Mariagrazia Graziano

List of Publications by Year
in descending order

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109	1,323	430442	500791
papers	citations	18	28
		h-index	g-index

110	110	110	413
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Bis-Ferrocene Molecular QCA Wire: Ab Initio Simulations of Fabrication Driven Fault Tolerance. IEEE Nanotechnology Magazine, 2013, 12, 498-507.	1.1	67
2	An NCL-HDL Snake-Clock-Based Magnetic QCA Architecture. IEEE Nanotechnology Magazine, 2011, 10, 1141-1149.	1.1	65
3	Towards a molecular QCA wire: simulation of write-in and read-out systems. Solid-State Electronics, 2012, 77, 101-107.	0.8	49
4	Quantum Dot Cellular Automata Check Node Implementation for LDPC Decoders. IEEE Nanotechnology Magazine, 2013, 12, 368-377.	1.1	47
5	Majority Voter Full Characterization for Nanomagnet Logic Circuits. IEEE Nanotechnology Magazine, 2012, 11, 940-947.	1.1	45
6	ToPoliNano: A CAD Tool for Nano Magnetic Logic. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2017, 36, 1061-1074.	1.9	40
7	New Logic-In-Memory Paradigms: An Architectural and Technological Perspective. Micromachines, 2019, 10, 368.	1.4	37
8	Magnetoelastic Clock System for Nanomagnet Logic. IEEE Nanotechnology Magazine, 2014, 13, 963-973.	1.1	34
9	UDSM Trends Comparison: From Technology Roadmap to UltraSparc Niagara2. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2012, 20, 1341-1346.	2.1	32
10	Asynchrony in Quantum-Dot Cellular Automata Nanocomputation: Elixir or Poison?. IEEE Design and Test of Computers, 2011, 28, 72-83.	1.4	31
11	Feedbacks in QCA: A Quantitative Approach. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2015, 23, 2233-2243.	2.1	28
12	Nanomagnetic Logic Microprocessor: Hierarchical Power Model. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2013, 21, 1410-1420.	2.1	26
13	MagCAD: Tool for the Design of 3-D Magnetic Circuits. IEEE Journal on Exploratory Solid-State Computational Devices and Circuits, 2017, 3, 65-73.	1.1	25
14	Effect of a Clock System on Bis-Ferrocene Molecular QCA. IEEE Nanotechnology Magazine, 2016, 15, 574-582.	1.1	24
15	ToPoliNano. , 2012, , .		22
16	Logic-in-Memory architecture made real. , 2015, , .		22
17	Effectiveness of Molecules for Quantum Cellular Automata as Computing Devices. Journal of Low Power Electronics and Applications, 2018, 8, 24.	1.3	22
18	Magnetic dipolar coupling and collective effects for binary information codification in cost-effective logic devices. Journal of Magnetism and Magnetic Materials, 2012, 324, 3006-3012.	1.0	21

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19	Virtual Clocking for NanoMagnet Logic. IEEE Nanotechnology Magazine, 2016, 15, 962-970.	1.1	21
20	Efficient and reliable fault analysis methodology for nanomagnetic circuits. International Journal of Circuit Theory and Applications, 2017, 45, 660-680.	1.3	21
21	ToPoliNano: A synthesis and simulation tool for NML circuits. , 2012, , .		20
22	Logic-in-Memory: A Nano Magnet Logic Implementation. , 2015, , .		19
23	A VHDL-AMS Simulation Environment for an UWB Impulse Radio Transceiver. IEEE Transactions on Circuits and Systems I: Regular Papers, 2008, 55, 1368-1381.	3.5	18
24	Reconfigurable Systolic Array: From Architecture to Physical Design for NML. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2016, 24, 3208-3217.	2.1	18
25	FFT implementation using QCA. , 2012, , .		17
26	An electromigration and thermal model of power wires for a priori high-level reliability prediction. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2004, 12, 349-358.	2.1	16
27	A flexible simulation methodology and tool for nanoarray-based architectures. , 2010, , .		16
28	Enabling design and simulation of massive parallel nanoarchitectures. Journal of Parallel and Distributed Computing, 2014, 74, 2530-2541.	2.7	16
29	Out-of-plane NML modeling and architectural exploration. , 2015, , .		16
30	NanoMagnet Logic: An Architectural Level Overview. Lecture Notes in Computer Science, 2014, , 223-256.	1.0	16
31	ToPoliNano: NanoMagnet Logic Circuits Design and Simulation. Lecture Notes in Computer Science, 2014, , 274-306.	1.0	16
32	Molecule interaction for QCA computation. , 2012, , .		15
33	A quantitative approach to testing in Quantum dot Cellular Automata: NanoMagnet Logic case. , 2014, , .		15
34	Physical design and testing of Nano Magnetic architectures. , 2014, , .		15
35	A pNML Compact Model Enabling the Exploration of Three-Dimensional Architectures. IEEE Nanotechnology Magazine, 2017, 16, 431-438.	1.1	14
36	Characterisation of a bisâ€ferrocene molecular QCA wire on a nonâ€ideal gold surface. Micro and Nano Letters, 2019, 14, 22-27.	0.6	14

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37	Molecular QCA: A write-in system based on electric fields. , 2011, , .		13
38	TAMTAMS: An open tool to understand nanoelectronics. , 2012, , .		13
39	A Hardware Viewpoint on Biosequence Analysis. ACM Journal on Emerging Technologies in Computing Systems, 2013, 9, 1-21.	1.8	13
40	Simulation and design of an UWB imaging system for breast cancer detection. The Integration VLSI Journal, 2014, 47, 548-559.	1.3	13
41	Skyrmion Logic-In-Memory Architecture for Maximum/Minimum Search. Electronics (Switzerland), 2021, 10, 155.	1.8	13
42	Protein Alignment Systolic Array Throughput Optimization. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2015, 23, 68-77.	2.1	12
43	Architectural exploration of perpendicular Nano Magnetic Logic based circuits. The Integration VLSI Journal, 2018, 63, 275-282.	1.3	12
44	A Quantum Computation Model for Molecular Nanomagnets. IEEE Nanotechnology Magazine, 2019, 18, 1027-1039.	1.1	12
45	Energy detection UWB receiver design using a multi-resolution VHDL-AMS description. , 0, , .		11
46	NanoMagnet Logic: An Architectural Level Overview. Lecture Notes in Computer Science, 2014, , 223-256.	1.0	10
47	A Fully Differential Digital CMOS UWB Pulse Generator. Circuits, Systems, and Signal Processing, 2009, 28, 649-664.	1.2	9
48	Molecular transistor circuits: From device model to circuit simulation. , 2014, , .		9
49	Process Variability and Electrostatic Analysis of Molecular QCA. ACM Journal on Emerging Technologies in Computing Systems, 2015, 12, 1-23.	1.8	9
50	Domain Magnet Logic (DML): A new approach to magnetic circuits. , 2014, , .		8
51	Towards Logic-In-Memory circuits using 3D-integrated Nanomagnetic logic. , 2016, , .		8
52	SCERPA Simulation of Clocked Molecular Field-Coupling Nanocomputing. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2021, 29, 558-567.	2.1	8
53	Electric Clock for NanoMagnet Logic Circuits. Lecture Notes in Computer Science, 2014, , 73-110.	1.0	8
54	Nanofabric power analysis: Biosequence alignment case study. , 2011, , .		7

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55	TAMTAMS: A flexible and open tool for UDSM process-to-system design space exploration. , 2012, , .		7
56	ToPoliNano: NanoMagnet Logic Circuits Design and Simulation. Lecture Notes in Computer Science, 2014, , 274-306.	1.0	7
57	Modeling, Design, and Analysis of MagnetoElastic NML Circuits. IEEE Nanotechnology Magazine, 2016, 15, 977-985.	1.1	7
58	Computationally Efficient Multiple-Independent-Gate Device Model. IEEE Nanotechnology Magazine, 2016, 15, 2-14.	1.1	7
59	Exploration of multilayer field-coupled nanomagnetic circuits. Microelectronics Journal, 2018, 79, 46-56.	1.1	7
60	SCERPA: A Self-Consistent Algorithm for the Evaluation of the Information Propagation in Molecular Field-Coupled Nanocomputing. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 2749-2760.	1.9	7
61	Beyond-CMOS Artificial Neuron: A Simulation- Based Exploration of the Molecular-FET. IEEE Nanotechnology Magazine, 2021, 20, 903-911.	1.1	7
62	Hardware Acceleration of Beamforming in a UWB Imaging Unit for Breast Cancer Detection. VLSI Design, 2013, 2013, 1-11.	0.5	6
63	Design of MRAM-Based Magnetic Logic Circuits. IEEE Nanotechnology Magazine, 2017, 16, 851-859.	1.1	6
64	ToPoliNano & MagCAD: A Complete Framework for Design and Simulation of Digital Circuits Based on Emerging Technologies. , 2018, , .		6
65	Low Power Speaker Identification using Look Up-free Gaussian Mixture Model in CMOS. , 2019, , .		6
66	Bistable Propagation of Monostable Molecules in Molecular Field-Coupled Nanocomputing. , 2019, , .		6
67	Ab initio Molecular Dynamics Simulations of Field-Coupled Nanocomputing Molecules. Journal of Integrated Circuits and Systems, 2021, 16, 1-8.	0.3	6
68	A mixed-signal demodulator for a low-complexity IR-UWB receiver: Methodology, simulation and design. The Integration VLSI Journal, 2009, 42, 47-60.	1.3	5
69	Silicon nanoarray circuits design, modeling, simulation and fabrication. , 2012, , .		5
70	Charge distribution in a molecular QCA wire based on bis-ferrocene molecules. , 2013, , .		5
71	Fault tolerant nanoarray circuits: Automatic design and verification. , 2014, , .		5
72	Interleaving in Systolic-Arrays: A Throughput Breakthrough. IEEE Transactions on Computers, 2015, 64, 1940-1953.	2.4	5

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73	An effective algorithm for clocked field-coupled nanocomputing paradigm. , 2016, , .		5
74	Exploiting the Logic-In-Memory paradigm for speeding-up data-intensive algorithms. The Integration VLSI Journal, 2019, 66, 153-163.	1.3	5
75	Understanding a Bisferrocene Molecular QCA Wire. Lecture Notes in Computer Science, 2014, , 307-338.	1.0	5
76	Electric Clock for NanoMagnet Logic Circuits. Lecture Notes in Computer Science, 2014, , 73-110.	1.0	5
77	Impact of Molecular Electrostatics on Field-Coupled Nanocomputing and Quantum-Dot Cellular Automata Circuits. Electronics (Switzerland), 2022, 11, 276.	1.8	5
78	A Low-power CMOS 2-PPM Demodulator for Energy Detection IR-UWB Receivers. , 2007, , .		4
79	A standard cell approach for MagnetoElastic NML circuits. , 2014, , .		4
80	Hierarchical modeling of OPV-based crossbar architectures. , 2014, , .		4
81	EE-BESD: molecular FET modeling for efficient and effective nanocomputing design. Journal of Computational Electronics, 2016, 15, 479-491.	1.3	4
82	Towards Compact Modeling of Noisy Quantum Computers: A Molecular-Spin-Qubit Case of Study. ACM Journal on Emerging Technologies in Computing Systems, 2022, 18, 1-26.	1.8	4
83	UWB receiver for breast cancer detection: Comparison between two different approaches. , 2013, , .		3
84	Breast cancer detection based on an UWB imaging system: Receiver design and simulations. , 2013, , .		3
85	Design and Characterization of Circuit based on Emerging Technology: the MagCAD Approach. , 2018, , .		3
86	FUNCODE: Effective Device-to-System Analysis of Field-Coupled Nanocomputing Circuit Designs. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2021, 40, 467-478.	1.9	3
87	Parallel Computation in the Racetrack Memory. IEEE Transactions on Emerging Topics in Computing, 2021, , 1-1.	3.2	3
88	Understanding a Bisferrocene Molecular QCA Wire. Lecture Notes in Computer Science, 2014, , 307-338.	1.0	3
89	Multi-Molecule Field-Coupled Nanocomputing for the Implementation of a Neuron. IEEE Nanotechnology Magazine, 2022, 21, 52-59.	1.1	3
90	Power Supply Design Parameters for Switching-Noise Control in Deep-Submicron Circuits Design Flows. Analog Integrated Circuits and Signal Processing, 2002, 31, 225-248.	0.9	2

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91	Performance analysis of transistor-based circuits through TAMAMS Web: From bulk to molecular devices. , 2016, , .		2
92	Racetrack logic. Electronics Letters, 2017, 53, 1462-1464.	0.5	2
93	VHDL-AMS Simulation Framework for Molecular-FET Device-to-Circuit Modeling and Design. Active and Passive Electronic Components, 2018, 2018, 1-18.	0.3	2
94	Topology optimization and Monte Carlo multithreading simulation for fault-tolerant nanoarrays. Journal of Computational Electronics, 2018, 17, 1356-1369.	1.3	2
95	Data Processing and Information Classificationâ€"An In-Memory Approach. Sensors, 2020, 20, 1681.	2.1	2
96	A Model for the Evaluation of Monostable Molecule Signal Energy in Molecular Field-Coupled Nanocomputing. Journal of Low Power Electronics and Applications, 2022, 12, 13.	1.3	2
97	Coupled electro-thermal modeling and optimization of clock networks. Microelectronics Journal, 2003, 34, 1175-1185.	1.1	1
98	An Automotive CD-Player Electro-Mechanics Fault Simulation Using VHDL-AMS. Journal of Electronic Testing: Theory and Applications (JETTA), 2008, 24, 539-553.	0.9	1
99	A Reconfigurable Array Architecture for NML. , 2016, , .		1
100	Hybrid-SIMD: a Modular and Reconfigurable approach to Beyond von Neumann Computing. IEEE Transactions on Computers, 2021, , 1-1.	2.4	1
101	A Reconfigurable Field-Coupled Nanocomputing Paradigm on Uniform Molecular Monolayers. , 2021, , .		1
102	Cell library development using multi-objective function optimization. , 0, , .		0
103	Design challenges of an UWB system for breast cancer detection. , 2013, , .		0
104	Modular framework for molecular-FET device-to-circuit modeling. , 2015, , .		0
105	An efficient model for evaluating current in silicon nanocrystals. , 2016, , .		0
106	Corrections to â€œMagCAD: A Tool for the Design of 3-D Magnetic Circuitsâ€•[2017 65-73]. IEEE Journal on Exploratory Solid-State Computational Devices and Circuits, 2017, 3, 111-111.	1.1	0
107	Domain Wall Interconnections for NML. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2017, 25, 3067-3076.	2.1	0
108	Exploring N3ASIC technology for microwave imaging architectures. The Integration VLSI Journal, 2018, 62, 395-405.	1.3	0

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109	Octantis: An Exploration Tool for Beyond von Neumann architectures. , 2021, , .		0