

Alberto Lluch Lafuente

– Curriculum Vitae January 2, 2022 –

Personal Information

First name	Alberto
Surnames	Lluch Lafuente
Work address	DTU Compute Richard Petersens Plads, Building 324 DK-2800 Kgs. Lyngby
Home address	Skanderborggade 5, 2 th. DK-2100 Copenhagen (Denmark)
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Email	albl@dtu.dk albertolluch@gmail.com
Homepage	http://www.imm.dtu.dk/~albl/ linkedin.com/in/albertolluch
Nationality	Spaniard
Date of birth	13 April 1976
Gender	Male
Marital status	Married since September 2003
Family status	Two children



Employment History

Jan 2021 - today	Head of Section
Main activities	Lead the section on Trustworthy Software Engineering.
Hosting Institution	DTU Technical University of Denmark, www.dtu.dk .
Sector	Academy.
Nov 2021 - today	Full Professor
Main activities	Research and teaching activities in Computer Science.
Hosting Institution	DTU Technical University of Denmark, www.dtu.dk .
Sector	Academy.
Oct 2018 - Dec 2021	Head of Section
Main activities	Lead the section on Formal Methods for Safe and Secure Systems.
Hosting Institution	DTU Technical University of Denmark, www.dtu.dk .
Sector	Academy.
July 2014 - Oct 2021	Associate Professor
Main activities	Research and teaching activities in Computer Science.
Hosting Institution	DTU Technical University of Denmark, www.dtu.dk .
Sector	Academy.
Dec 2009 - Jun 2014	Assistant Professor
Main activities	Research and teaching activities in Computer Science.
Hosting Institution	IMT Institute for Advanced Studies Lucca, Italy, www.imtlucca.it .
Sector	Academy.
Jan 2007 - Nov 2009	Postdoctoral Researcher
Main activities	Research activities on formal methods for service oriented computing.
Hosting Institution	Department of Computer Science of the University of Pisa, Italy, www.di.unipi.it .
Granting Institution	European Union, FP6 Integrated Project SENSORIA, sensoria.fast.de .
Sector	Academy.
Apr 2006 - Dec 2006	Software Analyst & Developer
Main activities	Straight-through-processing applications for interbank financial communications.
Employer	CABEL Group, Empoli, Italy, www.cabel.it .
Sector	Information Technology & Finance.
Nov 2003 - Apr 2005	Postdoctoral Researcher
Main activities	Research activities on formal methods for global computing systems.
Hosting Institution	Department of Computer Science of the University of Pisa, Italy, www.di.unipi.it
Granting Institution	EU, European Research Training Network SEGRAVIS, www.segravis.org .
Sector	Academy.
Aug 1999 - Sep 2003	Research & Teaching Assistant and PhD Candidate
Main activities	Research activities on formal methods and artificial intelligence.
Employer	Albert-Ludwigs-Universität, Germany, www.informatik.uni-freiburg.de .
Granting institution	Deutsche Forschung Gemeinschaft (German Research Foundation), www.dfg.de .
Sector	Academy.

Selected Management and Administrative Experience

2018-today	<p>Experience in team management</p> <p>Head of Section at DTU Compute. The section is composed of 5 faculty members and approximately the same number of junior researchers (Ph.D. students and Post-Docs).</p>
2020-2021	<p>Experience in recruitment</p> <p>Assesment of applications to faculty positions for Aalborg University.</p>
2019-today	<p>Hiring of faculty members and young researchers (PostDocs and PhD students), DTU Compute.</p>
2015-2016	<p>Assessment of PhD scholarship applications, DTU.</p>
2011-2013	<p>Assessment and selection of PostDoc positions, IMT Lucca.</p>
2011-2013	<p>IT staff selection committee, IMT Lucca.</p>
2009-2013	<p>Assessment of PhD scholarship applications, IMT Lucca.</p>
	<p>Experience in project management</p>
2020-today	<p>Site and work package leader in the Industry Fund project Security-by-Design in Digital Denmark (Sb3D), DTU.</p>
2019-today	<p>Site and task leader in the European H2020-SU-ICT-03-2018 project Cyber-Sec4Europe, DTU.</p>
2010-2014	<p>Assistant of the site and WP leader in the European FP7-ICT Integrated Project 257414 ASCENS (Autonomic Service-Component Ensembles), IMT Lucca.</p>
2013-2014	<p>Assistant of the project coordinator in the Italian PRIN Project CINA (Compositionality, Interaction, Negotiation and Autonomicity for the future ICT), IMT Lucca.</p>
1998-2003	<p>Co-PI in German DFG Research Project Ot64/13-2 (Heuristic Search and its Application to Protocol Validation), Albert-Ludwigs-Universität Freiburg.</p>
	<p>Participation to other boards and committees</p>
2019-2021	<p>Member of the Forum for Diversity and Inclusion, DTU.</p>
2018-today	<p>Member of the teacher's board of the PhD school in Computer Science and Mathematics at the University of Camerino.</p>
2018-today	<p>Member of the advisory group of the MSC in Computer Science and Engineering, DTU.</p>
2011-2013	<p>Director's delegate to the administrative staff evaluation committee, IMT Lucca.</p>
2013	<p>Committee for the review of the research money regulation, IMT Lucca.</p>
2010-2011	<p>IT committee and LAB working group, IMT Lucca.</p>
2009-2010	<p>Committee for research support and acquisition, IMT Lucca.</p>
2009-2011	<p>Academic board assistant, IMT Lucca.</p>

Research Projects

	<h3>Leadership roles in projects</h3>
Site and WP Leader	Danish Industry Fund project Sb3D (Security-by-Design in Digital Denmark), 1.3M EUR (270K for DTU as partner), 36 months, (2020-2023).
Site and Task Leader	H2020-SU-ICT-03-2018 project CyberSec4Europe, 16M EUR (300K for DTU as partner), 42 months, (2019-2022).
Manager and co-PI	Independent Research Fund Denmark DFF-1 project REDUCTO, 350K EUR, 36 months, (2020-2023).
Site Leader	Digital Research Centre Denmark workstream Verification and Software Engineering (2020-2023).
Site Leader	Digital Research Centre Denmark project Verifiable and Robust AI, 6 months, (2021-2021).
	<h3>Participation to projects as key researcher</h3>
Member	European FP7-ICT STREP project QUANTICOL (A Quantitative Approach to Management and Design of Collective and Adaptive Behaviours), around 2.5M EUR, 48 months (2013-today).
Member	Italian PRIN Project CINA (Compositionality, Interaction, Negotiation and Autonomicity for the future ICT), around 0.5M EUR, 48 months (2013-today).
Member	European FP7-ICT Integrated Project 257414 ASCENS (Autonomic Service-Component Ensembles), around 6M EUR, 48 months (2010-today).
Member	European FP6-ICT Integrated Project Project SENSORIA (Software Engineering for Service Oriented Applications), 60 months (2005-2009).
Member	European Research Training Network 2-2001-00346 SEGRAVIS (Syntactic and Semantic Integration of Visual Modelling Techniques), 48 months (2002-2006).
Member	German DFG Research Project Ot64/13-2 (Heuristic Search and its Application to Protocol Validation), 50 months (1998-2003).
	<h3>Cooperation with external projects</h3>
Collaborator	German DFG project Star-Topology Decoupled State Space Search HO 2169/6-1.
Collaborator	European FET project ALLOW (Adaptable Pervasive Flows).
Collaborator	European FET project PROFUNDIS (Proofs of Functionality for Mobile Distributed Systems).
Collaborator	European FET project AGILE (Architectures for Mobility).
Collaborator	Italian FIRB project TOCAI.IT (Knowledge Technologies for Enterprise Internet Aggregation).
Collaborator	Italian PRIN project IPODS (Interacting Processes in Open-ended Distributed Systems).
Collaborator	Italian PRIN project Sister (Reduction Systems: Synthesis, Refinement and Verification).
Collaborator	Italian Project CNR-SP4 (High Quality Software Architectures for WAN Global Computing).
Collaborator	German DFG project Heuristic Search Ed 74/3.
Collaborator	German DFG project Directed Model Checking Ed 74/2.

Participation to Conference Committees

Steering Committees

SC member	Int'l IFIP Federated Conference on Distributed Computing Techniques (2019-today).
SC member	Int'l IFIP Conference on Coordination Models and Languages (2017-today).
SC member	Int'l Workshop Interaction and Concurrency Experience (2019-today).
SC member	Int'l Conf. on Parallel, Distributed and network-based Processing: Formal Approaches (2014-2018).

Organization of Conferences and other Events

PC chair	Int'l Conference on Formal Methods for Industry-Critical Systems (FMICS 2021).
Gen. Chair	Int'l IFIP Federated Conference on Distributed Computing Techniques (DisCoTec 2019).
PC chair	Int'l IFIP Conference on Coordination Models and Languages (COORDINATION 2016).
PC chair	Int'l FM Workshop on Automated Specification and Verification of Web Systems (WWV 2015).
PC chair	Int'l DISCOTEC Workshop Interaction and Concurrency Experience (ICE 2013-15).
PC chair	Int'l ETAPS Workshop on Graph Inspection and Traversal Engineering (GRAPHITE 2014).
Track chair	Int'l Conf. on Parallel, Distributed and network-based Processing: Formal Approaches (4PAD 2014).
Track chair	Int'l ACM Symp. on Applied Computing: Service-Oriented Architectures & Programming (SOAP '14-'15).
PC chair	Int'l Symposium on Trustworthy Global Computing (TGC 2013).
PC chair	Int'l HPCS Workshop on Modeling and Simulation of P2P and Autonomic Systems (MOSPAS 2013).
Organizer	Int'l Summer School on Self-Awareness in Autonomic Computing (AWASS 2013).

Participation to Program Committees

PC member	Int'l IEEE Conference on Autonomic Computing and Self-Organizing Systems (ACSOS 2021).
PC member	Int'l Symposium on Model Checking Software (SPIN 2007, 2011, 2016, 2018-2021).
PC member	Int'l Symposium on Formal Aspects of Component Software (FACS 2014-15,2017,2021).
PC member	Int'l IEEE Conference on Autonomic Computing and Self-Organizing Systems (ACSOS 2021).
PC member	Int'l IFIP Conference on Coordination Models and Languages (COORDINATION 2017-2021).
PC member	Int'l IFIP ETAPS Workshop on Quantitative Aspects of Variant-rich Systems (QAVS 2020-2021).
PC member	Int'l Symposium on Formal Methods (FM 2019).
PC member	Int'l Conference on Verification and Evaluation of Computer and Communication Systems (VECoS 2018).
PC member	Int'l Conference on Artificial Intelligence (AAAI 2018).
PC member	Int'l Conference on Concurrency Theory (CONCUR 2016).
PC member	Int'l Joint Conference on Artificial Intelligence (IJCAI 2016, 2017).
PC member	Global Conference on Artificial Intelligence (GCAI 2016).
PC member	Int'l Workshop on Foundations of Coordination Languages and Self-Adaptive Systems (FO-CLASA 2017-2020).
PC member	Int'l Workshop on Formal methods for the quantitative Evaluation of Collective Adaptive Systems (FORECAST 2016).
PC member	Int'l Workshop on Formal Approaches to Parallel and Distributed Systems (4PAD 2016-2018).
PC member	Int'l ACM Symposium on Applied Computing – track on Service-Oriented Architectures and Programming (SOAP 2016-2018).
PC member	Int'l ACM Symp. on Applied Comp. – Next Gen. Progr. Parad. and Systems (NGPS 2019).
PC member	Int'l ACM Symp. on Applied Computing – Microservices, DevOps, and SOA (MIDOS 2019).
PC member	Int'l ACM Symposium on Applied Computing – Collective Adaptive Systems (CAS 2017).
PC member	Int'l IEEE Conference on Service-Oriented Computing and Applications (SOCA 2017).
PC member	Int'l Workshop on Architectures, Languages and Paradigms for IoT (ALP4IoT 2017).
PC member	Nordic Workshop on Programming Theory (NWPT 2015-2016).
PC member	Int'l Workshop on Adaptive Services for the Future Internet (WAS4FI 2015).
PC member	Int'l Workshop on Petri nets for Adaptive Discrete-Event Control Systems (ADECS 2015).
PC member	Int'l Workshop on Formal verification for self-* systems (VERY* 2015).
PC member	Int'l Workshop on Formal Methods for Industrial Critical Systems (FMICS 2015).
PC member	Int'l ETAPS Workshop on Graphs as Models (GAM 2015).
PC member	Int'l Workshop on Distributed Adaptive Systems (DAS 2015, 2106).

PC member	Int'l Conf. on Formal Techniques for Distributed Objects, Components and Systems (FORTE 2014).
PC member	Int'l ETAPS Workshop on Rewriting Logic and its Applications (WRLA 2014-2018).
PC member	Int'l Workshop on Web Services and Formal Methods (WS-FM 2013).
PC member	Int'l Symposium on Trustworthy Global Computing (TGC 2011-12, 2014-15).
PC member	Int'l ICAPS Workshop on Model Checking and Automated Planning (MOCHAP 2014-15).
PC member	Int'l HPCS Workshop on Modeling and Simulation of P2P and Autonomic Systems (MOSPAS 2014).
PC member	Int'l ETAPS Workshop on Graph Inspection and Traversal Engineering (GRAPHITE 2011).
PC member	Int'l Workshop Interaction and Concurrency Experience (ICE 2010-12,16-17).
PC member	Int'l ESOC Workshop on Adaptive Services for the Future Internet (WAS4FI 2014).
PC member	Int'l ETAPS Workshop on Graph Transformation and Visual Modelling Languages (GT-VMT 2010-11).
PC member	Jornadas de Programación y Lenguajes (PROLE 2019-2021).

Scientific Advice & Consultancy

I have provided scientific advice & consultancy for funding and evaluation agencies in several countries (Sweden, Norway, Iceland, Netherlands, Portugal, Italy, Romania, and Austria). Details cannot be disclosed due to confidentiality.

Academic Awards and Honours

2018	Best paper award at the International Symposium on Model Checking of Software.
2018	Nomination for Teacher of the Year at Technical University of Denmark.
2015	Best paper award at the IFIP International Federated Conference on Distributed Computing Techniques.
2015	Otto-Mønsted Fonds travel grant.
2007-2009	Postdoc grant from European FP7 project SENSORIA.
2003-2005	Postdoc grant from European training network SEGRAVIS.
1999-2003	PhD grant from DFG (German Research Foundation).
1999	Best student award (for best final average marks) in Computer Science at the University of the Basque Country.
1998	Socrates/Erasmus grant from European Union.

Publications

Publication Record in Scientific Databases

ORCID	https://orcid.org/0000-0001-7405-0818
GS	http://scholar.google.it/citations?user=df9bzkoAAAAJ&hl=en
DBLP	http://www.informatik.uni-trier.de/~ley/db/indices/a-tree//Lluch=Lafuente:Alberto.html
Scopus	http://www.scopus.com/authid/detail.url?authorId=9245337700
WoS	http://www.researcherid.com/rid/G-4413-2011
SemSch	https://www.semanticscholar.org/author/Alberto-Lluch-Lafuente/1398963563
RG	https://www.researchgate.net/profile/Alberto-Lluch-Lafuente

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NOTE: numbers provided by scientific databases (as of May 2021):

GS	26
Scopus	17
WoS	12
SemSch	23
RG	26

Selected Scientific Contributions and Major Results

Co-invention of [Directed Model Checking](#), an approach to automated software verification based on artificial intelligence techniques. I have contributed several highly influential seminal works to this field ([J5,J2,J1,E56,E47,E15,E10,E9,E6,E5,E4,D3,E2,E1]), which count more than 600 of citations according to Google Scholar.

Co-authoring a very popular survey on [Microservices](#) [C13], a software engineering architecture. The survey is very popular and has more than 700 citations according to Google scholar.

Co-development of the [QFLAN](#) approach, which combines software engineering, formal methods, and statistical analysis for modelling and analysing reconfigurable systems with high variability. My papers in these area [J16,E51,E50,E49,E44,E40,E36] have more than 100 citations according to Google scholar.

Co-invention of a family of [Semiring Logics](#) which can be used to reason about quantitative properties of graphs, networks and programs. My papers in these area [J13,J3,E13,E11,E7] have more than 100 citations according to Google scholar.

Co-invention of [Architectural Design Rewriting](#), an approach to the design of reconfigurable software systems combining formal methods and software engineering techniques. My papers in these area [J9,J7,J6,J4,E29,E26,E25,E24,E22,E20,E19,C3,C2] have more than 100 citations according to Google scholar.

Co-author of the [conceptual framework for adaptive systems](#) [E30]. One of my contributions in this field has been cited 100 times and was described by Carlo Ghezzi (a highly reputed expert in Software Engineering), as “an excellent discussion of the precise meaning of the term adaptive software”.

Edited Volumes

V15	Elvira Albert, Ivan Lanese, Alberto Lluch Lafuente, José Proença, “Joint Special Issue COORDINATION & FORTE 2016”, Logical Methods in Computer Science .
V14	Sophia Knight, Ivan Lanese, Alberto Lluch Lafuente, Ana Sokolova, “Special Issue on Interaction and Concurrency Experience (ICE 2015)”, Journal of Logical and Algebraic Methods in Programming , Volume 86, Elsevier, 2017.
V13	Maurice Ter Beek, Alberto Lluch Lafuente, “Special Issue on Automated specification and verification of Web-based applications”, Journal of Logical and Algebraic Methods in Programming , Volume 87, Elsevier, 2017.

- V12 Alberto Lluch Lafuente, José Proença, "Proceedings of the IFIP International Conference on Coordination Models and Languages (COORDINATION 2016)", [LNCS 9686](#), 2016.
- V11 Dragan Bosnacki, Stefan Edelkamp, Alberto Lluch Lafuente, Anton Wijs, "Special section on Graph Inspection and Traversal Engineering (GRAPHITE 2014)", [Science of Computer Programming](#), Volume 130, 2016.
- V10 Sophia Knight, Ivan Lanese, Alberto Lluch Lafuente, Ana Sokolova, "Proceedings 8th Interaction and Concurrency Experience (ICE 2015)", [Electronic Proceedings in Theoretical Computer Science \(EPTCS\)](#).
- V9 Maurice Ter Beek, Alberto Lluch Lafuente, "Proceedings 11th International Workshop on Automated Specification and Verification of Web Systems (WWV 2015)", [Electronic Proceedings in Theoretical Computer Science \(EPTCS\)](#).
- V8 Ivan Lanese, Alberto Lluch Lafuente, Ana Sokolova, Hugo Torres Vieira, "Special Issue on Interaction and Concurrency Experience (ICE 2014)", [Journal of Logical and Algebraic Methods in Programming](#), Volume 85(3), Elsevier, 2016.
- V7 Marco Carbone, Ivan Lanese, Alberto Lluch Lafuente, Ana Sokolova, "Special Issue on Interaction and Concurrency Experience 2013", [Science of Computer Programming](#), Volume 190, Elsevier, 2015.
- V6 Mario Braveti, Alberto Lluch Lafuente, Manuel Mazzara, Fabrizio Montesti, Ilun Yu, "Special Issue on Service Oriented Architectures and Programming", [Journal of Internet Services and Information Security](#), Volume 5, Issue 1, ISSN: 2182-2069, 2015.
- V5 Alberto Lluch Lafuente, Emilio Tuosto, "Special Issue on 4PAD/WF-FM 2013", [Journal on Service Computing and Applications](#), Springer, ISSN 1863-2394, 2015.
- V4 Martín Abadi, Alberto Lluch Lafuente, "Proceedings of the 8th Symposium on Trustworthy Global Computing (TGC 2013)", [Lecture Notes in Computer Science \(LNCS\)](#), Volume 8358, ISBN 978-3-319-05118-5, 2014.
- V3 Ivan Lanese, Alberto Lluch Lafuente, Ana Sokolova, Hugo Torres Vieira, "Proceedings 7th Interaction and Concurrency Experience (ICE 2014)", [Electronic Proceedings in Theoretical Computer Science \(EPTCS\)](#), Volume 166, ISSN 2075-2180, 2014.
- V2 Dragan Bosnacki, Stefan Edelkamp, Alberto Lluch Lafuente, Anton Wijs, "Proceedings 3rd Workshop on GRAPH Inspection and Traversal Engineering (GRAPHITE 2014)", [Electronic Proceedings in Theoretical Computer Science \(EPTCS\)](#), Volume 159, ISSN 2075-2180, 2014.
- V1 Marco Carbone, Ivan Lanese, Alberto Lluch Lafuente, Ana Sokolova, "Proceedings of the 6th Interaction and Concurrency Experience (ICE 2013)", [Electronic Proceedings in Theoretical Computer Science \(EPTCS\)](#), Volume 131, ISSN 2075-2180, 2013.

[Peer-Reviewed Articles in International Journals](#)

- J17 Nicola Dragoni and Alberto Lluch Lafuente and Fabio Massacci and Anders Schlichtkrull, "Are We Preparing Students to Build Security In? A Survey of European Cybersecurity in Higher Education Programs", [IEEE Security & Privacy 19\(1\)](#), ISSN 1540-7993, IEEE, 2021.
- J16 Maurice ter Beek, Axel Legay, Alberto Lluch Lafuente, Andrea Vandin "A framework for quantitative modeling and analysis of highly (re)configurable systems", [IEEE Transactions on Software Engineering](#), ISSN 1939-3520, IEEE, 2020.
- J15 Paolo Baldan, Alberto Lluch Lafuente, "Many-to-Many Information Flow Policies", [International Journal on the Science of Computer Programming](#), ISSN 0167-6423, Elsevier, 2018.
- J14 Stefano Sebastio, Michele Amoretti, Alberto Lluch Lafuente, Antonio Scala, "A Holistic Approach for Collaborative Workload Execution in Volunteer Clouds", [ACM Transactions on Modeling and Computer Simulation](#), Volume 28 Issue 2, March 2018, ISSN 1049-3301.
- J13 Alberto Lluch Lafuente, Michele Loreti, Ugo Montanari, "Asynchronous distributed execution of SMUC fixpoint-based computational fields.", [Logical Methods in Computer Science 13\(1\)](#), ISSN 1860-5974.
- J12 Ximeng Li, Xi Wu, Alberto Lluch Lafuente, Flemming Nielson, H. R. Nielson, "A Coordination Language for Databases", [Logical Methods in Computer Science 13\(1\)](#), ISSN 1860-5974.
- J11 Stefano Sebastio, Michele Amoretti, Alberto Lluch Lafuente, "AVOCLOUDY: A Simulator of Volunteer Clouds", *in press*, [Software: Practice and Experience](#), Wiley, ISSN 0038-0644, 2015.
- J10 Roberto Bruni, Andrea Corradini, Fabio Gadducci, Alberto Lluch Lafuente, Andrea Vandin "Modelling and analyzing adaptive self-assembling strategies with Maude", [International Journal on the Science of Computer Programming](#), Volume 99, ISSN 0167-6423, Elsevier, 2015.

- J9 Roberto Bruni, Alberto Lluch Lafuente, Ugo Montanari, "Constraint Design Rewriting", [Science of Computer Programming](#), ISSN 0167-6423, Volume 97, 2015.
- J8 Fabio Gadducci, Alberto Lluch Lafuente, Andrea Vandin, "Counterpart Semantics for a Second-Order mu-Calculus", [Fundamenta Informaticae](#), volume 118, pages 177-205, ISSN 0169-2968, 2012.
- J7 Roberto Bruni, Alberto Lluch Lafuente, Ugo Montanari, "On Structured Model-Driven Transformations", [Festschrift in honour of Manfred Broy's 60th birthday](#), [International Journal of Software and Informatics](#), Volume 2, Number 1-2, ISSN 1673-7288, Institute of Software, the Chinese Academy of Sciences, 2011.
- J6 Roberto Bruni, Fabio Gadducci, Alberto Lluch Lafuente, "An Algebra of Hierarchical Graphs and its Application to Structural Encoding", [Scientific Annals of Computer Science](#), Volume XX, pages 53-96, ISSN 1843-8121, 2010.
- J5 Dragan Bošnački, Stefan Leue, Alberto Lluch Lafuente, "Partial-Order Reduction for General State Exploring Algorithms", [International Journal on Software Tools for Technology Transfer](#), ISSN 1433-2779, Volume 11, Number 1, pages 39-51, 2009.
- J4 Roberto Bruni, Alberto Lluch Lafuente, Ugo Montanari, Emilio Tuosto, "Style-Based Architectural Reconfigurations", [Bulletin of the European Association on Theoretical Computer Science \(EATCS\)](#), ISSN 0252-9742, Number 94, pages 161-180, 2008.
- J3 Alberto Lluch Lafuente, Ugo Montanari, "Quantitative mu-calculus and CTL defined over Constraint Semirings", [International Journal on Theoretical Computer Science](#), ISSN 0304-3975, Volume 346, Issue 1, pages 135-160, 2005.
- J2 Stefan Edelkamp, Stefan Leue, Alberto Lluch Lafuente, "Partial-Order Reduction and Trail Improvement in Directed Model Checking", [International Journal on Software Tools for Technology Transfer](#), ISSN 1433-2779, Volume 6, Number 4, pages 277-301, 2004.
- J1 Stefan Edelkamp, Stefan Leue and Alberto Lluch Lafuente, "Directed Explicit-State Model Checking in the Validation of Communication Protocols", [International Journal on Software and Tools for Technology Transfer](#), ISSN 1433-2779, Volume 5, Numbers 2-3, pages 247-267, 2004.
- E56 Daniel Gnad, Jan Eisenhut, Alberto Lluch Lafuente, Jörg Hoffmann, "Model Checking ω -Regular Properties with Decoupled Search", [33rd International Conference on Computer-Aided Verification \(CAV 2021\)](#), [Lecture Notes in Computer Science](#), 2021.
- E55 Massimo Bartoletti, James Hsin-yu Chiang, Alberto Lluch Lafuente, "A theory of Automated Market Makers in DeFi", [23th IFIP WG 6.1 International Conference on Coordination Models and Languages \(COORDINATION 2021\)](#), [Lecture Notes in Computer Science](#), 2021.
- E54 Massimo Bartoletti, James Hsin-yu Chiang, Alberto Lluch Lafuente, "SoK: Lending Pools in Decentralized Finance", [FC International Workshop on Trusted Smart Contracts \(WTSC 2021\)](#), [Lecture Notes in Computer Science](#), 2021.
- E53 Massimo Bartoletti, James Hsin-yu Chiang, Alberto Lluch Lafuente, "Towards a Theory of DeFi", [FC International Workshop on Decentralized Finance \(DEFI 2021\)](#), [Lecture Notes in Computer Science](#), 2021.
- E52 Maurice H. ter Beek, Axel Legay, Alberto Lluch Lafuente, Andrea Vandin, "Quality Criteria for Cyber Security MOOCs", [International Working Conference on Variability Modelling of Software-Intensive Systems \(VaMoS 2020\)](#), [ACM](#), 2020.
- E51 Simone Fischer-Hübner and Matthias Beckerle and Alberto Lluch Lafuente and Antonio Ruiz-Martínez and Karo Saharinen and Antonio F. Skarmeta and Pierantonina Sterlini, "Variability meets security: quantitative security modeling and analysis of highly customizable attack scenarios", [International 13th IFIP WG 11.8 World Conference on Information Security Education](#), [Springer IFIP Advances in Information and Communication Technology](#), 2020.
- E50 Maurice H. ter Beek, Axel Legay, Alberto Lluch Lafuente, Andrea Vandin, "Summary of: A Framework for Quantitative Modeling and Analysis of Highly (re)configurable Systems", [Intl' Conference on Integrated Formal Methods \(iFM 2019\)](#), [Lecture Notes in Computer Science](#), 2019.
- E49 Maurice H. ter Beek, Axel Legay, Alberto Lluch Lafuente, Andrea Vandin, "QFLan: A Tool for the Quantitative Analysis of Highly Reconfigurable Systems", [22nd International Symposium on Formal Methods \(FM 2018\)](#), [Lecture Notes in Computer Science](#), 2018.
- E48 Linas Kaminskas, Alberto Lluch Lafuente, "Aggregation Policies for Tuple Spaces", [20th IFIP WG 6.1 International Conference on Coordination Models and Languages \(COORDINATION 2018\)](#), [Lecture Notes in Computer Science](#), 2018.

- E47 Daniel Gnad, Patrick Dubbert, Alberto Lluch Lafuente, Jörg Hoffmann, "Star-Topology Decoupling in SPIN", [25th International Symposium on Model Checking of Software \(SPIN 2018\)](#), [Lecture Notes in Computer Science](#), 2018.
- E46 Vitaly Buravlev, Rocco De Nicola, Alberto Lluch Lafuente, Claudio Antares Mezzina, "Improving availability in distributed tuple spaces via sharing abstractions and replication strategies", [26th Euromicro International Conference on Parallel, Distributed, and Network-Based Processing \(PDP 2018\)](#), [IEEE Computer Society](#), 2018.
- E45 Paolo Baldan, Alessandro Beggiato, Alberto Lluch Lafuente, "Many-to-Many Information Flow Policies", [19th IFIP WG 6.1 International Conference on Coordination Models and Languages \(COORDINATION 2017\)](#), [Lecture Notes in Computer Science](#), Volume 10319, 2017.
- E44 Maurice H. ter Beek, Axel Legay, Alberto Lluch Lafuente, Andrea Vandin, "Statistical Analysis of Probabilistic Models of Software Product Lines with Quantitative Constraints", [19th International Software Product Line Conference \(SPLC'15\)](#), [ACM](#), 2015.
- E43 Xi Wu, Ximeng Li, Alberto Lluch Lafuente, Flemming Nielson, Hanne Riis Nielson, "Klaim-DB: A Modeling Language for Distributed Database Applications", [17th IFIP WG 6.1 International Conference on Coordination Models and Languages \(COORDINATION 2015\)](#), [Lecture Notes in Computer Science](#), Volume 9037, 2015.
- E42 Alberto Lluch Lafuente, Michele Loreti, Ugo Montanari, "A Fixpoint-Based Calculus for Graph-Shaped Computational Fields", [17th IFIP WG 6.1 International Conference on Coordination Models and Languages \(COORDINATION 2015\)](#), Volume 9037, [Lecture Notes in Computer Science](#), 2015.
- E41 Marina Andric, Rocco De Nicola, Alberto Lluch Lafuente, "Replica-Based High-Performance Tuple Space Computing", [17th IFIP WG 6.1 International Conference on Coordination Models and Languages \(COORDINATION 2015\)](#), Volume 9037, [Lecture Notes in Computer Science](#), 2015.
- E40 Maurice H. ter Beek, Axel Legay, Alberto Lluch Lafuente, Andrea Vandin, "Quantitative Analysis of Probabilistic Models of Software Product Lines with Statistical Model Checking", [6th International Workshop on Formal Methods and Analysis in Software Product Line Engineering \(FMSPLE'15\)](#), [ACM](#), 2015.
- E39 Roberto Bruni, Andrea Corradini, Fabio Gadducci, Alberto Lluch Lafuente, Andrea Vandin, "Awareness and Control in Adaptable Transition Systems", [International Workshop on Petri Nets and Software Engineering \(PNSE'15\)](#), 2015.
- E38 Alessandro Celestini, Alberto Lluch Lafuente, Philip Mayer, Stefano Sebastio, and Francesco Tiezzi, "Reputation-based Cooperation in the Clouds", [8th IFIP WG 11.11 International Conference on Trust Management \(IFIP TM 2014\)](#), [Lecture Notes in Computer Science](#), 2014.
- E37 Michele Amoretti, Alberto Lluch Lafuente, Stefano Sebastio, "A Computational Field Framework for Collaborative Task Execution in Volunteer Clouds", [9th International ICSE Symposium on Self-Engineering for Self-Adaptive Systems \(SEAMS'14\)](#), [IEEE Computer Society](#), 2014.
- E36 Maurice Ter Beek, Alberto Lluch Lafuente, Marinella Petrocchi "Combining Declarative and Procedural Views in the Specification and Analysis of Product Families", [4th Int'l Workshop on Formal Methods and Analysis in Software Product Line Engineering \(FMSPLE'13\)](#), [ACM](#), 2013.
- E35 Michele Amoretti, Alberto Lluch Lafuente, Stefano Sebastio, "A cooperative approach for distributed task execution in autonomic clouds", [21st Euromicro International Conference on Parallel, Distributed, and Network-Based Processing \(PDP'13\)](#), [IEEE Computer Society](#), 2013.
- E34 Roberto Bruni, Andrea Corradini, Fabio Gadducci, Alberto Lluch Lafuente, Andrea Vandin, "Adaptable Transition Systems", [21st International Workshop on Algebraic Development Techniques \(WADT'12\)](#), [Lecture Notes in Computer Science](#), Volume 7841, 2013.
- E33 Alberto Lluch Lafuente, José Meseguer, Andrea Vandin, "State Space c-Reductions of Concurrent Systems in Rewriting Logic", [International Conference on Formal Engineering Methods \(ICFEM'12\)](#), [Lecture Notes in Computer Science](#), Volume 7635, 2012.
- E32 Fabio Gadducci, Alberto Lluch Lafuente, Andrea Vandin, "Exploiting over- and under-approximations for infinite-state counterpart models", [International Conference on International Conference on Graph Transformation \(ICGT'12\)](#), [Lecture Notes in Computer Science](#), Volume 7562, 2012.
- E31 Roberto Bruni, Andrea Corradini, Fabio Gadducci, Alberto Lluch Lafuente, Andrea Vandin, "Modelling and analyzing adaptive self-assembling strategies with Maude", [International Workshop on Rewriting Logic and its Applications \(WRLA'12\)](#), [Lecture Notes in Computer Science](#), Volume 7571, 2012.

- E30 Roberto Bruni, Andrea Corradini, Fabio Gadducci, Alberto Lluch Lafuente, Andrea Vandin, "A Conceptual Framework for Adaptation", [15th International Conference on Fundamentals of Software Engineering \(FASE'12\), Lecture Notes in Computer Science, Volume 7212, 2012.](#)
- E29 Roberto Bruni, Alberto Lluch Lafuente, "Evaluating the performance of model transformation styles with Maude", [8th International Symposium on Formal Aspects of Component Software \(FACS'11\) Lecture Notes in Computer Science, Volume 7253, 2012.](#)
- E28 Alberto Lluch Lafuente, Andrea Vandin, "Towards a Maude Tool for Model Checking Temporal Graph Properties", [5th International Workshop on Graph Transformation and Visual Modeling Techniques \(GT-VMT'10\), ECEAAST\(41\), 2011.](#)
- E27 Fabio Gadducci, Alberto Lluch Lafuente, Andrea Vandin "Counterpart semantics for a second-order mu-calculus", [International Conference on Graph Transformation \(ICGT'10\), Lecture Notes in Computer Science, 2010, Volume 6372, 2010.](#)
- E26 Artur Boronat, Roberto Bruni, Alberto Lluch Lafuente, Ugo Montanari, Generoso Paolillo, "Exploiting the hierarchical structure of rule-based specifications for decision planning", [International Conference on Formal Techniques for Distributed Systems \(FMOODS/FORTE'10\), Lecture Notes in Computer Science, Volume 6117, 2010.](#)
- E25 Roberto Bruni, Fabio Gadducci, Alberto Lluch Lafuente, "An Algebra of Hierarchical Graphs", [5th Symposium on Trustworthy Global Computing \(TGC'10\), Lecture Notes in Computer Science, 2010, Volume 6084, 2010.](#)
- E24 Roberto Bruni, Fabio Gadducci, Alberto Lluch Lafuente, "A Graph Syntax for Processes and Services", [9th International Workshop on Web Services and Formal Methods \(WS-FM'09\), Springer Lecture Notes in Computer Science, Volume 4912.](#)
- E23 Antonio Bucchiarone, Alberto Lluch Lafuente, Annapaola Marconi, Marco Pistore, "A formalisation of Adaptable Pervasive Flows", [9th International Workshop on Web Services and Formal Methods \(WS-FM'09\), Springer Lecture Notes in Computer Science, Volume 4912.](#)
- E22 Martin Wirsing, Ugo Montanari, Roberto Bruni, Matthias Hözl, Nora Koch, Alberto Lluch Lafuente, Philip Mayer, and Andreas Schroeder, "A service-oriented UML profile with formal support", [7th International joint Conference on Service Oriented Computing ICSOC/ServiceWave 2009.](#)
- E21 Andrea Bracciali, Roberto Bruni, Alberto Lluch Lafuente, "On Symbolic Semantics for Name-decorated Contexts", [Proceedings of the 1st Interaction and Concurrency Experience \(ICE'08\), Elsevier Electronic Notes in Theoretical Computer Science, Volume 229, Issue 3, Issue 22, ISSN 0304-3975, 2009. .](#)
- E20 Roberto Bruni, Alberto Lluch Lafuente, Ugo Montanari, "Hierarchical Design Rewriting with Maude", [Proceedings of the 7th International Workshop on Rewriting Logic and its Applications \(WRLA'08\), Elsevier Electronic Notes in Theoretical Computer Science, Volume 238, Issue 3, 2009.](#)
- E19 Roberto Bruni, Alberto Lluch Lafuente, Ugo Montanari, Emilio Tuosto, "Service Oriented Architectural Design", [Proceedings of the 3rd International Symposium on Trustworthy Global Computing \(TGC'07\), Springer Lecture Notes in Computer Science, Volume 4912, 2008.](#)
- E18 Fabio Gadducci, Alberto Lluch Lafuente, "Graphical Encoding of a Spatial Logic for the pi-calculus", [Proceedings of the 2nd Conference on Algebra and Coalgebra in Computer Science \(CALCO'07\), Springer Lecture Notes on Computer Science, Volume 4624, ISBN 978-3-540-73857-2, 2007.](#)
- E17 Alberto Lluch Lafuente, "Towards Model Checking Spatial Properties with SPIN", [Proceedings of the 14th International SPIN Workshop on Model Checking Software \(SPIN'07\), Springer Lecture Notes on Computer Science, Volume 4595, ISBN 978-3-540-73857-2, 2007.](#)
- E16 Paolo Baldan, Andrea Corradini, Barbara König, Alberto Lluch Lafuente, "A Temporal Graph Logic for Abstractions of Graph Rewriting Systems", [Proceedings of the 18th International Workshop on Algebraic Development Techniques \(WADT'06\), Springer Lecture Notes in Computer Science, Volume 4409, 2007.](#)
- E15 Stefan Edelkamp, Shahid Jabbar, Alberto Lluch Lafuente, "Heuristic Search for the Analysis of Graph Transition Systems", [Proceedings of the 3rd International Conference on Graph Transformation \(ICGT'06\), Springer Lecture Notes in Computer Science, Volume 4178, 2006.](#)
- E14 Dragan Bošnački, Stefan Leue, Alberto Lluch Lafuente, "Partial-Order Reduction for General State Exploring Algorithms", [Proc. of the 13th International SPIN Workshop on Model Checking Software \(SPIN'06\), Springer Lecture Notes on Computer Science, Volume 3925, 2006.](#)
- E13 Dan Hirsch, Alberto Lluch Lafuente, Emilio Tuosto, "A Logic for Application Level QoS", [Proceedings of the 3rd Workshop on Quantitative Aspects of Programming Languages \(QAPL'05\), Elsevier Electronic Notes on Theoretical Computer Science, Volume 5, Issue 2, ISSN 0304-3975, 2005.](#)

- E12 Fabio Gadducci, Alberto Lluch Lafuente, "Graphical Verification of a Spatial Logic for the pi-calculus", [Proceedings of the 1st Workshop on Graph Transformation for Verification and Concurrency \(GTVC'05\)](#), Elsevier Electronic Notes in Theoretical Computer Science, Volume 142, ISSN 0304-3975, 2005.
- E11 Gianluigi Ferrari, Alberto Lluch Lafuente, "A Logic for Graphs with QoS", [Proceedings of the 1st Workshop on Views On Designing Complex Architectures \(VODCA'04\)](#), Elsevier Electronic Notes in Theoretical Computer Science, Volume 142, ISSN 0304-3975, 2006.
- E10 Stefan Edelkamp, Shahid Jabbar, Alberto Lluch Lafuente, "Cost-Algebraic Heuristic Search", [Proceedings of the 20th National Conference on Artificial Intelligence \(AAAI'05\)](#), ISBN 978-1-57735-236-5, AAAI Press / The MIT Press, 2005.
- E9 Stefan Edelkamp, Shahid Jabbar, Alberto Lluch Lafuente, "Action Planning for Graph Transition Systems", [Proceedings of the 1st ICAPS Workshop on Verification and Validation of Model-Based Planning and Scheduling Systems \(VVPS'05\)](#), AAAI Press, 2005.
- E8 Javier Rubio-Loyola, Joan Serrat, Marinos Charalambides, Paris Flegkas, Georgu Pavlou, Alberto Lluch Lafuente, "Using Linear Temporal Logic for Goal-Oriented Policy Refinement Frameworks", [Proceedings of the 6th IEEE Workshop on Policies for Distributed Systems and Networks \(POLICY'05\)](#), ISBN 0-7695-2265-3, IEEE Computer Society, 2005.
- E7 Alberto Lluch Lafuente, Ugo Montanari, "Quantitative mu-calculus and CTL based on Constraint Semirings", [Proceedings of the 2nd Workshop on Quantitative Aspects of Programming Languages \(QAPL'04\)](#), Elsevier Electronic Notes on Theoretical Computer Science, Volume 112, ISSN 0304-3975, 2005.
- E6 Stefan Edelkamp, Alberto Lluch Lafuente, "Abstraction in Directed Model Checking", [Proceedings of the 1st ICAPS Workshop on Connecting Planning Theory with Practice](#), 2004.
- E5 Alberto Lluch Lafuente, "Symmetry Reduction and Heuristic Search for Error Detection in Model Checking", [Proceedings of the 2nd Workshop on Model Checking and Artificial Intelligence \(MOCHART'03\)](#), AAAI Press, 2003.
- E4 Alberto Lluch Lafuente, Stefan Leue and Stefan Edelkamp, "Partial Order Reduction in Directed Model Checking", [Proceedings of the 9th International SPIN Workshop on Model Checking Software \(SPIN'02\)](#), Springer Lecture Notes on Computer Science, Volume 2318, 2002.
- E3 Stefan Edelkamp, Alberto Lluch Lafuente and Stefan Leue, "Trail-Directed Model Checking", [Proceedings of the 1st Workshop on Software Model Checking \(SOFTMC'01\)](#), Elsevier Electronic Notes on Theoretical Computer Science, Volume 55, Number 3, ISSN 0304-3975, 2001.
- E2 Stefan Edelkamp, Alberto Lluch Lafuente and Stefan Leue, "Directed Explicit Model Checking with HSF-SPIN", [Proceedings of the 8th International SPIN Workshop on Model Checking Software \(SPIN'01\)](#), Springer Lecture Notes on Computer Science, Volume 2057, 2001.
- E1 Stefan Edelkamp, Alberto Lluch Lafuente and Stefan Leue, "Protocol Verification with Heuristic Search", [Proceedings of the AAAI Spring Symposium on Model-Based Validation of Intelligence](#), ISBN 1-57735-132-0, 2001.

Peer-Reviewed Articles in Book Chapters

- C14 Alberto Lluch Lafuente, "A Framework for Provenance-Preserving History Distribution and Incremental Reduction", [Models, Languages, and Tools for Concurrent and Distributed Programming - Essays Dedicated to Rocco De Nicola on the Occasion of His 65th Birthday](#), Springer Lecture Notes in Computer Science, 2019.
- C13 Nicola Dragoni, Saverio Giallorenzo, Alberto Lluch-Lafuente, Manuel Mazzara, Fabrizio Montesi, Ruslan Mustafin, Larisa Safina, "Microservices: Yesterday, Today, and Tomorrow", [Present and Ulterior Software Engineering](#), Springer, 2017.
- C12 Marina Andric, Rocco De Nicola, Alberto Lluch Lafuente, "Replicating Data for Better Performances in X10", [Semantics, Logics, and Calculi](#), Springer Lecture Notes in Computer Science, 2016.
- C11 Alberto Lluch Lafuente, Flemming Nielson, Hanne Riis Nielson, "Discretionary Information Flow Control for Interaction-Oriented Specifications", [Logic, Rewriting, and Concurrency](#), Springer Lecture Notes in Computer Science, 2015.
- C10 Rocco De Nicola, Diego Latella, Alberto Lluch Lafuente, Michele Loreti, Andrea Margheri, Mieke Massink, Andrea Morichetta, Rosario Pugliese, Francesco Tiezzi, Andrea Vandin, "The SCEL Language: Design, Implementation, Verification", [Software Engineering for Collective Autonomic Systems](#), Springer Lecture Notes in Computer Science, 2015.

- C9 Roberto Bruni, Andrea Corradini, Fabio Gadducci, Matthias Hözl, Alberto Lluch Lafuente, Andrea Vandin, Martin Wirsing, "Reconciling White-Box and Black-Box Perspectives on Behavioral Self-adaptation", [Software Engineering for Collective Autonomic Systems, Springer Lecture Notes in Computer Science](#), 2015.
- C8 Dhaminda B. Abeywickrama, Jacques Combaz, Vojtech Horky, Jaroslav Keznikl, Jan Kofron, Alberto Lluch Lafuente, Michele Loreti, Andrea Margheri, Philip Mayer, Valentina Monreale, Ugo Montanari, Carlo Pincioli, Petr Tuma, Andrea Vandin, Emil Vassev, "Tools for Ensemble Design and Runtime", [Software Engineering for Collective Autonomic Systems, Springer Lecture Notes in Computer Science](#), 2015.
- C7 Roberto Bruni, Andrea Corradini, Fabio Gadducci, Alberto Lluch Lafuente, Andrea Vandin, "A White Box Perspective on Behavioural Adaptation. Software, Services, and Systems", [Software, Services, and Systems - Essays Dedicated to Martin Wirsing on the Occasion of His Retirement from the Chair of Programming and Software Engineering, Springer LNCS](#), 2015.
- C6 Yehia Abd Alrahman, Marina Andric, Alessandro Beggiato, Alberto Lluch Lafuente, "Can We Efficiently Check Concurrent Programs Under Relaxed Memory Models in Maude?", [WRLA 2014, Springer Lecture Notes in Computer Science](#), 2014.
- C5 Rocco De Nicola, Alberto Lluch Lafuente, Michele Loreti, Andrea Morichetta, Rosario Pugliese, Valerio Senni, Francesco Tiezzi, "Programming and Verifying Component Ensembles", [Festschrift in honor of Joseph Sifakis, Springer Lecture Notes in Computer Science](#), 2014.
- C4 Roberto Bruni, Andrea Corradini, Fabio Gadducci, Alberto Lluch Lafuente, "On GS-Monoidal Theories for Graphs with Nesting", [Festschrift in honor of Manfred Nagl, Springer Lecture Notes in Computer Science](#), 2008.
- C3 Roberto Bruni, Fabio Gadducci, Andrea Corradini, Alberto Lluch Lafuente, Ugo Montanari "Hierarchical models for service-oriented systems", [Rigorous Software Engineering for Service-Oriented Systems, Results of the SENSORIA project on Software Engineering for Service-Oriented Computing, Springer Lecture Notes in Computer Science](#), Volume 6582, 2011.
- C2 Roberto Bruni, Howard Foster, Alberto Lluch Lafuente, Ugo Montanari, Emilio Tuosto, "A formal support to business and architectural design for service-oriented systems", [Rigorous Software Engineering for Service-Oriented Systems, Results of the SENSORIA project on Software Engineering for Service-Oriented Computing, Springer LNCS](#), Volume 6582, 2011.
- C1 Roberto Bruni, Antonio Bucchiarone, Stefania Gnesi, Dan Hirsch, Alberto Lluch Lafuente, "Graph-Based Design and Analysis of Dynamic Software Architectures", [Concurrency, Graphs and Models. Essays Dedicated to Ugo Montanari on the Occasion of His 65th Birthday, Springer Lecture Notes in Computer Science](#), Volume 6065, 2008.

[Peer-Reviewed Monographs](#)

- M3 Alberto Lluch Lafuente, Marco Righi, "Internet e Web 2.0", [UTET Università](#), 2011, ISBN 978-8860083418.
- M2 Alberto Lluch Lafuente, "Directed Search for the Verification of Communication Protocols", PhD Thesis, [Freiburger Dokument Server, Institute of Computer Science, University of Freiburg, Germany](#), 2003.
- T1 Alberto Lluch Lafuente, "Analysis of Transport Protocols in Hybrid Networks", Master Thesis, [Instituto de Informática, Universidad del País Vasco](#), June 1999.

[Position Papers](#)

- P6 Roberto Bruni, Andrea Corradini, Fabio Gadducci, Alberto Lluch Lafuente, Andrea Vandin "Adaptation is a Game", [Tiny Transactions in Computer Science](#), Volume 2, 2013.
- P5 Alberto Lluch Lafuente, "A Lewisian Approach to the Verification of Adaptive Systems", [Conference on David Lewis "Another world is possible", Rivista Italiana di Filosofia Analitica Junior, Vol 2, No 2 \(2011\), ISSN 2037-4445](#), 2011.
- P4 Roberto Bruni, Andrea Corradini, Fabio Gadducci, Alberto Lluch Lafuente, Ugo Montanari, "Rewriting nested graphs, through term graphs", [20th International Workshop on Algebraic Development Techniques WADT 2010](#), 2010.
- P3 Alberto Lluch Lafuente, "Specification and Analysis with Hierarchical Graphs", [Proceedings of the Dagstuhl Seminar on Graph Search Engineering](#), Schloss Dagstuhl Proceedings, 2009.
- P2 Roberto Bruni, Alberto Lluch Lafuente, "Ten virtues of structured graphs", [Proceedings of the Eighth International Workshop on Graph Transformation and Visual Modeling Techniques \(GT-VMT 2009\)](#), Electronic Communications of the EASST. 2009.

P1 | Roberto Bruni, Alberto Lluch Lafuente, Ugo Montanari, Emilio Tuosto, "Architectural Design Rewriting as an Architecture Description Language", Position paper at the [The Rise and Rise of the Declarative Datacentre research meeting](#), Microsoft Research Cambridge, 2008.

Education and Training

2017-2018	DTU Leadership Programme.
May 2004	School on Foundations of Visual Modelling Techniques by the European Research Training Network SEGRAVIS held at the international research center Schloss Dagstuhl in Germany.
Aug 1999 - Jun 2003	PhD in Computer Science at the Albert-Ludwigs-Universität in Freiburg (Germany), partially granted by the Deutsche Forschung Gemeinschaft (German Research Foundation).
Thesis title	Directed Search for the Verification of Communication Protocols.
Level achieved	Sehr gut (Optimal).
Academic year 1998/1999	European Community Socrates/Erasmus grant hosted at the Albert-Ludwigs-Universität in Freiburg (Germany).
1994 - 1999	Ingeniero en Informática (Master of Science in Computer Science and Engineering) at the University of the Basque Country (Spain).
Thesis title	Analysis of Transport Protocols in Hybrid Networks.
Level achieved	Thesis Performance: 10/10 Matrícula de Honor . Average performance: 8,11/10 (highest in my year). Awarded prize by the Kutxa bank at San Sebastián (Spain) for best final average performance in “Ingeniero en Informática” at the University of the Basque Country (Spain).
1994	High School Graduation at the Deutsche Schule San Alberto Magno at San Sebastián (Spain).
1987 - 1993	Computer programming courses at the Colegio Católico Santa María at San Sebastián (Spain).

Personal Skills and Competences

Mother tongue(s)	Spanish.
Other language(s)	Italian (native), English (fluent), German (fluent), Basque (basic), Danish (basic).

Additional Information

Volunteering	Volunteering at the ARCA onlus (Associazione Amici Animali e Ambiente) at Empoli from February 2005 until July 2006.
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Courses at the Technical University of Denmark

	Advanced Analysis Techniques
Roles	Course responsible and teacher
Level	PhD and MSc
ETCS	5
Size	~8 students
Homepage	https://kurser.dtu.dk/course/02913
Evaluations	Evaluations available at https://kurser.dtu.dk/course/02913/info
Years	2020-today
	Model Checking
Roles	Course responsible and teacher
Level	MSc
ETCS	7.5
Size	~30 students
Homepage	https://kurser.dtu.dk/course/02246
Evaluations	Evaluations available at https://kurser.dtu.dk/course/02246/info
Years	2014-today
	Computer Science Modelling
Roles	Course responsible and teacher
Level	BSc
ETCS	10
Size	~130 students
Homepage	https://kurser.dtu.dk/course/02141
Evaluations	Evaluations available at https://kurser.dtu.dk/course/02141/info
Years	2017-today
	Introduction to Coordination in Distributed Applications
Roles	Course creator, course responsible and teacher
Level	BSc/BEng
ETCS	5
Size	~100 students
Homepage	https://kurser.dtu.dk/course/02148
Evaluations	Evaluations available at https://kurser.dtu.dk/course/02148/info
Years	2017-today
	Programming in C++
Roles	Course responsible and teacher
Level	BSc/MSc/PhD
ETCS	5
Size	~200 students
Homepage	https://kurser.dtu.dk/course/02393
Evaluations	Evaluations available at https://kurser.dtu.dk/course/02393/info
Years	2015-today

Courses at the Other Institutions

Courses at the IMT School for Advanced Studies Lucca

- 2012-14 Model Checking, PhD, IMT, 6 ECTS, ~10 students, course responsible and teacher.
2013 Specification and Verification with Maude, PhD, IMT, 2 ECTS, ~10 students, course responsible and teacher.
2011-13 Algorithms and their complexity, PhD, IMT, 2 ECTS, ~10 students, course responsible and teacher.
2010 Methods and Tools for Algebraic Verification, PhD, IMT, 4 ECTS, ~10 students, course responsible and teacher.

Courses at the Albert-Ludwig's University of Freiburg

- 2002-03 Computational Geometry, MSc, University of Freiburg, 6 ECTS, ~50 students, teacher.
2001 Introduction to Applied Computer Science, MSc, University of Freiburg, 6 ECTS, ~50 students, teacher.
2000 Computer Networks, BSc, University of Freiburg, 6 ECTS, ~10 students, teacher.

Courses at the Gran Sasso Science Institute, L'Aquila, Italy

- 2013 Introduction to Formal Verification, PhD, GSSI, 3 ECTS, ~10 students, teacher.

Courses at the University of Pisa, Italy

- 2011-13 Model Checking with SPIN, Invited lecture, MSc, University of Pisa, ~4 students, guest lecturer.
2008 Rigorous Software Development via Model Checking, PhD Seminar Series, ~10 students, Teaching assistant of Prof. Gianluigi Ferrari at the University of Pisa, guest lecturer.

Other courses

- 2012 A white-box perspective on Adaptation, Invited lecture in the AWASS Summer School on Awareness in Autonomic Systems at Edinburgh (UK), ~30 students, guest lecturer.

Student Supervision

PhD supervision	James Chiang, DTU, thesis on “Formal Methods for Decentralized Finance”, 2020-2023.
PhD supervision	Georgios Argyris, DTU, thesis on “Reduction of Boolean Networks”, 2020-2023.
PhD co-supervision	Sebastián Gondron, DTU, thesis on “Vertical Composition of Distributed Systems”, 2018-2021.
PhD supervision	Marina Andric, IMT Lucca, thesis on “Data Sharing and Replication for Relaxed High-Performance Computing”, 2013-2017.
PhD supervision	Stefano Sebastio, IMT Lucca, thesis on “Models and Self-* Strategies for Volunteer Clouds”, 2011-2014.
PhD supervision	Andrea Vandin, IMT Lucca, thesis on “Specification and Analysis of Systems with Dynamic Structure”.
PhD Tutor	Tutor of the following PhD students at IMT Lucca: Diego Pennachioli, Andrea Vandin, Alessandro Celestini, Massimo Minervini, Luca Sani, Michele Stawowy, Marina Andric, Alessandro Beggiato, 2009-2014.
MSc/BSc supervision	Supervision of over 100 BSc, BEng and MSc projects at DTU, 2014-today.

Student Examination

PhD examination (external)	Angela Pappagallo, Sapienza University of Rome, thesis on “Estimation of Distribution Parameters as a Tool for Model-Based System Engineering and Model Identification”, 2020.
PhD examination (external)	Mahsa Varshosaz, Halmstad University, thesis on “Modeling and Model-Based Testing of Software Product Lines”, 2019.
PhD examination (external)	Chiara Muzi, University of Camerino, thesis on “Formalisation of BPMN Models: a Focus on Correctness Properties”, 2019.
PhD examination (internal)	Andreas Viktor Hess, DTU, thesis on “Typing and Compositionality Results for Stateful Protocols”, 2018.
PhD examination (external)	Lenz Belzner, LMU München, thesis on “Simulation-based autonomous systems in discrete and continuous domains”, 2016.
PhD examination (internal)	Nicklas Bo Jensen, DTU, thesis on “High Performance with Prescriptive Optimization and Debugging”, 2016.
PhD examination (internal)	Omar Almousa, DTU, thesis on “Security Protocols: Specification, Verification, Implementation, and Composition”, 2016.
PhD examination (internal)	Marieta Georgieva Ivanova, DTU, thesis on “Modelling Socio-Technical Aspects of Organisational Security”, 2016.
PhD examination (external)	Lucian Bentea, University of Oslo, thesis on “Formal Modeling and Analysis of Probabilistic Real-Time Systems in Rewriting Logic”, 2015.
PhD examination (external)	Florian Leitner-Fischer, University of Konstanz, thesis on “Causality Checking of Safety-Critical Software and Systems”, 2015.
PhD examination (internal)	Roberto Vigo, DTU, thesis on “Availability by Design”, 2015.
PhD examination (internal)	Qurat Nizamani, University of Leicester, thesis on “Directed Model Checking of Security Protocols”, 2011.
PhD examination (external)	Pedro Cámara, University of Málaga (Spain), thesis on ‘Model Checking for Verification of Avionics Software’, 2013.
PhD evaluation	Member of the evaluation committee of Luca Sani and Giovanni Accongiagioco (University of Pisa).
Student examination	External examiner for BSc & MSc courses, theses and projects theses at the University of Copenhagen, at the IT University of Copenhagen, and at Aalborg University (2015-today)