

# Erika Abraham

## List of Publications by Year in descending order

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88  
papers

1,686  
citations

430442

18  
h-index

377514

34  
g-index

99  
all docs

99  
docs citations

99  
times ranked

907  
citing authors

#	ARTICLE	IF	CITATIONS
1	Flow*: An Analyzer for Non-linear Hybrid Systems. Lecture Notes in Computer Science, 2013, , 258-263.	1.0	277
2	The Scalasca performance toolset architecture. Concurrency Computation Practice and Experience, 2010, 22, 702-719.	1.4	191
3	Taylor Model Flowpipe Construction for Non-linear Hybrid Systems. , 2012, , .		132
4	PROPhESY: A PRObabilistic ParamETER SYnthesis Tool. Lecture Notes in Computer Science, 2015, , 214-231.	1.0	78
5	SMT-RAT: An Open Source C++ Toolbox for Strategic and Parallel SMT Solving. Lecture Notes in Computer Science, 2015, , 360-368.	1.0	47
6	Accelerating Parametric Probabilistic Verification. Lecture Notes in Computer Science, 2014, , 404-420.	1.0	40
7	Usage of the SCALASCA toolset for scalable performance analysis of large-scale parallel applications. , 2008, , 157-167.		39
8	A Greedy Approach for the Efficient Repair of Stochastic Models. Lecture Notes in Computer Science, 2015, , 295-309.	1.0	33
9	Counterexample Generation for Discrete-Time Markov Models: An Introductory Survey. Lecture Notes in Computer Science, 2014, , 65-121.	1.0	32
10	Lyapunov Function Synthesis using Handelman Representations.. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 576-581.	0.4	29
11	HyPro: A C++ Library of State Set Representations for Hybrid Systems Reachability Analysis. Lecture Notes in Computer Science, 2017, , 288-294.	1.0	29
12	Minimal Critical Subsystems for Discrete-Time Markov Models. Lecture Notes in Computer Science, 2012, , 299-314.	1.0	29
13	HyperPCTL: A Temporal Logic for Probabilistic Hyperproperties. Lecture Notes in Computer Science, 2018, , 20-35.	1.0	25
14	Behavioral interface description of an object-oriented language with futures and promises. The Journal of Logic and Algebraic Programming, 2009, 78, 491-518.	1.4	24
15	Linear relaxations of polynomial positivity for polynomial Lyapunov function synthesis. IMA Journal of Mathematical Control and Information, 2016, 33, 723-756.	1.1	24
16	An assertion-based proof system for multithreaded Java. Theoretical Computer Science, 2005, 331, 251-290.	0.5	23
17	Current Challenges in the Verification of Hybrid Systems. Lecture Notes in Computer Science, 2015, , 8-24.	1.0	22
18	A Benchmark Suite for Hybrid Systems Reachability Analysis. Lecture Notes in Computer Science, 2015, , 408-414.	1.0	22

#	ARTICLE	IF	CITATIONS
19	DTMC Model Checking by SCC Reduction. , 2010, , .		20
20	Minimal counterexamples for linear-time probabilistic verification. Theoretical Computer Science, 2014, 549, 61-100.	0.5	20
21	Building Bridges between Symbolic Computation and Satisfiability Checking. , 2015, , .		20
22	Preparing HPC Applications for Exascale: Challenges and Recommendations. , 2015, , .		19
23	Deciding the consistency of non-linear real arithmetic constraints with a conflict driven search using cylindrical algebraic coverings. Journal of Logical and Algebraic Methods in Programming, 2021, 119, 100633.	0.4	18
24	Fast Debugging of PRISM Models. Lecture Notes in Computer Science, 2014, , 146-162.	1.0	18
25	$\text{SC}^2$ : Satisfiability Checking Meets Symbolic Computation. Lecture Notes in Computer Science, 2016, , 28-43.	1.0	17
26	SMT-RAT: An SMT-Compliant Nonlinear Real Arithmetic Toolbox. Lecture Notes in Computer Science, 2012, , 442-448.	1.0	17
27	Bounded Model Checking with Parametric Data Structures. Electronic Notes in Theoretical Computer Science, 2007, 174, 3-16.	0.9	16
28	Symbolic counterexample generation for large discrete-time Markov chains. Science of Computer Programming, 2014, 91, 90-114.	1.5	16
29	High-Level Counterexamples for Probabilistic Automata. Lecture Notes in Computer Science, 2013, , 39-54.	1.0	16
30	Sound and complete timed CTL model checking of timed Kripke structures and real-time rewrite theories. Science of Computer Programming, 2015, 99, 128-192.	1.5	15
31	Integrated Synthesis and Execution of Optimal Plans for Multi-Robot Systems in Logistics. Information Systems Frontiers, 2019, 21, 87-107.	4.1	15
32	Fully incremental cylindrical algebraic decomposition. Journal of Symbolic Computation, 2020, 100, 11-37.	0.5	14
33	Two CEGAR-based approaches for the safety verification of PLC-controlled plants. Information Systems Frontiers, 2016, 18, 927-952.	4.1	13
34	Optimizing Bounded Model Checking for Linear Hybrid Systems. Lecture Notes in Computer Science, 2005, , 396-412.	1.0	13
35	Probabilistic Hyperproperties with Nondeterminism. Lecture Notes in Computer Science, 2020, , 518-534.	1.0	13
36	The COMICS Tool – Computing Minimal Counterexamples for DTMCs. Lecture Notes in Computer Science, 2012, , 349-353.	1.0	12

#	ARTICLE	IF	CITATIONS
37	A Generalised Branch-and-Bound Approach and Its Application in SAT Modulo Nonlinear Integer Arithmetic. Lecture Notes in Computer Science, 2016, , 315-335.	1.0	11
38	A Tool-Supported Proof System for Multithreaded Java. Lecture Notes in Computer Science, 2003, , 1-32.	1.0	10
39	Timed CTL Model Checking in Real-Time Maude. Lecture Notes in Computer Science, 2012, , 182-200.	1.0	10
40	A Symbiosis of Interval Constraint Propagation and Cylindrical Algebraic Decomposition. Lecture Notes in Computer Science, 2013, , 193-207.	1.0	10
41	High-level Counterexamples for Probabilistic Automata. Logical Methods in Computer Science, 0, Volume 11, Issue 1, .	0.4	10
42	Virtual Substitution for SMT-Solving. Lecture Notes in Computer Science, 2011, , 360-371.	1.0	9
43	Parallel SAT Solving in Bounded Model Checking. Journal of Logic and Computation, 2011, 21, 5-21.	0.5	8
44	On the Synthesis of Guaranteed-Quality Plans for Robot Fleets in Logistics Scenarios via Optimization Modulo Theories. , 2017, , .		8
45	Efficient Dynamic Error Reduction for Hybrid Systems Reachability Analysis. Lecture Notes in Computer Science, 2018, , 287-302.	1.0	8
46	Inductive Proof Outlines for Monitors in Java. Lecture Notes in Computer Science, 2003, , 155-169.	1.0	8
47	On Gr�bner Bases in the Context of Satisfiability-Modulo-Theories Solving over the Real Numbers. Lecture Notes in Computer Science, 2013, , 186-198.	1.0	8
48	Divide and Conquer: Variable Set Separation in Hybrid Systems Reachability Analysis. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 250, 1-14.	0.8	8
49	Model Checking Classes of Metric LTL Properties of Object-Oriented Real-Time Maude Specifications. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 36, 117-136.	0.8	8
50	Parallel SAT Solving in Bounded Model Checking. Lecture Notes in Computer Science, 2007, , 301-315.	1.0	8
51	Optimisation of Concentrating Solar Thermal Power Plants with Neural Networks. Lecture Notes in Computer Science, 2011, , 190-199.	1.0	7
52	Object Connectivity and Full Abstraction for a Concurrent Calculus of Classes. Lecture Notes in Computer Science, 2005, , 37-51.	1.0	7
53	A Compositional Operational Semantics for Java MT. Lecture Notes in Computer Science, 2003, , 290-303.	1.0	7
54	From statistical model checking to statistical model inference: Characterizing the effect of process variations in analog circuits. , 2013, , .		6

#	ARTICLE	IF	CITATIONS
55	Under-approximate flowpipes for non-linear continuous systems. , 2014, , .		6
56	Counterexample Generation for Markov Chains Using SMT-Based Bounded Model Checking. Lecture Notes in Computer Science, 2011, , 75-89.	1.0	6
57	Formal modeling and analysis of hybrid systems in rewriting logic using higher-order numerical methods and discrete-event detection. , 2011, , .		5
58	Adaptive-Step-Size Numerical Methods in Rewriting-Logic-Based Formal Analysis of Interacting Hybrid Systems. Electronic Notes in Theoretical Computer Science, 2011, 274, 17-32.	0.9	5
59	Satisfiability Checking: Theory and Applications. Lecture Notes in Computer Science, 2016, , 9-23.	1.0	5
60	Abstract Interface Behavior of Object-Oriented Languages with Monitors. Lecture Notes in Computer Science, 2006, , 218-232.	1.0	5
61	A Rewriting-Logic-Based Technique for Modeling Thermal Systems. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 36, 82-100.	0.8	5
62	Symbolic Counterexample Generation for Discrete-Time Markov Chains. Lecture Notes in Computer Science, 2013, , 134-151.	1.0	5
63	Abstract Interface Behavior of Object-Oriented Languages with Monitors. Theory of Computing Systems, 2008, 43, 322-361.	0.7	4
64	Combining Static and Runtime Methods to Achieve Safe Standing-Up for Humanoid Robots. Lecture Notes in Computer Science, 2016, , 496-514.	1.0	4
65	Counterexamples for Expected Rewards. Lecture Notes in Computer Science, 2015, , 435-452.	1.0	4
66	Formal modeling and analysis of interacting hybrid systems in HI-Maude: What happened at the 2010 Sauna World Championships?. Science of Computer Programming, 2015, 99, 95-127.	1.5	3
67	A Timed CTL Model Checker for Real-Time Maude. Lecture Notes in Computer Science, 2013, , 334-339.	1.0	3
68	Heap-abstraction for an object-oriented calculus with thread classes. Software and Systems Modeling, 2008, 7, 177-208.	2.2	2
69	A CEGAR approach for the reachability analysis of PLC-controlled chemical plants. , 2014, , .		2
70	Learning-based control strategies for hybrid electric vehicles. , 2015, , .		2
71	Task Planning with OMT: An Application to Production Logistics. Lecture Notes in Computer Science, 2018, , 316-325.	1.0	2
72	Spread the Work: Multi-threaded Safety Analysis for Hybrid Systems. Lecture Notes in Computer Science, 2018, , 89-104.	1.0	2

#	ARTICLE	IF	CITATIONS
73	On the Implementation of Cylindrical Algebraic Coverings for Satisfiability Modulo Theories Solving. , 2021, , .		2
74	Some recent advances in automated analysis. International Journal on Software Tools for Technology Transfer, 2016, 18, 121-128.	1.7	1
75	Extending the Fundamental Theorem of Linear Programming for Strict Inequalities. , 2021, , .		1
76	Modular strategic SMT solving with SMT-RAT. Acta Universitatis Sapientiae: Informatica, 2018, 10, 5-25.	0.3	1
77	Counterexample Generation for Hybrid Automata. Communications in Computer and Information Science, 2014, , 88-106.	0.4	1
78	HyperPCTL Model Checking by Probabilistic Decomposition. Lecture Notes in Computer Science, 2022, , 209-226.	1.0	1
79	Inductive Proof Outlines for Exceptions in Multithreaded Java. Electronic Notes in Theoretical Computer Science, 2006, 159, 281-297.	0.9	0
80	On Variable Selection in SAT-LP-based Bounded Model Checking of Linear Hybrid Automata. , 2007, , .		0
81	On collaboratively conveying computer science to pupils. , 2011, , .		0
82	Symbolic Computation Techniques in Satisfiability Checking. , 2016, , .		0
83	Observable interface behaviour and inheritance. Mathematical Structures in Computer Science, 2016, 26, 561-605.	0.5	0
84	SMT Solving for Arithmetic Theories: Theory and Tool Support. , 2017, , .		0
85	Context-Dependent Reachability Analysis for Hybrid Systems. , 2018, , .		0
86	IRISC: An SMT-Compliant Solver for the Existential Fragment of Real Algebra. Lecture Notes in Computer Science, 2011, , 230-246.	1.0	0
87	Abstract domains in SMT solving for real algebra (invited talk). , 2020, , .		0
88	Robot Swarms as Hybrid Systems: Modelling and Verification. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 361, 61-77.	0.8	0