale*." McGraw-Hill Eductional, 2023.

Book chapters:

2. S. Centomo, M. Lora, F. Fummi, "*Generation of Functional Mockup Units for Transactional Cyber-Physical Virtual Platforms*." In Languages, Design Methods, and Tools for Electronic System Design – Selected Contributions from FDL 2018, pp. 27-46, Springer, 2020.
3. S. Centomo, M. Lora, A. Portaluri, F. Stefanni, F. Fummi, "*Automatic Integration of HDL IPs in Simulink using FMI and S-Function Interfaces*." In Languages, Design Methods, and Tools for Electronic System Design – Selected Contributions from FDL 2017, pp. 1-23, Springer, 2019.
4. S. Vinco, M. Lora, and M. Zwolinski. "*SystemC-AMS simulation of conservative behavioral descriptions*" In Languages, Design Methods, and Tools for Electronic System Design, pp. 151–173, 2016.
5. S. Vinco, M. Lora, V. Guarnieri, J. Vanhese, D. Trachanis, and F. Fummi. "*Design domains and abstraction levels for effective smart system simulation.*" In Smart Systems Integration and Simulation, pp. 23–54. Springer, 2016.
6. I. Blanco, …, M. Lora, et al. "*Smart system case studies.*" In Smart Systems Integration and Simulation, pp. 195–227. Springer, 2016.
7. F. Fummi, M. Lora, F. Stefanni, and S. Vinco, "*Code Generation Alternatives to Reduce Heterogeneous Embedded Systems to Homogeneity*." In Languages, Design Methods, and Tools for Electronic System Design, pp. 103–124. 2014.

Journal publications:

1. S. Gaiardelli, M. Libro, P. Turco, E. Fraccaroli, M. Lora, S. Chakraborty, F. Fummi, "Rosetta: Compiling SysML v2 Behavior into Lingua Franca Modal Reactors", in IEEE Embedded Systems Letters, 2026.
2. S. Gaiardelli, S. Spellini, M. Panato, C. Tadiello, M. Lora, D. S. Cheng, F. Fummi, "*Enabling Service-oriented Manufacturing through Architectures, Models and Protocols*", in IEEE Access, 2024
3. S. Gaiardelli, M. Lora, S. Spellini, F. Fummi, "*RRPDG: A Graph Model to Enable AI-Based Production Reconfiguration and Optimization*", IEEE Transactions on Industrial Informatics (2024).
4. S. Spellini, R. Chirico, M. Panato, M. Lora, F. Fummi. "*Virtual Prototyping a Production Line Using Assume–Guarantee Contracts*". IEEE Transactions on Industrial Informatics, 17(9), 6294-6302.
5. E. Fraccaroli, M. Lora, and F. Fummi. "*Automatic Generation of Analog/Mixed Signal Virtual Platforms for Smart Systems*." IEEE Transactions on Computers (2020).
6. X. Jiang, M. Lora, S. Chattopadhyay, "*An Experimental Analysis of Security Vulnerabilities in Industrial IoT Devices.*", ACM Transactions on Internet Technologies, 2020, *to appear*.
7. S. Spellini, M. Lora, Franco Fummi, and Sudipta Chattopadhyay, "*Compositional Design of Multi-Robot Systems Control Software on ROS.*" ACM Transactions on Embedded Computing Systems (TECS), 2019, 18(5s), 1-24.
8. M. Lora, S. Vinco, and F. Fummi, "*Translation, Abstraction and Integration for Effective Smart System Design.*" IEEE Transactions on Computers, 68(10), pp. 1525-1538, 2019.
9. M. Lora, S. Vinco, E. Fraccaroli, D. Quaglia, and F. Fummi. "*Analog Models Manipulation for Effective Integration in Smart System Virtual Platforms.*" IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 37(2), pp. 378-391, 2017.
10. M. Lora, R. Muradore, D. Quaglia, and F. Fummi. "*Simulation alternatives for the verification of networked cyber-physical systems.*" Microprocessors and Microsystems, 39(8):843–853, 2015.
11. N. Bombieri, F. Fummi, V. Guarnieri, G. Pravadelli, F. Stefanni, T. Ghasempouri, M. Lora, G. Auditore, and M. Marcigaglia. "*Reusing RTL assertion checkers for verification of SystemC TLM models.*" Journal of Electronic Testing, Theory and Application (JETTA), 31(2):167–180, 2015.
12. N. Bombieri, E. Ebeid, F. Fummi, and M. Lora. "*On the Reuse of Heterogeneous IPs into SysML Models for Integration Validation.*" Journal of electronic testing, Theory and Application (JETTA), 29(5):647–667, 2013.
13. V. Izosimov, G. Di Guglielmo, M. Lora, G. Pravadelli, F. Fummi, Z. Peng, and M. Fujita. "*Time-constraint-aware optimization of assertions in embedded software.*" Journal of electronic testing, Theory and Application (JETTA), 28(4):469–486, 2012.

Conference publications:

1. P. Turco, S. Gaiardelli, E. Fraccaroli, D. S. Cheng, M. Lora, F. Fummi, "*Distributed Control Logic Validation through Lingua Franca*", in Proceedings of the IEEE Conference on Industrial Informatics 2026, pp. 1 – 8.
2. M. Libro, I. H. Patalwala, M. Lora, F. Fummi, "*Combining SysML v2 with Ontologies for Semantic Validation of Manufacturing Processes*", in Proceedings of the IEEE Conference on Industrial Informatics 2026, pp. 1 – 8.
3. M. Uddin, M. Lora, D. Cannizzaro, D. M. Gatta, F. Fummi, "A *Data-Driven Digital Twin for Predicting Manufacturing Process Efficiency*", in proc. of IEEE International Conferenc on Industrial Technology (ICIT) 2026.
4. P. Turco, S. Gaiardelli, E. Fraccaroli, M. Lora, S. Chakraborty, F. Fummi, "FROST: *a Simulation Platform for Early Validation and Testing of Manufacturing Software*", in Proceedings of the IEEE Conference on Industrial Informatics 2025, pp. 1 – 8.
5. M. Libro, S. Gaiardelli, M. Panato, S. Spellini, M. Lora, F. Fummi, "*Exploiting SysML v2 Modeling for Automatic Smart Factories Configuration*". In proc. IEEE/ACM DATE 2025, pp. 1-6.
6. P. Turco, E. Zanella, A. Valentini, S. Gaiardelli, N. Dall'Ora, M. Lora, F. Fummi, "*Digital Twin Integration using Lingua Franca and FMI for Testing Factory Automation Software*", in Proceedings of the 50th Annual Conference of the IEEE Industrial Electronics Society (IECon) 2024, pp. 1 – 6.
7. Y. Xiao, C. Oh, M. Lora, P. Nuzzo, "*Efficient Exploration of Cyber-Physical System Architectures Using Contracts and Subgraph Isomorphism*". In proc. of IEEE/ACM DATE 2024, pp. 1-6, Best Paper Award.
8. M Uddin, S Gaiardelli, M Lora, DS Cheng, F Fummi, "A *Multi-Material and Multi-Scenario Dataset for Additive and Subtractive Manufacturing Operations*", in Proc. of IEEE ETFA 2024.
9. M. Lora, S. Gaiardelli, C. Oh, S. Spellini, P. Nuzzo, F. Fummi, "Design Automation for Cyber-Physical Production Systems: Lessons Learned from The Defacto Project". In proc. of IEEE/ACM DATE 2024, pp. 1-6.
10. K. Alamin, D. Appello, A. Beghi, N. Dall'Ora, F. Depaoli, S. Di Cataldo, F. Fummi, S. Gaiardelli, M. Lora, E. Macii, A. Mascolini, D. Pagano, F. Ponzio, G. A. Susto, S. Vinco, "*An AI-Enabled Framework for Smart Semiconductor Manufacturing*". In proc. of IEEE/ACM DATE 2024, pp. 1-6.
11. C. Leet, C. Oh, M. Lora, S. Koenig, P. Nuzzo, "*Task Assignment, Scheduling, and Motion Planning for Automated Warehouses for Million Product Workloads*". In proc of the 2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), pp. 7362—7369.
12. C. Leet, C. Oh, M. Lora, S. Koenig, P. Nuzzo, "*Co-Design of Topology, Scheduling, and Path Planning in Automated Warehouses*". Proc. of IEEE/ACM DATE 2023: 1-6
13. L. Capogrosso, F. Cunico, M. Lora, M. Cristani, F. Fummi, D. Quaglia, "*Split-Et-Impera: A Framework for the Design of Distributed Deep Learning Applications*". Proc. of IEEE DDECS 2023: 39-44
14. S. Gaiardelli, S. Spellini, M. Lora, F. Fummi, "A *Hierarchical Modeling Approach to Improve Scheduling of Manufacturing Processes*". In proc. of 31st IEEE International Symposium on Industrial Electronics (ISIE), 2022, pp. 226-232.
15. M. Lora, P. Nuzzo, "A *Contract-Based Requirement Engineering Framework for the Design of Industrial Cyber-Physical Systems*". In proc. of 13th ACM/IEEE International Conference on Cyber Physical Systems (ICCPS), 2022, pp 310-311.
16. S. Gaiardelli, S. Spellini, M., Panato, M., Lora, F. Fummi, "A *software architecture to control service-oriented manufacturing systems*". In proc. of 2022 IEEE/ACM Design, Automation & Test in Europe Conference & Exhibition (DATE), pp. 40-43.
17. S. Gaiardelli, S. Spellini, M. Lora, F. Fummi, Modeling in Industry 5.0: What Is There and What Is Missing: Special Session 1: Languages for Industry 5.0. In 2021 Forum on specification & Design Languages (FDL), pp. 01-08.
18. S. Spellini, S. Gaiardelli, M. Lora, F. Fummi, *Enabling Component Reuse in Model-based System Engineering of Cyber-Physical Production Systems*." In Proc of 26th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2021), pp. 1-8.
19. X. Jiang, M. Lora, S. Chattopadhyay, "*Efficient and Trusted Detection of Rootkit in IoT Devices via Offline Profiling and Online Monitoring*." in Proc. of ACM GSLVLSI 2020, *to appear*.
20. S. Spellini, R. Chirico, M. Panato, M. Lora and F. Fummi, "*Production Recipe Validation through Formalization and Digital Twin Generation*." in Proc. of IEEE/ACM DATE 2020, pp. 1-6, *to appear*.
21. S. Spellini, R. Chirico, M. Lora, F. Fummi, "*Languages and Formalisms to Enable EDA Techniques in the Context of Industry* 4.0." in Proc. of IEEE FDL 2019, pp 1-4.
22. R. Chirico, S. Spellini, M. Panato M. Lora, F. Fummi, "A *Contract-based Methodology for Production Lines Validation*." in Proc. of IEEE INDIN'19, pp. 1-4.
23. S. Spellini, M. Lora, S. Chattopadhyay, F. Fummi, "*Work-in-Progress: Introducing Assume/Guarantee Contracts for Verifying Robotic Applications*." in Proc. of IEEE CODES+ISSS 2018, pp. 1-2.
24. S. Centomo, M. Lora, F. Fummi, "*Transaction-level Functional Mockup Units for Cyber-Physical Virtual Platforms*." in Proc. of IEEE FDL 2018, pp. 1-8, Best Paper candidate.
25. P. Nuzzo, M. Lora, Y. Feldman, A. L. Sangiovanni-Vincentelli. "*CHASE: Contract-Based Requirement Engineering for Cyber-Physical System Design*." In Proc. of ACM/IEEE DATE 2018, pp. 1-6.
26. M. Lora, S. Centomo, D. Quaglia, F. Fummi. "*Automatic Integration of Cycle-accurate Descriptions with Continuous-time Models for Cyber-Physical Virtual Platforms*." In Proc. of ACM/IEEE DATE 2018, pp. 1-6.
27. M. Lora. "*Validation of HMI Applications for Industrial Smart Display*." In Proc. of IEEE HLDVT Workshop 2017, pp. 1-8.
28. S. Centomo, M. Lora, A. Portaluri, F. Stefanni, F. Fummi, "*Automatic Generation of Cycle-Accurate Simulink Blocks from HDL IPs*." In Proc. of ECSI/IEEE FDL 2017, pp. 1-8, Best Paper candidate.

29. M. Lora, E. Fraccaroli, and F. Fummi. "*Virtual prototyping of smart systems through automatic abstraction and mixed-signal scheduling*." In Proc. of ACM/IEEE ASP-DAC 2017, pp. 232–237.
30. E. Fraccaroli, M. Lora, and F. Fummi. "*Automatic abstraction of multi-discipline analog models for efficient functional simulation*." In Proc. of ACM/IEEE DATE 2017, pp. 662–665.
31. M. Lora, S. Vinco, and F. Fummi. "*A unifying flow to ease smart systems integration*." In Proc. of IEEE HLDVT 2016, pp. 113–120.2016.
32. S. Vinco, M. Lora, E. Macii, M. Poncino, "*IP-XACT for smart systems design: extensions for the integration of functional and extra-functional models*." In proc. of FDL 2016, pp 1-8.
33. E. Fraccaroli, M. Lora, F. Fummi, and P. Montuschi. "*A fast simulation environment for smart systems validation in presence of electromagnetic interferences*." In Proc of IEEE ICEAA 2016 pp. 740-743.
34. E. Fraccaroli, M. Lora, S. Vinco, D. Quaglia, and F. Fummi. "*Integration of mixed-signal components into virtual platforms for holistic simulation of smart systems*." In Proc. of the ACM/IEEE DATE 2016, pp. 1586–1591.
35. S. Vinco, M. Lora, and M. Zwolinski. "*Conservative Behavioural Modelling in SystemC-AMS*." In Proc. of ECSI/IEEE FDL 2015, pp. 1–8, 2015.
36. M. Lora, F. Martinelli, and F. Fummi. "*Hardware Synthesis from Software-oriented UML Descriptions*." In Proc. of IEEE 15th International Microprocessor Test and Verification Workshop (MTV). 2014. pp. 1-8.
37. N. Bombieri, F. Fummi, V. Guarnieri, G. Pravadelli, F. Stefanni, T. Ghasempouri, M. Lora, G. Auditore, and M. Negro-Marcigaglia. "*On the reuse of RTL assertions in SystemC TLM verification*." In Proc. of IEEE LATW, 2015. pp. 1-6.
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