

Giovanni De Micheli

List of Publications by Citations

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146
papers

2,596
citations

28
h-index

44
g-index

161
ext. papers

3,177
ext. citations

4.1
avg, IF

5.36
L-index

#	Paper	IF	Citations
146	Energy Harvesting and Remote Powering for Implantable Biosensors. <i>IEEE Sensors Journal</i> , 2011 , 11, 1573-1586	4	114
145	Dynamic simulation of regulatory networks using SQUAD. <i>BMC Bioinformatics</i> , 2007 , 8, 462	3.6	112
144	Majority-Inverter Graph: A New Paradigm for Logic Optimization. <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , 2016 , 35, 806-819	2.5	96
143	Majority-Inverter Graph 2014 ,		88
142	Multi-panel drugs detection in human serum for personalized therapy. <i>Biosensors and Bioelectronics</i> , 2011 , 26, 3914-9	11.8	73
141	Doping-Free Complementary Logic Gates Enabled by Two-Dimensional Polarity-Controllable Transistors. <i>ACS Nano</i> , 2018 , 12, 7039-7047	16.7	69
140	Label-Free Ultrasensitive Memristive Aptasensor. <i>Nano Letters</i> , 2016 , 16, 4472-6	11.5	68
139	Configurable Logic Gates Using Polarity-Controlled Silicon Nanowire Gate-All-Around FETs. <i>IEEE Electron Device Letters</i> , 2014 , 35, 880-882	4.4	65
138	TopDown Fabrication of Gate-All-Around Vertically Stacked Silicon Nanowire FETs With Controllable Polarity. <i>IEEE Nanotechnology Magazine</i> , 2014 , 13, 1029-1038	2.6	63
137	Fully integrated biochip platforms for advanced healthcare. <i>Sensors</i> , 2012 , 12, 11013-60	3.8	57
136	A survey of Boolean matching techniques for library binding. <i>ACM Transactions on Design Automation of Electronic Systems</i> , 1997 , 2, 193-226	1.5	53
135	Polarity-Controllable Silicon Nanowire Transistors With Dual Threshold Voltages. <i>IEEE Transactions on Electron Devices</i> , 2014 , 61, 3654-3660	2.9	52
134	Fast synthesis of platinum nanopetals and nanospheres for highly-sensitive non-enzymatic detection of glucose and selective sensing of ions. <i>Scientific Reports</i> , 2015 , 5, 15277	4.9	51
133	Configurable Circuits Featuring Dual-Threshold-Voltage Design With Three-Independent-Gate Silicon Nanowire FETs. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2014 , 61, 2851-2861	3.9	49
132	Synthesis of networks on chips for 3D systems on chips 2009 ,		48
131	Energy/Reliability Trade-Offs in Low-Voltage ReRAM-Based Non-Volatile Flip-Flop Design. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2014 , 61, 3155-3164	3.9	46
130	Analysis and Optimization of MPSoC Reliability. <i>Journal of Low Power Electronics</i> , 2006 , 2, 56-69	1.2	46

129	Exact Synthesis of Majority-Inverter Graphs and Its Applications. <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , 2017 , 36, 1842-1855	2.5	45
128	Polarity control in WSe2 double-gate transistors. <i>Scientific Reports</i> , 2016 , 6, 29448	4.9	45
127	Highly-stable Li ion-selective electrodes based on noble metal nanostructured layers as solid-contacts. <i>Analytica Chimica Acta</i> , 2018 , 1027, 22-32	6.6	44
126	Carbon nanotube correlation 2010 ,		40
125	. <i>IEEE Micro</i> , 2007 , 27, 75-85	1.8	39
124	New Logic Synthesis as Nanotechnology Enabler. <i>Proceedings of the IEEE</i> , 2015 , 103, 2168-2195	14.3	38
123	A buffer-sizing algorithm for networks on chip using TDMA and credit-based end-to-end flow control 2006 ,		33
122	Design and Architectural Assessment of 3-D Resistive Memory Technologies in FPGAs. <i>IEEE Nanotechnology Magazine</i> , 2013 , 12, 40-50	2.6	32
121	CELONCEL: Effective design technique for 3-D monolithic integration targeting high performance integrated circuits 2011 ,		30
120	Temperature control of high-performance multi-core platforms using convex optimization 2008 ,		30
119	Do Carbon Nanotubes contribute to Electrochemical Biosensing?. <i>Electrochimica Acta</i> , 2014 , 128, 102-111	1.7	29
118	Full fabrication and packaging of an implantable multi-panel device for monitoring of metabolites in small animals. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2014 , 8, 636-47	5.1	28
117	Automatic technology mapping for generalized fundamental-mode asynchronous designs 1993 ,		28
116	A Study on the Programming Structures for RRAM-Based FPGA Architectures. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2016 , 63, 503-516	3.9	27
115	An integrated control and readout circuit for implantable multi-target electrochemical biosensing. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2014 , 8, 891-8	5.1	26
114	Computing Accurate Performance Bounds for Best Effort Networks-on-Chip. <i>IEEE Transactions on Computers</i> , 2013 , 62, 452-467	2.5	26
113	Superior sensing performance of multi-walled carbon nanotube-based electrodes to detect unconjugated bilirubin. <i>Thin Solid Films</i> , 2013 , 548, 546-550	2.2	25
112	Mapping and configuration methods for multi-use-case networks on chips 2006 ,		24

111	Nanowire systems: technology and design. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2014 , 372, 20130102	3	23
110	Memristive biosensors under varying humidity conditions. <i>IEEE Transactions on Nanobioscience</i> , 2014 , 13, 19-30	3.4	22
109	Design, development, and validation of an in-situ biosensor array for metabolite monitoring of cell cultures. <i>Biosensors and Bioelectronics</i> , 2014 , 61, 251-9	11.8	22
108	. <i>IEEE Sensors Journal</i> , 2015 , 15, 417-424	4	21
107	A high-performance low-power near-Vt RRAM-based FPGA 2014 ,		21
106	BDS-MAJ 2013 ,		21
105	An Outlook on Design Technologies for Future Integrated Systems. <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , 2009 , 28, 777-790	2.5	21
104	Devices and Circuits Using Novel 2-D Materials: A Perspective for Future VLSI Systems. <i>IEEE Transactions on Very Large Scale Integration (VLSI) Systems</i> , 2019 , 27, 1486-1503	2.6	20
103	A System for Wireless Power Transfer and Data Communication of Long-Term Bio-Monitoring. <i>IEEE Sensors Journal</i> , 2015 , 15, 6559-6569	4	20
102	Memristive sensors for pH measure in dry conditions. <i>Surface Science</i> , 2014 , 624, 76-79	1.8	20
101	Top-down fabrication of very-high density vertically stacked silicon nanowire arrays with low temperature budget. <i>Microelectronic Engineering</i> , 2011 , 88, 3127-3127	2.5	20
100	On the use of inexact, pruned hardware in atmospheric modelling. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2014 , 372, 20130276	3	19
99	Efficient voltammetric discrimination of free bilirubin from uric acid and ascorbic acid by a CVD nanographite-based microelectrode. <i>Talanta</i> , 2014 , 130, 423-6	6.2	18
98	Wearable multifunctional sweat-sensing system for efficient healthcare monitoring. <i>Sensors and Actuators B: Chemical</i> , 2021 , 328, 129017	8.5	17
97	Cleaning strategy for carbon-based electrodes: Long-term propofol monitoring in human serum. <i>Sensors and Actuators B: Chemical</i> , 2018 , 269, 304-313	8.5	17
96	High-performance multipanel biosensors based on a selective integration of nanographite petals. <i>Nano Letters</i> , 2014 , 14, 3180-4	11.5	16
95	Computational Study on the Electrical Behavior of Silicon Nanowire Memristive Biosensors. <i>IEEE Sensors Journal</i> , 2015 , 15, 6208-6217	4	15
94	New approaches for carbon nanotubes-based biosensors and their application to cell culture monitoring. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2012 , 6, 479-85	5.1	15

93	Simulated Biological Cells for Receptor Counting in Fluorescence Imaging. <i>BioNanoScience</i> , 2012 , 2, 94-103	19.4	15
92	Hierarchical Reversible Logic Synthesis Using LUTs 2017 ,		14
91	Efficient Sample Delay Calculation for 2-D and 3-D Ultrasound Imaging. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2017 , 11, 815-831	5.1	14
90	A Novel FPGA Architecture Based on Ultrafine Grain Reconfigurable Logic Cells. <i>IEEE Transactions on Very Large Scale Integration (VLSI) Systems</i> , 2015 , 23, 2187-2197	2.6	14
89	An IoT Solution for Online Monitoring of Anesthetics in Human Serum Based on an Integrated Fluidic Bioelectronic System. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2018 , 12, 1056-1064	5.1	14
88	Design automation and design space exploration for quantum computers 2017 ,		14
87	TSPC Flip-Flop circuit design with three-independent-gate silicon nanowire FETs 2014 ,		13
86	Self-checking ripple-carry adder with Ambipolar Silicon NanoWire FET 2013 ,		13
85	Logic Synthesis for Established and Emerging Computing. <i>Proceedings of the IEEE</i> , 2019 , 107, 165-184	14.3	13
84	Electrochemical nanostructured biosensors: carbon nanotubes versus conductive and semi-conductive nanoparticles. <i>Chemical Papers</i> , 2015 , 69,	1.9	12
83	. <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , 2019 , 38, 1675-1688	2.5	11
82	Reversible Pebbling Game for Quantum Memory Management 2019 ,		11
81	2013 ,		10
80	A Flexible Front-End for Wearable Electrochemical Sensing 2018 ,		10
79	SAT-based {CNOT, T} Quantum Circuit Synthesis. <i>Lecture Notes in Computer Science</i> , 2018 , 175-188	0.9	10
78	Scaling trends and performance evaluation of 2-dimensional polarity-controllable FETs. <i>Scientific Reports</i> , 2017 , 7, 45556	4.9	9
77	A Survey on Low-Power Techniques with Emerging Technologies. <i>ACM Journal on Emerging Technologies in Computing Systems</i> , 2015 , 12, 1-26	1.7	9
76	Micro-fabrication of high-thickness spiral inductors for the remote powering of implantable biosensors. <i>Microelectronic Engineering</i> , 2014 , 113, 130-135	2.5	9

75	. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2017 , 64, 1173-1186	3.9	8
74	Reversible Logic Synthesis via Biconditional Binary Decision Diagrams 2015 ,		8
73	Practical exact synthesis 2018 ,		8
72	Biconditional Binary Decision Diagrams: A Novel Canonical Logic Representation Form. <i>IEEE Journal on Emerging and Selected Topics in Circuits and Systems</i> , 2014 , 4, 487-500	5.2	8
71	Enumeration of Reversible Functions and Its Application to Circuit Complexity. <i>Lecture Notes in Computer Science</i> , 2016 , 255-270	0.9	8
70	. <i>Proceedings of the IEEE</i> , 2019 , 107, 11-18	14.3	8
69	. <i>IEEE Transactions on Very Large Scale Integration (VLSI) Systems</i> , 2019 , 27, 637-650	2.6	8
68	. <i>IEEE Sensors Journal</i> , 2018 , 18, 5073-5081	4	8
67	Fast Procedures for the Electrodeposition of Platinum Nanostructures on Miniaturized Electrodes for Improved Ion Sensing. <i>Sensors</i> , 2019 , 19,	3.8	7
66	Optimized electrochemical detection of anti-cancer drug by carbon nanotubes or gold nanoparticles 2015 ,		7
65	. <i>IEEE Nanotechnology Magazine</i> , 2016 , 15, 2-14	2.6	7
64	Scalable Generic Logic Synthesis 2019 ,		7
63	Compiling Permutations for Superconducting QPUs 2019 ,		7
62	Majority Logic Synthesis for Spin Wave Technology 2014 ,		7
61	A ultra-low-power FPGA based on monolithically integrated RRAMs 2015 ,		7
60	Wireless monitoring in intensive care units by a 3D-printed system with embedded electronic 2015 ,		7
59	System Level Benchmarking with Yield-Enhanced Standard Cell Library for Carbon Nanotube VLSI Circuits. <i>ACM Journal on Emerging Technologies in Computing Systems</i> , 2014 , 10, 1-19	1.7	7
58	A current-mode potentiostat for multi-target detection tested with different lactate biosensors 2012 ,		7

57	Multichannel Front-End for Electrochemical Sensing of Metabolites, Drugs, and Electrolytes. <i>IEEE Sensors Journal</i> , 2020 , 20, 3636-3645	4	7
56	. <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , 2020 , 39, 871-884	2.5	7
55	Multi-Target Electrolyte Sensing Front-End for Wearable Physical Monitoring 2019 ,		6
54	Fault modeling in controllable polarity silicon nanowire circuits 2015 ,		6
53	Effect of O ²⁻ migration in Pt/HfO ₂ /Ti/Pt structure. <i>Journal of Electroceramics</i> , 2017 , 39, 137-142	1.5	5
52	Multiple Independent Gate FETs: How many gates do we need? 2015 ,		5
51	Towards Ultrasound Everywhere: A Portable 3D Digital Back-End Capable of Zone and Compound Imaging. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2018 , 12, 968-981	5.1	5
50	Flexible sweat sensors for non-invasive optimization of lithium dose in psychiatric disorders 2019 ,		5
49	. <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , 2020 , 39, 1621-1634	2.5	5
48	Operation regimes and electrical transport of steep slope Schottky Si-FinFETs. <i>Journal of Applied Physics</i> , 2017 , 121, 064504	2.5	4
47	Evaluating ESOP Optimization Methods in Quantum Compilation Flows. <i>Lecture Notes in Computer Science</i> , 2019 , 191-206	0.9	4
46	Exploiting the Expressive Power of Graphene Reconfigurable Gates via Post-Synthesis Optimization 2015 ,		4
45	From Defect Analysis to Gate-Level Fault Modeling of Controllable-Polarity Silicon Nanowires. <i>IEEE Nanotechnology Magazine</i> , 2015 , 14, 1117-1126	2.6	4
44	Boolean satisfiability in quantum compilation. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2020 , 378, 20190161	3	4
43	Fast generation of lexicographic satisfiable assignments 2016 ,		4
42	. <i>IEEE Transactions on Very Large Scale Integration (VLSI) Systems</i> , 2015 , 23, 1828-1841	2.6	4
41	A fast pruning technique for low-power inexact Circuit design 2015 ,		4
40	A Circuit Synthesis Flow for Controllable-Polarity Transistors. <i>IEEE Nanotechnology Magazine</i> , 2014 , 13, 1074-1083	2.6	4

39	Representation of Medical Guidelines with a Computer Interpretable Model. <i>International Journal on Artificial Intelligence Tools</i> , 2014 , 23, 1460003	0.9	4
38	Implantable devices: the future of blood monitoring?. <i>Clinical Practice (London, England)</i> , 2013 , 10, 385-388		4
37	Polysilicon Nanowire Transistors and Arrays Fabricated With the Multispacer Technique. <i>IEEE Nanotechnology Magazine</i> , 2011 , 10, 891-899	2.6	4
36	A Wearable Electrochemical Sensing System for Non-Invasive Monitoring of Lithium Drug in Bipolar Disorder. <i>IEEE Sensors Journal</i> , 2021 , 21, 9649-9656	4	4
35	Algebraic and Boolean Optimization Methods for AQFP Superconducting Circuits 2021 ,		4
34	Full system for translational studies of personalized medicine with free-moving mice 2015 ,		3
33	Multiwalled Carbon Nanotubes for Amperometric Array-Based Biosensors. <i>BioNanoScience</i> , 2012 , 2, 185-195	3.125	3
32	Automatic Uniform Quantum State Preparation Using Decision Diagrams 2020 ,		3
31	Three-Input Gates for Logic Synthesis. <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , 2020 , 1-1	2.5	3
30	Continuous monitoring of propofol in human serum with fouling compensation by support vector classifier. <i>Biosensors and Bioelectronics</i> , 2021 , 171, 112666	11.8	3
29	. <i>IEEE Sensors Journal</i> , 2021 , 1-1	4	3
28	Multi-Ion-Sensing Emulator and Multivariate Calibration Optimization by Machine Learning Models. <i>IEEE Access</i> , 2021 , 9, 46821-46836	3.5	3
27	Cyber-Medical Systems: Requirements, Components and Design Examples. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2017 , 64, 2226-2236	3.9	2
26	A Fault-Tolerant Ripple-Carry Adder with Controllable-Polarity Transistors. <i>ACM Journal on Emerging Technologies in Computing Systems</i> , 2017 , 13, 1-13	1.7	2
25	Multi-Panel, On-Single-Chip Memristive Biosensing. <i>IEEE Sensors Journal</i> , 2019 , 19, 5769-5774	4	2
24	A study on buffer distribution for RRAM-based FPGA routing structures 2015 ,		2
23	Emulator Design and Generation of Synthetic Dataset in Multi-Ion Sensing 2020 ,		2
22	An FPGA-Based Test System for RRAM Technology Characterization. <i>IEEE Nanotechnology Magazine</i> , 2018 , 17, 177-183	2.6	2

21	Post-P&R Performance and Power Analysis for RRAM-Based FPGAs. <i>IEEE Journal on Emerging and Selected Topics in Circuits and Systems</i> , 2018 , 8, 639-650	5.2	2
20	. <i>IEEE Transactions on Very Large Scale Integration (VLSI) Systems</i> , 2015 , 23, 2103-2115	2.6	2
19	Exact Synthesis of ESOP Forms 2020 , 177-194		2
18	Mapping Monotone Boolean Functions into Majority. <i>IEEE Transactions on Computers</i> , 2019 , 68, 791-797	2.5	2
17	Low-Temperature Wet Conformal Nickel Silicide Deposition for Transistor Technology through an Organometallic Approach. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 4948-4955	9.5	1
16	E-health: From sensors to systems 2015 ,		1
15	Conformal Deposition of Conductive Single-Crystalline Cobalt Silicide Layer on Si Wafer via a Molecular Approach. <i>Chemistry of Materials</i> , 2018 , 30, 2168-2173	9.6	1
14	Safe and Efficient Deployment of Data-Parallelizable Applications on Many-Core Platforms: Theory and Practice. <i>IEEE Design and Test</i> , 2018 , 35, 7-15	1.4	1
13	Functionality-Enhanced Devices: From Transistors to Circuit-Level Opportunities 2019 , 21-42		1
12	Personalized Drug Administrations Using Support Vector Machine. <i>BioNanoScience</i> , 2013 , 3, 378-393	3.4	1
11	ROS: Resource-constrained Oracle Synthesis for Quantum Computers. <i>Electronic Proceedings in Theoretical Computer Science, EPTCS</i> , 318, 119-130		1
10	From Boolean functions to quantum circuits: A scalable quantum compilation flow in C++ 2021 ,		1
9	Efficient Boolean Methods for Preparing Uniform Quantum States. <i>IEEE Transactions on Quantum Engineering</i> , 2021 , 2, 1-12	2.9	0
8	A Simulation-Guided Paradigm for Logic Synthesis and Verification. <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , 2021 , 1-1	2.5	0
7	The emerging majority: Technology and design for superconducting electronics. <i>IEEE Design and Test</i> , 2021 , 1-1	1.4	0
6	Introduction to the special section on functionality-enhanced devices. <i>IEEE Nanotechnology Magazine</i> , 2014 , 13, 1019-1019	2.6	
5	Nano-Tera.ch: Information Technology for Health, Environment, and Energy. <i>IEEE Design and Test</i> , 2017 , 34, 109-118	1.4	
4	What is a 3D Network-on-Chip?. <i>ACM SIGDA Newsletter</i> , 2009 , 39, 1-1		

- 3 . *IEEE Access*, **2020**, 8, 226828-226844 3.5
- 2 Real-Time Multi-Ion-Monitoring Front-End With Interference Compensation by Multi-Output Support Vector Regressor. *IEEE Transactions on Biomedical Circuits and Systems*, **2021**, 15, 1093-1106 5.1
- 1 Nonsilicon, Non-von Neumann Computing Part II. *Proceedings of the IEEE*, **2020**, 108, 1211-1218 14.3