Omar Vilela Neto

List of Publications by Year
in descending order

76 papers	859 citations	687363 13 h-index	610901 24 g-index
76 all docs	76 docs citations	76 times ranked	533 citing authors

#	Article	IF	Citations
1	Photonic crystal integrated logic gates and circuits. Optics Express, 2022, 30, 1976.	3.4	22
2	Deepâ€learningâ€based denoising approach to enhance Raman spectroscopy in massâ€produced graphene. Journal of Raman Spectroscopy, 2022, 53, 863-871.	2.5	10
3	An NML in-plane Wire Crossing Structure. , 2022, , .		1
4	Three-Input NPN Class Gate Library for Atomic Silicon Quantum Dots. IEEE Design and Test, 2022, 39, 147-155.	1.2	7
5	Evaluating nanomagnetic logic circuit layouts using different clock schemes. Analog Integrated Circuits and Signal Processing, 2021, 106, 205-218.	1.4	4
6	Shape Engineering for Custom Nanomagnetic Logic Circuits in NMLSim 2.0. IEEE Design and Test, 2021, 38, 85-93.	1.2	3
7	Geometric greedy router in Quantum-dot Cellular Automata. AEU - International Journal of Electronics and Communications, 2021, 128, 153498.	2.9	4
8	A Review on Photonic Crystal Logic Gates. Journal of Integrated Circuits and Systems, 2021, 16, 1-13.	0.4	13
9	Guest Editors' Words. Journal of Integrated Circuits and Systems, 2021, 16, 1-2.	0.4	0
10	Evaluating analog arithmetic circuit for approximate computing with DNA strand displacement. Analog Integrated Circuits and Signal Processing, 2021, 108, 485-493.	1.4	4
11	NMLib: A Nanomagnetic Logic Standard Cell Library. , 2021, , .		3
12	Google Colab CAD4U: Hands-On Cloud Laboratories for Digital Design. , 2021, , .		10
13	Novel Three-Input Gates for Silicon Quantum Dot. , 2021, , .		3
14	Design and Test of Digital Logic DNA Systems. IEEE Design and Test, 2021, 38, 94-101.	1.2	0
15	Optimal Energy Efficiency and Throughput on Partially Reversible Pipelined QCA Circuits. IEEE Design and Test, 2020, 37, 40-50.	1.2	1
16	Cellular automata-based byte error correction in QCA. Nano Communication Networks, 2020, 23, 100278.	2.9	8
17	Mind the Gap: Bridging Verilog and Computer Architecture. , 2020, , .		5
18	Design of Compact Integrated Photonic Crystal NAND and NOR Logic Gates. , 2020, , .		3

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19	Energy reduction opportunities in Field-Coupled Nanocomputing Adders. , 2020, , .		0
20	Analysis of single-module and cascade molecular analog circuits for approximate computing based on DNA Strand Displacement. , 2020, , .		2
21	DNAr: An R Package to Simulate and Analyze CRN and DSD Networks. ACS Synthetic Biology, 2020, 9, 3416-3421.	3.8	4
22	Grayâ€code adder with parity generator â€" a novel quantumâ€dot cellular automata implementation. IET Circuits, Devices and Systems, 2020, 14, 243-250.	1.4	4
23	Raman spectroscopy analysis of number of layers in mass-produced graphene flakes. Carbon, 2020, 161, 181-189.	10.3	87
24	On the impact of the synchronization constraint and interconnections in quantum-dot cellular automata. Microprocessors and Microsystems, 2020, 76, 103109.	2.8	8
25	Geometry-based Optimization of an in-Plane Nanomagnetic Majority Circuit. , 2020, , .		1
26	Complementary photonic crystal integrated logic devices. Optics Letters, 2020, 45, 5502.	3.3	4
27	Designing Partially Reversible Field-Coupled Nanocomputing Circuits. IEEE Nanotechnology Magazine, 2019, 18, 589-597.	2.0	5
28	NMLSim 2.0. , 2019, , .		6
29	DNAr-logic. , 2019, , .		4
30	Toward nanometric scale integration. , 2019, , .		1
31	Energy efficient QCA circuits design: simulating and analyzing partially reversible pipelines. Journal of Computational Electronics, 2018, 17, 479-489.	2.5	19
32	BANCS: Bidirectional Alternating Nanomagnetic Clocking Scheme. , 2018, , .		8
33	A Novel Crossing Device for in-plane Nanomagnetic Logic Circuits. , 2018, , .		1
34	Improving Energy Efficiency on Partially Reversible Pipelined QCA Circuits. , 2018, , .		3
35	Exploration of the Synchronization Constraint in Quantum-dot Cellular Automata. , 2018, , .		6
36	Improving Energy Efficiency of Field-Coupled Nanocomputing Circuits by Evolutionary Synthesis. , 2018, , .		2

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37	A Novel Five-input Multiple-function QCA Threshold Gate. , 2018, , .		3
38	NMLSim: a Nanomagnetic Logic (NML) circuit designer and simulation tool. Journal of Computational Electronics, 2018, 17, 1370-1381.	2.5	11
39	Placement and Routing by Overlapping and Merging QCA Gates. , 2018, , .		32
40	Enhancing Fundamental Energy Limits of Field-Coupled Nanocomputing Circuits. , 2018, , .		6
41	Effect of Structural Disorder on Photonic Crystal Logic Gates. IEEE Photonics Journal, 2017, 9, 1-15.	2.0	15
42	Simplified model for automatic QCA circuitry verification. , 2017, , .		1
43	Analysis of the Magnetostatic Energy of Chains of Single-Domain Nanomagnets for Logic Gates. IEEE Transactions on Magnetics, 2017, 53, 1-10.	2.1	17
44	Photonic crystal design tool. , 2017, , .		1
45	CAM/TCAM - NML. , 2017, , .		2
46	SMOV: Array Bound-Check and access in a single instruction. , 2016, , .		0
47	A new methodology for design and simulation of NML circuits. , 2016, , .		3
48	A Methodology for Standard Cell Design for QCA. , 2016, , .		36
49	A Placement and routing algorithm for Quantum-dot Cellular Automata. , 2016, , .		37
50	USE: A Universal, Scalable, and Efficient Clocking Scheme for QCA. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2016, 35, 513-517.	2.7	132
51	TCAM/CAM-QCA: (Ternary) Content Addressable Memory using Quantum-dot Cellular Automata. Microelectronics Journal, 2015, 46, 563-571.	2.0	25
52	Robust Serial Nanocommunication With QCA. IEEE Nanotechnology Magazine, 2015, 14, 464-472.	2.0	42
53	Protecting Programs Against Memory Violation In Hardware. IEEE Latin America Transactions, 2015, 13, 885-891.	1.6	0
54	Towards reversible QCA computers: Reversible gates and ALU. , 2015, , .		16

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55	All-optical Majority and Feynman gates in photonic crystals. , 2015, , .		12
56	A Quantum-Dot Cellular Automata Processor Design. , 2014, , .		20
57	Optimization of the Electrical Efficiency of Graded Multilayer Organic Light-Emitting Diodes Supported by Genetic Algorithm. Journal of Computational and Theoretical Nanoscience, 2014, 11, 1505-1511.	0.4	2
58	Intelligent Computational Nanotechnology: The Role of Computational Intelligence in the Development of Nanoscience and Nanotechnology. Journal of Computational and Theoretical Nanoscience, 2014, 11, 928-944.	0.4	18
59	Genetic Algorithm applied to the optimized project of semiconductor microcavity lasers. , 2014, , .		0
60	An efficient FPGA implementation in quantum-dot cellular automata. , 2013, , .		2
61	NanoRouter: A Quantum-dot Cellular Automata Design. IEEE Journal on Selected Areas in Communications, 2013, 31, 825-834.	14.0	49
62	Microcavities optimization under uncertainty by evolutionary algorithms. , 2013, , .		0
63	Evolutionary synthesis of robust QCA circuits. , 2013, , .		3
64	Evolutionary algorithms applied to elucidate ionic water cluster structure formation. , 2012, , .		0
65	Evolutionary optimization of sets of basis functions for first-row atoms by using discretization process. , 2011, , .		0
66	A parallel evolutionary algorithm to search for global minima geometries of heterogeneous ab initio atomic clusters. , 2011, , .		4
67	Modeling the young modulus of nanocomposites: A neural network approach. , 2011, , .		2
68	Self-assembly quantum dots growth prediction by quantum-inspired linear genetic programming. , 2011, , .		1
69	Computational Intelligence Optimization Method for AlGaAs/GaAs Quantum Well Solar Cells. ECS Transactions, 2009, 23, 515-520.	0.5	0
70	Improved multilayer OLED architecture using evolutionary genetic algorithm. Thin Solid Films, 2009, 518, 1382-1385.	1.8	11
71	Theoretical and Experimental Study of Negative LiF Clusters Produced by Fast Ion Impact on a Polycrystalline ^{7}LiF Target. Journal of Physical Chemistry A, 2009, 113, 15031-15040.	2.5	20
72	A Theoretical and Experimental Study of Positive and Neutral LiF Clusters Produced by Fast Ion Impact on a Polycrystalline LiF Target. Journal of Physical Chemistry A, 2009, 113, 1813-1821.	2.5	41

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73	Computational intelligence applied to the growth of quantum dots. Journal of Crystal Growth, 2008, 310, 5063-5065.	1.5	5
74	A Computer Based Optimization Method for Quantum Dots Growth. ECS Transactions, 2008, 14, 441-445.	0.5	1
75	Neural Network Simulation and Evolutionary Synthesis of QCA Circuits. IEEE Transactions on Computers, 2007, 56, 191-201.	3.4	23
76	Evolvable Hardware Applied to Nanotechnology. , 2006, , .		0