

Luca Cardelli

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

156
papers

7,507
citations

40
h-index

83
g-index

165
ext. papers

8,268
ext. citations

2
avg, IF

6.27
L-index

#	Paper	IF	Citations
156	Biomolecular mechanisms for signal differentiation.. <i>IScience</i> , 2021 , 24, 103462	6.1	1
155	A Language for Modeling and Optimizing Experimental Biological Protocols. <i>Computation</i> , 2021 , 9, 107	2.2	
154	Evolution of opposing regulatory interactions underlies the emergence of eukaryotic cell cycle checkpoints. <i>Scientific Reports</i> , 2021 , 11, 11122	4.9	0
153	. <i>IEEE Transactions on Automatic Control</i> , 2021 , 66, 17-32	5.9	6
152	PID Control of Biochemical Reaction Networks. <i>IEEE Transactions on Automatic Control</i> , 2021 , 1-1	5.9	9
151	Exact Maximal Reduction Of Stochastic Reaction Networks By Species Lumping. <i>Bioinformatics</i> , 2021 ,	7.2	6
150	Lumpability for Uncertain Continuous-Time Markov Chains. <i>Lecture Notes in Computer Science</i> , 2021 , 391-409	0.9	1
149	The Beacon Calculus: A formal method for the flexible and concise modelling of biological systems. <i>PLoS Computational Biology</i> , 2020 , 16, e1007651	5	4
148	Coupled membrane transporters reduce noise. <i>Physical Review E</i> , 2020 , 101, 012414	2.4	1
147	Kaemika App: Integrating Protocols and Chemical Simulation. <i>Lecture Notes in Computer Science</i> , 2020 , 373-379	0.9	2
146	Uncertainty Quantification with Statistical Guarantees in End-to-End Autonomous Driving Control 2020 ,		7
145	From electric circuits to chemical networks. <i>Natural Computing</i> , 2020 , 19, 237-248	1.3	7
144	Efficiency through uncertainty 2019 ,		9
143	Symbolic computation of differential equivalences. <i>Theoretical Computer Science</i> , 2019 , 777, 132-154	1.1	10
142	Central Limit Model Checking. <i>ACM Transactions on Computational Logic</i> , 2019 , 20, 1-35	0.9	4
141	Robustness Guarantees for Bayesian Inference with Gaussian Processes. <i>Proceedings of the AAAI Conference on Artificial Intelligence</i> , 2019 , 33, 7759-7768	5	5
140	PID Control of Biochemical Reaction Networks 2019 ,		3

139	Comparing chemical reaction networks: A categorical and algorithmic perspective. <i>Theoretical Computer Science</i> , 2019 , 765, 47-66	1.1	4
138	Chemical reaction network designs for asynchronous logic circuits. <i>Natural Computing</i> , 2018 , 17, 109-130	1.3	15
137	Programming discrete distributions with chemical reaction networks. <i>Natural Computing</i> , 2018 , 17, 131-145	1.5	9
136	Single molecules can operate as primitive biological sensors, switches and oscillators. <i>BMC Systems Biology</i> , 2018 , 12, 70	3.5	7
135	Computing with biological switches and clocks. <i>Natural Computing</i> , 2018 , 17, 761-779	1.3	25
134	Guaranteed Error Bounds on Approximate Model Abstractions Through Reachability Analysis. <i>Lecture Notes in Computer Science</i> , 2018 , 104-121	0.9	3
133	Experimental Biological Protocols with Formal Semantics. <i>Lecture Notes in Computer Science</i> , 2018 , 165-182	1.2	2
132	Molecular Filters for Noise Reduction. <i>Biophysical Journal</i> , 2018 , 114, 3000-3011	2.9	13
131	Reachability Computation for Switching Diffusions 2017 ,		8
130	Maximal aggregation of polynomial dynamical systems. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 10029-10034	11.5	27
129	Syntax-Guided Optimal Synthesis for Chemical Reaction Networks. <i>Lecture Notes in Computer Science</i> , 2017 , 375-395	0.9	15
128	Efficient Switches in Biology and Computer Science. <i>PLoS Computational Biology</i> , 2017 , 13, e1005100	5	9
127	Syntactic Markovian Bisimulation for Chemical Reaction Networks. <i>Lecture Notes in Computer Science</i> , 2017 , 466-483	0.9	5
126	ERODE: A Tool for the Evaluation and Reduction of Ordinary Differential Equations. <i>Lecture Notes in Computer Science</i> , 2017 , 310-328	0.9	30
125	Chemical Reaction Network Designs for Asynchronous Logic Circuits. <i>Lecture Notes in Computer Science</i> , 2016 , 67-81	0.9	5
124	Stochastic analysis of Chemical Reaction Networks using Linear Noise Approximation. <i>BioSystems</i> , 2016 , 149, 26-33	1.9	30
123	Symbolic computation of differential equivalences 2016 ,		19
122	Symbolic computation of differential equivalences. <i>ACM SIGPLAN Notices</i> , 2016 , 51, 137-150	0.2	11

121	Approximation of Probabilistic Reachability for Chemical Reaction Networks Using the Linear Noise Approximation. <i>Lecture Notes in Computer Science</i> , 2016 , 72-88	0.9	10
120	A Stochastic Hybrid Approximation for Chemical Kinetics Based on the Linear Noise Approximation. <i>Lecture Notes in Computer Science</i> , 2016 , 147-167	0.9	14
119	Efficient Syntax-Driven Lumping of Differential Equations. <i>Lecture Notes in Computer Science</i> , 2016 , 93-103	1.1	17
118	Noise Reduction in Complex Biological Switches. <i>Scientific Reports</i> , 2016 , 6, 20214	4.9	27
117	Comparing Chemical Reaction Networks 2016 ,		17
116	The Formal Language and Design Principles of Autonomous DNA Walker Circuits. <i>ACS Synthetic Biology</i> , 2016 , 5, 878-84	5.7	17
115	Programming Discrete Distributions with Chemical Reaction Networks. <i>Lecture Notes in Computer Science</i> , 2016 , 35-51	0.9	8
114	Unlimited multistability and Boolean logic in microbial signalling. <i>Journal of the Royal Society Interface</i> , 2015 , 12, 20150234	4.1	14
113	Gener: a minimal programming module for chemical controllers based on DNA strand displacement. <i>Bioinformatics</i> , 2015 , 31, 2906-8	7.2	3
112	Automated Design and Verification of Localized DNA Computation Circuits. <i>Lecture Notes in Computer Science</i> , 2015 , 168-180	0.9	2
111	Stochastic Analysis of Chemical Reaction Networks Using Linear Noise Approximation. <i>Lecture Notes in Computer Science</i> , 2015 , 64-76	0.9	10
110	The Measurable Space of Stochastic Processes. <i>Fundamenta Informaticae</i> , 2014 , 131, 351-371	1	
109	Morphisms of reaction networks that couple structure to function. <i>BMC Systems Biology</i> , 2014 , 8, 84	3.5	47
108	Lineage grammars: describing, simulating and analyzing population dynamics. <i>BMC Bioinformatics</i> , 2014 , 15, 249	3.6	5
107	Programming chemistry in DNA-addressable bioreactors. <i>Journal of the Royal Society Interface</i> , 2014 , 11,	4.1	9
106	Programmable chemical controllers made from DNA. <i>Nature Nanotechnology</i> , 2013 , 8, 755-62	28.7	341
105	Phosphorelays provide tunable signal processing capabilities for the cell. <i>PLoS Computational Biology</i> , 2013 , 9, e1003322	5	17
104	Two-domain DNA strand displacement. <i>Mathematical Structures in Computer Science</i> , 2013 , 23, 247-271	0.5	78

103	Stochastic Pi-calculus Revisited. <i>Lecture Notes in Computer Science</i> , 2013 , 1-21	0.9	0
102	Processes in space. <i>Theoretical Computer Science</i> , 2012 , 431, 40-55	1.1	7
101	Design and analysis of DNA strand displacement devices using probabilistic model checking. <i>Journal of the Royal Society Interface</i> , 2012 , 9, 1470-85	4.1	58
100	Transcriptional regulation is a major controller of cell cycle transition dynamics. <i>PLoS ONE</i> , 2012 , 7, e29736	3.6	10
99	Abstractions for DNA circuit design. <i>Journal of the Royal Society Interface</i> , 2012 , 9, 470-86	4.1	71
98	The cell cycle switch computes approximate majority. <i>Scientific Reports</i> , 2012 , 2, 656	4.9	70
97	Continuous Markovian Logics - Axiomatization and Quantified Metatheory. <i>Logical Methods in Computer Science</i> , 2012 , 8,		8
96	Strand algebras for DNA computing. <i>Natural Computing</i> , 2011 , 10, 407-428	1.3	61
95	Reversible structures 2011 ,		23
94	Response dynamics of phosphorelays suggest their potential utility in cell signalling. <i>Journal of the Royal Society Interface</i> , 2011 , 8, 480-8	4.1	30
93	A peptide filtering relation quantifies MHC class I peptide optimization. <i>PLoS Computational Biology</i> , 2011 , 7, e1002144	5	23
92	Modular Markovian Logic. <i>Lecture Notes in Computer Science</i> , 2011 , 380-391	0.9	7
91	Turing universality of the Biochemical Ground Form. <i>Mathematical Structures in Computer Science</i> , 2010 , 20, 45-73	0.5	13
90	The Measurable Space of Stochastic Processes 2010 ,		9
89	Processes in Space. <i>Lecture Notes in Computer Science</i> , 2010 , 78-87	0.9	20
88	A programming language for composable DNA circuits. <i>Journal of the Royal Society Interface</i> , 2009 , 6 Suppl 4, S419-36	4.1	120
87	Computational modeling of the EGFR network elucidates control mechanisms regulating signal dynamics. <i>BMC Systems Biology</i> , 2009 , 3, 118	3.5	26
86	A Process Model of Actin Polymerisation. <i>Electronic Notes in Theoretical Computer Science</i> , 2009 , 229, 127-144	0.7	13

85	A process model of Rho GTP-binding proteins. <i>Theoretical Computer Science</i> , 2009 , 410, 3166-3185	1.1	16
84	Artificial Biochemistry. <i>Natural Computing Series</i> , 2009 , 429-462	2.5	25
83	Strand Algebras for DNA Computing. <i>Lecture Notes in Computer Science</i> , 2009 , 12-24	0.9	25
82	Compositionality, stochasticity, and cooperativity in dynamic models of gene regulation. <i>HFSP Journal</i> , 2008 , 2, 17-28		21
81	Bitonal membrane systems. <i>Theoretical Computer Science</i> , 2008 , 404, 5-18	1.1	7
80	A Process Model of Rho GTP-binding Proteins in the Context of Phagocytosis. <i>Electronic Notes in Theoretical Computer Science</i> , 2008 , 194, 87-102	0.7	4
79	On process rate semantics. <i>Theoretical Computer Science</i> , 2008 , 391, 190-215	1.1	85
78	On the Computational Power of Biochemistry. <i>Lecture Notes in Computer Science</i> , 2008 , 65-80	0.9	19
77	Termination Problems in Chemical Kinetics. <i>Lecture Notes in Computer Science</i> , 2008 , 477-491	0.9	17
76	From Processes to ODEs by Chemistry. <i>International Federation for Information Processing</i> , 2008 , 261-281		11
75	Manipulating Trees with Hidden Labels. <i>Electronic Notes in Theoretical Computer Science</i> , 2007 , 172, 177-201		17
74	Efficient, Correct Simulation of Biological Processes in the Stochastic Pi-calculus. <i>Lecture Notes in Computer Science</i> , 2007 , 184-199	0.9	63
73	Invited Talk: A Process Algebra Master Equation 2007 ,		5
72	AN UNIVERSALITY RESULT FOR A (MEM)BRANE CALCULUS BASED ON MATE/DRIP OPERATIONS. <i>International Journal of Foundations of Computer Science</i> , 2006 , 17, 49-68	0.6	27
71	A Compositional Approach to the Stochastic Dynamics of Gene Networks. <i>Lecture Notes in Computer Science</i> , 2006 , 99-122	0.9	22
70	A Graphical Representation for Biological Processes in the Stochastic pi-Calculus. <i>Lecture Notes in Computer Science</i> , 2006 , 123-152	0.9	18
69	Abstract Machines of Systems Biology. <i>Lecture Notes in Computer Science</i> , 2005 , 145-168	0.9	44
68	Deciding validity in a spatial logic for trees. <i>Journal of Functional Programming</i> , 2005 , 15, 543-572	1.6	13

67	Secrecy and group creation. <i>Information and Computation</i> , 2005 , 196, 127-155	0.8	28
66	Brane Calculi. <i>Lecture Notes in Computer Science</i> , 2005 , 257-278	0.9	146
65	Bioware Languages 2004 , 59-65		1
64	TQL: a query language for semistructured data based on the ambient logic. <i>Mathematical Structures in Computer Science</i> , 2004 , 14, 285-327	0.5	35
63	A spatial logic for concurrencyII. <i>Theoretical Computer Science</i> , 2004 , 322, 517-565	1.1	43
62	BioAmbients: an abstraction for biological compartments. <i>Theoretical Computer Science</i> , 2004 , 325, 141-167		304
61	Modern concurrency abstractions for C#. <i>ACM Transactions on Programming Languages and Systems</i> , 2004 , 26, 769-804	1.6	88
60	A spatial logic for concurrency (part I). <i>Information and Computation</i> , 2003 , 186, 194-235	0.8	119
59	Equational properties of mobile ambients. <i>Mathematical Structures in Computer Science</i> , 2003 , 13, 371-408		28
58	Deciding validity in a spatial logic for trees 2003 ,		15
57	Types for the Ambient Calculus. <i>Information and Computation</i> , 2002 , 177, 160-194	0.8	18
56	Types for the Ambient Calculus. <i>Information and Computation</i> , 2002 , 177, 160-194	0.8	36
55	A Spatial Logic for Querying Graphs. <i>Lecture Notes in Computer Science</i> , 2002 , 597-610	0.9	37
54	A Spatial Logic for Concurrency (Part II). <i>Lecture Notes in Computer Science</i> , 2002 , 209-225	0.9	27
53	Describing semistructured data. <i>SIGMOD Record</i> , 2001 , 30, 80-85	1.1	9
52	A Query Language Based on the Ambient Logic. <i>Lecture Notes in Computer Science</i> , 2001 , 1-22	0.9	21
51	Mobile ambients. <i>Theoretical Computer Science</i> , 2000 , 240, 177-213	1.1	474
50	Anytime, anywhere 2000 ,		168

49	Semistructured Computation. <i>Lecture Notes in Computer Science</i> , 2000 , 1-16	0.9	4
48	Secrecy and Group Creation. <i>Lecture Notes in Computer Science</i> , 2000 , 365-379	0.9	26
47	Ambient Groups and Mobility Types. <i>Lecture Notes in Computer Science</i> , 2000 , 333-347	0.9	39
46	Comparing Object Encodings. <i>Information and Computation</i> , 1999 , 155, 108-133	0.8	51
45	Service combinators for Web computing. <i>IEEE Transactions on Software Engineering</i> , 1999 , 25, 309-316	3.5	42
44	Types for mobile ambients 1999 ,		100
43	Mobility Types for Mobile Ambients. <i>Lecture Notes in Computer Science</i> , 1999 , 230-239	0.9	56
42	Abstractions for Mobile Computation. <i>Lecture Notes in Computer Science</i> , 1999 , 51-94	0.9	71
41	Mobile Ambients. <i>Electronic Notes in Theoretical Computer Science</i> , 1998 , 10, 198-201	0.7	24
40	Mobile ambients. <i>Lecture Notes in Computer Science</i> , 1998 , 140-155	0.9	394
39	Comparing object encodings. <i>Lecture Notes in Computer Science</i> , 1997 , 415-438	0.9	70
38	Global computation. <i>ACM SIGPLAN Notices</i> , 1997 , 32, 66-68	0.2	7
37	An interpretation of objects and object types 1996 ,		25
36	A Theory of Primitive Objects: Untyped and First-Order Systems. <i>Information and Computation</i> , 1996 , 125, 78-102	0.8	22
35	A Theory of Objects. <i>Texts and Monographs in Computer Science</i> , 1996 ,		358
34	On subtyping and matching. <i>ACM Transactions on Programming Languages and Systems</i> , 1996 , 18, 401-423	3.6	11
33	A theory of primitive objects. <i>Science of Computer Programming</i> , 1995 , 25, 81-116	1.1	8
32	On Binary Methods. <i>Theory and Practice of Object Systems</i> , 1995 , 1, 221-242		67

31	An Imperative Object Calculus. <i>Theory and Practice of Object Systems</i> , 1995 , 1, 151-166		10
30	Dynamic typing in polymorphic languages. <i>Journal of Functional Programming</i> , 1995 , 5, 111-130	1.6	54
29	On Subtyping and Matching 1995 , 145-167		15
28	An imperative object calculus. <i>Lecture Notes in Computer Science</i> , 1995 , 469-485	0.9	16
27	An Extension of System F with Subtyping. <i>Information and Computation</i> , 1994 , 109, 4-56	0.8	76
26	A theory of primitive objects. <i>Lecture Notes in Computer Science</i> , 1994 , 1-25	0.9	10
25	A theory of primitive objects. <i>Lecture Notes in Computer Science</i> , 1994 , 296-320	0.9	32
24	Subtyping recursive types. <i>ACM Transactions on Programming Languages and Systems</i> , 1993 , 15, 575-631	1.6	216
23	Modula-3 language definition. <i>ACM SIGPLAN Notices</i> , 1992 , 27, 15-42	0.2	29
22	A semantic basis for Quest. <i>Journal of Functional Programming</i> , 1991 , 1, 417-458	1.6	51
21	Operations on records. <i>Mathematical Structures in Computer Science</i> , 1991 , 1, 3-48	0.5	53
20	Dynamic typing in a statically typed language. <i>ACM Transactions on Programming Languages and Systems</i> , 1991 , 13, 237-268	1.6	168
19	An extension of system F with subtyping. <i>Lecture Notes in Computer Science</i> , 1991 , 750-770	0.9	26
18	A semantic basis for quest 1990 ,		16
17	Operations on records 1989 , 75-81		6
16	Operations on records 1989 , 22-52		8
15	A semantics of multiple inheritance. <i>Information and Computation</i> , 1988 , 76, 138-164	0.8	248
14	Building user interfaces by direct manipulation 1988 ,		33

13	Types for data-oriented languages. <i>Lecture Notes in Computer Science</i> , 1988 , 1-15	0.9	17
12	Typechecking dependent types and subtypes. <i>Lecture Notes in Computer Science</i> , 1988 , 45-57	0.9	11
11	Basic polymorphic typechecking. <i>Science of Computer Programming</i> , 1987 , 8, 147-172	1.1	58
10	Amber. <i>Lecture Notes in Computer Science</i> , 1986 , 21-47	0.9	36
9	The amber machine. <i>Lecture Notes in Computer Science</i> , 1986 , 48-70	0.9	8
8	Squeak. <i>Computer Graphics</i> , 1985 , 19, 199-204		50
7	On understanding types, data abstraction, and polymorphism. <i>ACM Computing Surveys</i> , 1985 , 17, 471-523	3.4	889
6	GALILEO: a strongly-typed, interactive conceptual language. <i>ACM Transactions on Database Systems</i> , 1985 , 10, 230-260	1.6	226
5	An implementation model of rendezvous communication. <i>Lecture Notes in Computer Science</i> , 1985 , 449-457		2
4	Compiling a functional language 1984 ,		69
3	A semantics of multiple inheritance. <i>Lecture Notes in Computer Science</i> , 1984 , 51-67	0.9	162
2	Analog processes 1980 , 181-193		1
1	Can a systems biologist fix a Tamagotchi?517-528		