

# Luca Bortolussi

## List of Publications by Year in descending order

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124  
papers

1,530  
citations

430442

18  
h-index

454577

30  
g-index

134  
all docs

134  
docs citations

134  
times ranked

641  
citing authors

#	ARTICLE	IF	CITATIONS
1	Continuous approximation of collective system behaviour: A tutorial. <i>Performance Evaluation</i> , 2013, 70, 317-349.	0.9	142
2	System design of stochastic models using robustness of temporal properties. <i>Theoretical Computer Science</i> , 2015, 587, 3-25.	0.5	72
3	Smoothed model checking for uncertain Continuous-Time Markov Chains. <i>Information and Computation</i> , 2016, 247, 235-253.	0.5	58
4	Modeling Biological Systems in Stochastic Concurrent Constraint Programming. <i>Constraints</i> , 2008, 13, 66-90.	0.4	46
5	Monitoring mobile and spatially distributed cyber-physical systems. , 2017, , .		43
6	Qualitative and Quantitative Monitoring of Spatio-Temporal Properties. <i>Lecture Notes in Computer Science</i> , 2015, , 21-37.	1.0	43
7	Fluid Model Checking. <i>Lecture Notes in Computer Science</i> , 2012, , 333-347.	1.0	37
8	On the Robustness of Temporal Properties for Stochastic Models. <i>Electronic Proceedings in Theoretical Computer Science</i> , EPTCS, 0, 125, 3-19.	0.8	35
9	Temporal Logic Based Monitoring of Assisted Ventilation in Intensive Care Patients. <i>Lecture Notes in Computer Science</i> , 2014, , 391-403.	1.0	33
10	Hybrid dynamics of stochastic programs. <i>Theoretical Computer Science</i> , 2010, 411, 2052-2077.	0.5	31
11	CARMA: Collective Adaptive Resource-sharing Markovian Agents. <i>Electronic Proceedings in Theoretical Computer Science</i> , EPTCS, 0, 194, 16-31.	0.8	30
12	Hybrid Systems and Biology. , 2008, , 424-448.		28
13	Learning and Designing Stochastic Processes from Logical Constraints. <i>Lecture Notes in Computer Science</i> , 2013, , 89-105.	1.0	28
14	Stochastic Concurrent Constraint Programming. <i>Electronic Notes in Theoretical Computer Science</i> , 2006, 164, 65-80.	0.9	26
15	Stochastic Concurrent Constraint Programming and Differential Equations. <i>Electronic Notes in Theoretical Computer Science</i> , 2007, 190, 27-42.	0.9	26
16	Scoring predictive models using a reduced representation of proteins: model and energy definition. <i>BMC Structural Biology</i> , 2007, 7, 15.	2.3	25
17	A Robust Genetic Algorithm for Learning Temporal Specifications from Data. <i>Lecture Notes in Computer Science</i> , 2018, , 323-338.	1.0	25
18	A Temporal Logic Approach to Modular Design of Synthetic Biological Circuits. <i>Lecture Notes in Computer Science</i> , 2013, , 164-177.	1.0	24

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19	Model checking single agent behaviours by fluid approximation. Information and Computation, 2015, 242, 183-226.	0.5	22
20	Bayesian Statistical Parameter Synthesis for Linear Temporal Properties of Stochastic Models. Lecture Notes in Computer Science, 2018, , 396-413.	1.0	21
21	Size expansions of mean field approximation: Transient and steady-state analysis. Performance Evaluation, 2019, 129, 60-80.	0.9	19
22	Model Checking Markov Population Models by Central Limit Approximation. Lecture Notes in Computer Science, 2013, , 123-138.	1.0	19
23	Hybrid behaviour of Markov population models. Information and Computation, 2016, 247, 37-86.	0.5	18
24	An Active Learning Approach to the Falsification of Black Box Cyber-Physical Systems. Lecture Notes in Computer Science, 2017, , 3-17.	1.0	18
25	U-Check: Model Checking and Parameter Synthesis Under Uncertainty. Lecture Notes in Computer Science, 2015, , 89-104.	1.0	17
26	Distribution Approximations for the Chemical Master Equation: Comparison of the Method of Moments and the System Size Expansion. Contributions in Mathematical and Computational Sciences, 2017, , 39-66.	0.3	16
27	Neural Predictive Monitoring. Lecture Notes in Computer Science, 2019, , 129-147.	1.0	15
28	Hybrid Limits of Continuous Time Markov Chains. , 2011, , .		14
29	Bounds on the deviation of discrete-time Markov chains from their mean-field model. Performance Evaluation, 2013, 70, 736-749.	0.9	14
30	Studying Emergent Behaviours in Morphogenesis Using Signal Spatio-Temporal Logic. Lecture Notes in Computer Science, 2015, , 156-172.	1.0	14
31	Dynamical Systems and Stochastic Programming: To Ordinary Differential Equations and Back. Lecture Notes in Computer Science, 2009, , 216-267.	1.0	14
32	On the Approximation of Stochastic Concurrent Constraint Programming by Master Equation. Electronic Notes in Theoretical Computer Science, 2008, 220, 163-180.	0.9	13
33	(Hybrid) automata and (stochastic) programs * The hybrid automata lattice of a stochastic program. Journal of Logic and Computation, 2013, 23, 761-798.	0.5	13
34	Specifying and Monitoring Properties of Stochastic Spatio-Temporal Systems in Signal Temporal Logic. , 2015, , .		13
35	Agent-based protein structure prediction. Multiagent and Grid Systems, 2007, 3, 183-197.	0.5	12
36	Fluid Approximation of CTMC with Deterministic Delays. , 2012, , .		12

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37	HYPE: Hybrid modelling by composition of flows. <i>Formal Aspects of Computing</i> , 2013, 25, 503-541.	1.4	12
38	Hybrid performance modelling of opportunistic networks. <i>Electronic Proceedings in Theoretical Computer Science</i> , EPTCS, 0, 85, 106-121.	0.8	12
39	HYPE Applied to the Modelling of Hybrid Biological Systems. <i>Electronic Notes in Theoretical Computer Science</i> , 2008, 218, 33-51.	0.9	11
40	Neural predictive monitoring and a comparison of frequentist and Bayesian approaches. <i>International Journal on Software Tools for Technology Transfer</i> , 0, , 1.	1.7	11
41	Model checking Markov population models by stochastic approximations. <i>Information and Computation</i> , 2018, 262, 189-220.	0.5	10
42	Deep Abstractions of Chemical Reaction Networks. <i>Lecture Notes in Computer Science</i> , 2018, , 21-38.	1.0	10
43	Neural Predictive Monitoring Under Partial Observability. <i>Lecture Notes in Computer Science</i> , 2021, , 121-141.	1.0	10
44	Mean Field Approximation of Uncertain Stochastic Models. , 2016, , .		9
45	Reachability Computation for Switching Diffusions. , 2017, , .		9
46	Moment-Based Parameter Estimation for Stochastic Reaction Networks in Equilibrium. <i>IEEE/ACM Transactions on Computational Biology and Bioinformatics</i> , 2018, 15, 1180-1192.	1.9	9
47	HYPE: A Process Algebra for Compositional Flows and Emergent Behaviour. <i>Lecture Notes in Computer Science</i> , 2009, , 305-320.	1.0	9
48	Hybrid Semantics of Stochastic Programs with Dynamic Reconfiguration. <i>Electronic Proceedings in Theoretical Computer Science</i> , EPTCS, 0, 6, 63-76.	0.8	9
49	The Importance of Being (A Little Bit) Discrete. <i>Electronic Notes in Theoretical Computer Science</i> , 2009, 229, 75-92.	0.9	8
50	Lumping of degree-based mean-field and pair-approximation equations for multistate contact processes. <i>Physical Review E</i> , 2018, 97, 012301.	0.8	8
51	Stochastic Approximation of Global Reachability Probabilities of Markov Population Models. <i>Lecture Notes in Computer Science</i> , 2014, , 224-239.	1.0	8
52	Stochastic Process Algebra and Stability Analysis of Collective Systems. <i>Lecture Notes in Computer Science</i> , 2013, , 1-15.	1.0	8
53	Signal Convolution Logic. <i>Lecture Notes in Computer Science</i> , 2018, , 267-283.	1.0	8
54	Hybrid Dynamics of Stochastic IŁ-Calculus. <i>Mathematics in Computer Science</i> , 2009, 2, 465-491.	0.2	7

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55	Hybrid Semantics for PEPA. , 2010, , .		7
56	Efficient Stochastic Simulation of Systems with Multiple Time Scales via Statistical Abstraction. Lecture Notes in Computer Science, 2015, , 40-51.	1.0	7
57	Policy learning in continuous-time Markov decision processes using Gaussian Processes. Performance Evaluation, 2017, 116, 84-100.	0.9	7
58	At the boundaries of syntactic prehistory. Philosophical Transactions of the Royal Society B: Biological Sciences, 2021, 376, 20200197.	1.8	7
59	Reducing Spreading Processes on Networks to Markov Population Models. Lecture Notes in Computer Science, 2019, , 292-309.	1.0	7
60	A Statistical Approach for Computing Reachability of Non-linear and Stochastic Dynamical Systems. Lecture Notes in Computer Science, 2014, , 41-56.	1.0	7
61	Limit Behavior of the Hybrid Approximation of Stochastic Process Algebras. Lecture Notes in Computer Science, 2010, , 367-381.	1.0	7
62	HYPE with stochastic events. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 57, 120-133.	0.8	7
63	Constraint-Based Simulation of Biological Systems Described by Molecular Interaction Maps. , 2007, , .		6
64	Hybrid approximation of stochastic process algebras for systems biology. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 12599-12606.	0.4	6
65	Central Limit Model Checking. ACM Transactions on Computational Logic, 2019, 20, 1-35.	0.7	6
66	Control Variates for Stochastic Simulation of Chemical Reaction Networks. Lecture Notes in Computer Science, 2019, , 42-59.	1.0	6
67	Stochastic Programs and Hybrid Automata for (Biological) Modeling. Lecture Notes in Computer Science, 2009, , 37-48.	1.0	6
68	Possibilistic Coding: Error Detection vs. Error Correction. Advances in Intelligent and Soft Computing, 2010, , 41-48.	0.2	6
69	Checking Individual Agent Behaviours in Markov Population Models by Fluid Approximation. Lecture Notes in Computer Science, 2013, , 113-149.	1.0	6
70	jSSTL - A Tool to Monitor Spatio-Temporal Properties. , 2017, , .		6
71	CoBiC: Context-dependent Bioambient Calculus. Electronic Notes in Theoretical Computer Science, 2009, 253, 187-201.	0.9	5
72	Spearman Permutation Distances and Shannon's Distinguishability. Fundamenta Informaticae, 2012, 118, 245-252.	0.3	5

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73	Abstraction-Guided Truncations for Stationary Distributions of Markov Population Models. Lecture Notes in Computer Science, 2021, , 351-371.	1.0	5
74	Rejection-Based Simulation of Non-Markovian Agents on Complex Networks. Studies in Computational Intelligence, 2020, , 349-361.	0.7	5
75	Bounding Mean First Passage Times in Population Continuous-Time Markov Chains. Lecture Notes in Computer Science, 2020, , 155-174.	1.0	5
76	Mean-Field Limits Beyond Ordinary Differential Equations. Lecture Notes in Computer Science, 2016, , 61-82.	1.0	5
77	Studying cancer-cell populations by programmable models of networks. Network Modeling Analysis in Health Informatics and Bioinformatics, 2012, 1, 117-133.	1.2	4
78	Coding Theory: A General Framework and Two Inverse Problems. Fundamenta Informaticae, 2015, 141, 297-310.	0.3	4
79	Fluid Performability Analysis of Nested Automata Models. Electronic Notes in Theoretical Computer Science, 2015, 310, 27-47.	0.9	4
80	On the impact of discreteness and abstractions on modelling noise in gene regulatory networks. Computational Biology and Chemistry, 2015, 56, 98-108.	1.1	4
81	Abstraction of Markov Population Dynamics via Generative Adversarial Nets. Lecture Notes in Computer Science, 2021, , 19-35.	1.0	4
82	Don't Just Go with the Flow: Cautionary Tales of Fluid Flow Approximation. Lecture Notes in Computer Science, 2013, , 156-171.	1.0	4
83	Codeword distinguishability in minimum diversity decoding. Journal of Discrete Mathematical Sciences and Cryptography, 2006, 9, 487-502.	0.5	3
84	Fluid limits of queueing networks with batches. , 2012, , .		3
85	Discontinuation of antidepressants in suicides findings from the Friuli Venezia Giulia Region, Italy, 2005-2014. Basic and Clinical Pharmacology and Toxicology, 2019, 124, 312-320.	1.2	3
86	Refining Mean-field Approximations by Dynamic State Truncation. Proceedings of the ACM on Measurement and Analysis of Computing Systems, 2021, 5, 1-30.	1.4	3
87	A Distributed and Probabilistic Concurrent Constraint Programming Language. Lecture Notes in Computer Science, 2005, , 143-158.	1.0	3
88	Bayesian Abstraction of Markov Population Models. Lecture Notes in Computer Science, 2019, , 259-276.	1.0	3
89	Conformal Predictions for Hybrid System State Classification. Lecture Notes in Computer Science, 2019, , 225-241.	1.0	3
90	Mean-Field Approximation and Quasi-Equilibrium Reduction of Markov Population Models. Lecture Notes in Computer Science, 2014, , 106-121.	1.0	3

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91	Machine Learning Methods in Statistical Model Checking and System Design – Tutorial. Lecture Notes in Computer Science, 2015, , 323-341.	1.0	3
92	Logic-Based Multi-objective Design of Chemical Reaction Networks. Lecture Notes in Computer Science, 2016, , 164-178.	1.0	3
93	Programmable models of growth and mutation of cancer-cell populations. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 67, 19-33.	0.8	3
94	Efficient Checking of Individual Rewards Properties in Markov Population Models. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 194, 32-47.	0.8	3
95	Monitoring Spatio-Temporal Properties (Invited Tutorial). Lecture Notes in Computer Science, 2020, , 21-46.	1.0	3
96	Efficient extraction of seismic reflection with Deep Learning. Computers and Geosciences, 2022, 166, 105190.	2.0	3
97	Fluid limit of an asynchronous optical packet switch with shared per link full range wavelength conversion. , 2012, , .		2
98	Fluid limit of an asynchronous optical packet switch with shared per link full range wavelength conversion. Performance Evaluation Review, 2012, 40, 113-124.	0.4	2
99	Hybrid Systems and Biology. Information and Computation, 2014, 236, 1-2.	0.5	2
100	Fluid approximation of broadcasting systems. Theoretical Computer Science, 2020, 816, 221-248.	0.5	2
101	Matching Models Across Abstraction Levels with Gaussian Processes. Lecture Notes in Computer Science, 2016, , 49-66.	1.0	2
102	Policy Learning for Time-Bounded Reachability in Continuous-Time Markov Decision Processes via Doubly-Stochastic Gradient Ascent. Lecture Notes in Computer Science, 2016, , 244-259.	1.0	2
103	Lumping the Approximate Master Equation for Multistate Processes on Complex Networks. Lecture Notes in Computer Science, 2018, , 157-172.	1.0	2
104	Automatic Translation of Spatio-Temporal Logics to Streaming-Based Monitoring Applications for IoT-Equipped Autonomous Agents. , 2019, , .		2
105	FUZZY POSSIBILITIES AS UPPER PREVISIONS. International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems, 2004, 12, 559-574.	0.9	1
106	Model-Based Whole-Genome Analysis of DNA Methylation Fidelity. Lecture Notes in Computer Science, 2015, , 141-155.	1.0	1
107	Learning and Designing Stochastic Processes from Logical Constraints. Logical Methods in Computer Science, 2015, 11, .	0.4	1
108	Size Expansions of Mean Field Approximation. Performance Evaluation Review, 2019, 46, 25-26.	0.4	1

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109	Efficient simulation of non-Markovian dynamics on complex networks. PLoS ONE, 2020, 15, e0241394.	1.1	1
110	Editorial: Quantitative Aspects of Programming Languages and Systems. Theoretical Computer Science, 2016, 655, 91.	0.5	0
111	BAYESIAN STATISTICAL PARAMETRIC VERIFICATION AND SYNTHESIS BY MACHINE LEARNING. , 2018, , .		0
112	Refining Mean-field Approximations by Dynamic State Truncation. , 2021, , .		0
113	Improved estimations of stochastic chemical kinetics by finite-state expansion. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, 20200964.	1.0	0
114	Concurrent Methodologies for Global Optimization. Lecture Notes in Computer Science, 2005, , 441-443.	1.0	0
115	Location Aggregation of Spatial Population CTMC Models. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 227, 30-43.	0.8	0
116	Bounding First Passage Times in Chemical Reaction Networks. Lecture Notes in Computer Science, 2019, , 379-382.	1.0	0
117	BuST-Bundled Suffix Trees. , 2006, , 91-102.		0
118	Hybrid Semantics for Stochastic I€-Calculus. Lecture Notes in Computer Science, 2008, , 40-55.	1.0	0
119	Velocity analysis on common offset GPR data: A deep learning approach. , 2020, , .		0
120	Efficient simulation of non-Markovian dynamics on complex networks. , 2020, 15, e0241394.		0
121	Efficient simulation of non-Markovian dynamics on complex networks. , 2020, 15, e0241394.		0
122	Efficient simulation of non-Markovian dynamics on complex networks. , 2020, 15, e0241394.		0
123	Efficient simulation of non-Markovian dynamics on complex networks. , 2020, 15, e0241394.		0
124	Refining Mean-field Approximations by Dynamic State Truncation. Performance Evaluation Review, 2021, 49, 31-32.	0.4	0