Carlo Ricciardi

List of Publications by Year in Descending Order

113 papers	1,941 citations	24 h-index	36 g-index
122 ext. papers	2,375 ext. citations	5.4 avg, IF	4.97 L-index

#	Paper	IF	Citations
113	Memristive devices based on single ZnO nanowires: from material synthesis to neuromorphic functionalities. *Semiconductor Science and Technology*, **2022**, 37, 034002	1.8	0
112	In Materia Should Be Used Instead of In Materio. *Frontiers in Nanotechnology*, **2022**, 4,	5.5	1
111	Connectome of memristive nanowire networks through graph theory.. *Neural Networks*, **2022**, 150, 137-148	9.8	0
110	Quantum conductance in memristive devices: fundamentals, developments, and applications.. *Advanced Materials*, **2022**, e2201248	24	4
109	Reaching silicon-based NEMS performances with 3D printed nanomechanical resonators. *Nature Communications*, **2021**, 12, 6080	17.4	2
108	In materia reservoir computing with a fully memristive architecture based on self-organizing nanowire networks. *Nature Materials*, **2021**,	27	26
107	Recommended implementation of electrical resistance tomography for conductivity mapping of metallic nanowire networks using voltage excitation. *Scientific Reports*, **2021**, 11, 13167	4.9	2
106	Structure-Dependent Influence of Moisture on Resistive Switching Behavior of ZnO Thin Films. *Advanced Materials Interfaces*, **2021**, 8, 2100915	4.6	4
105	Metal-insulator transition in single crystalline ZnO nanowires. *Nanotechnology*, **2021**, 32, 185202	3.4	3
104	Hydrothermally grown ZnO nanowire array as an oxygen vacancies reservoir for improved resistive switching. *Nanotechnology*, **2020**, 31, 374001	3.4	5
103	Brain-Inspired Structural Plasticity through Reweighting and Rewiring in Multi-Terminal Self-Organizing Memristive Nanowire Networks. *Advanced Intelligent Systems*, **2020**, 2, 2000096	6	27
102	TEM Nanostructural Investigation of Ag-Conductive Filaments in Polycrystalline ZnO-Based Resistive Switching Devices. *ACS Applied Materials & Interfaces*, **2020**, 12, 29451-29460	9.5	11
101	Compact Modeling of the I-V Characteristics of ZnO Nanowires Including Nonlinear Series Resistance Effects. *IEEE Nanotechnology Magazine*, **2020**, 19, 297-300	2.6	6
100	Water-Mediated Ionic Migration in Memristive Nanowires with a Tunable Resistive Switching Mechanism. *ACS Applied Materials & Interfaces*, **2020**, 12, 48773-48780	9.5	13
99	Modeling of Short-Term Synaptic Plasticity Effects in ZnO Nanowire-Based Memristors Using a Potentiation-Depression Rate Balance Equation. *IEEE Nanotechnology Magazine*, **2020**, 19, 609-612	2.6	10
98	Fabrication of clamped-clamped beam resonators with embedded fluidic nanochannel. *Microelectronic Engineering*, **2020**, 231, 111395	2.5	1
97	Mapping Time-Dependent Conductivity of Metallic Nanowire Networks by Electrical Resistance Tomography toward Transparent Conductive Materials. *ACS Applied Nano Materials*, **2020**, 3, 11987-11997	5.6	10

96	Brain-Inspired Structural Plasticity through Reweighting and Rewiring in Multi-Terminal Self-Organizing Memristive Nanowire Networks. *Advanced Intelligent Systems*, **2020**, 2, 2080071	6	2
95	Advanced ELISA-like Biosensing Based on Ultralarge-Pore Silica Microbeads.. *ACS Applied Bio Materials*, **2020**, 3, 5787-5795	4.1	3
94	Memristive Devices for Quantum Metrology. *Advanced Quantum Technologies*, **2020**, 3, 2000009	4.3	3
93	Large-scale parallelization of nanomechanical mass spectrometry with weakly-coupled resonators. *Nature Communications*, **2019**, 10, 3647	17.4	11
92	Synaptic and neuromorphic functions: general discussion. *Faraday Discussions*, **2019**, 213, 553-578	3.6	1
91	Electrochemical metallization ReRAMs (ECM) - Experiments and modelling: general discussion. *Faraday Discussions*, **2019**, 213, 115-150	3.6	4
90	Analog Control of Retainable Resistance Multistates in HfO2 Resistive-Switching Random Access Memories (ReRAMs). *ACS Applied Electronic Materials*, **2019**, 1, 900-909	4	12
89	Recent Developments and Perspectives for Memristive Devices Based on Metal Oxide Nanowires. *Advanced Electronic Materials*, **2019**, 5, 1800909	6.4	58
88	Nanomechanical DNA resonators for sensing and structural analysis of DNA-ligand complexes. *Nature Communications*, **2019**, 10, 1690	17.4	14
87	Junction properties of single ZnO nanowires with asymmetrical Pt and Cu contacts. *Nanotechnology*, **2019**, 30, 244001	3.4	11
86	Ionic Modulation of Electrical Conductivity of ZnO Due to Ambient Moisture. *Advanced Materials Interfaces*, **2019**, 6, 1900803	4.6	16
85	Switching Kinetics Control of W-Based ReRAM Cells in Transient Operation by Interface Engineering. *Advanced Electronic Materials*, **2019**, 5, 1800835	6.4	2
84	Resistive switching in sub-micrometric ZnO polycrystalline films. *Nanotechnology*, **2019**, 30, 065707	3.4	15
83	Extended memory lifetime in spiking neural networks employing memristive synapses with nonlinear conductance dynamics. *Nanotechnology*, **2019**, 30, 015102	3.4	25
82	Monolithic glass suspended microchannel resonators for enhanced mass sensing of liquids. *Sensors and Actuators B: Chemical*, **2019**, 283, 298-303	8.5	15
81	Performance comparison of hybrid resistive switching devices based on solution-processable nanocomposites. *Applied Surface Science*, **2018**, 443, 475-483	6.7	8
80	Evolution of nanomechanical properties and crystallinity of individual titanium dioxide nanotube resonators. *Nanotechnology*, **2018**, 29, 085702	3.4	6
79	Tuning ZnO Nanowire Dissolution by Electron Beam Modification of Surface Wetting Properties. *Journal of Physical Chemistry C*, **2018**, 122, 8011-8021	3.8	18

78	In situ generation of silver nanoparticles in PVDF for the development of resistive switching devices. *Applied Surface Science*, **2018**, 455, 418-424	6.7	12
77	Unravelling Resistive Switching Mechanism in ZnO NW Arrays: The Role of the Polycrystalline Base Layer. *Journal of Physical Chemistry C*, **2018**, 122, 866-874	3.8	28
76	Microcantilever resonator arrays for immunodetection of β-lactoglobulin milk allergen. *Sensors and Actuators B: Chemical*, **2018**, 254, 613-617	8.5	15
75	Self-limited single nanowire systems combining all-in-one memristive and neuromorphic functionalities. *Nature Communications*, **2018**, 9, 5151	17.4	83
74	A multi-level memristor based on atomic layer deposition of iron oxide. *Nanotechnology*, **2018**, 29, 495201	3.4	20
73	Effects of single-pulse Al2O3 insertion in TiO2 oxide memristors by low temperature ALD. *Applied Physics A: Materials Science and Processing*, **2018**, 124, 1	2.6	15
72	High-Throughput Characterization of Microcantilever Resonator Arrays for Low-Concentration Detection of Small Molecules. *Journal of Microelectromechanical Systems*, **2017**, 26, 246-254	2.5	4
71	Functionalized ZnO nanowires for microcantilever biosensors with enhanced binding capability. *Analytical and Bioanalytical Chemistry*, **2017**, 409, 2615-2625	4.4	11
70	WORM and bipolar inkjet printed resistive switching devices based on silver nanocomposites. *Flexible and Printed Electronics*, **2017**, 2, 024002	3.1	18
69	Resistive switching and impedance properties of soft nanocomposites based on Ag nanoparticles. *Applied Surface Science*, **2017**, 424, 352-358	6.7	8
68	Highly performing ionic liquid enriched hybrid RSDs. *Journal of Materials Chemistry C*, **2017**, 5, 6144-6155	7.1	13
67	Polymeric 3D Printed Functional Microcantilevers for Biosensing Applications. *ACS Applied Materials & Interfaces*, **2017**, 9, 19193-19201	9.5	41
66	Resistive Switching in Polymer Nanocomposites by Matrix-Controlled in Situ Nanoparticles Generation. *Journal of Physical Chemistry C*, **2017**, 121, 14285-14295	3.8	16
65	3D printable light-responsive polymers. *Materials Horizons*, **2017**, 4, 396-401	14.4	68
64	Multiple resistive switching in core–shell ZnO nanowires exhibiting tunable surface states. *Journal of Materials Chemistry C*, **2017**, 5, 10517-10523	7.1	33
63	Experimental evidence of Fano resonances in nanomechanical resonators. *Scientific Reports*, **2017**, 7, 1065	4.9	16
62	Spin-coated silver nanocomposite resistive switching devices. *Microelectronic Engineering*, **2017**, 168, 27-31	2.5	26
61	Zinc Oxide Thin Films for Memristive Devices: A Review. *Critical Reviews in Solid State and Materials Sciences*, **2017**, 42, 153-172	10.1	64

60	Validation of a mass spectrometry-based method for milk traces detection in baked food. *Food Chemistry*, **2016**, 199, 119-27	8.5	34
59	Succinic anhydride functionalized microcantilevers for protein immobilization and quantification. *Analytical and Bioanalytical Chemistry*, **2016**, 408, 7917-7926	4.4	10
58	Memristive behaviour in poly-acrylic acid coated TiO nanotube arrays. *Nanotechnology*, **2016**, 27, 485208	3.4	19
57	Low-temperature atomic layer deposition of TiO2 thin layers for the processing of memristive devices. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2016**, 34, 01A147	2.9	26
56	Optimization and characterization of a homogeneous carboxylic surface functionalization for silicon-based biosensing. *Colloids and Surfaces B: Biointerfaces*, **2016**, 143, 252-259	6	16
55	Ionic liquid-enhanced soft resistive switching devices. *RSC Advances*, **2016**, 6, 94128-94138	3.7	28
54	Two-Photon Polymerization Lithography and Laser Doppler Vibrometry of a SU-8-Based Suspended Microchannel Resonator. *Journal of Microelectromechanical Systems*, **2015**, 24, 1038-1042	2.5	18
53	Memristive behaviour in inkjet printed graphene oxide thin layers. *RSC Advances*, **2015**, 5, 68565-68570	3.7	42
52	Surface area enhancement by mesoporous silica deposition on microcantilever sensors for small molecule detection. *Journal of Materials Chemistry C*, **2015**, 3, 12507-12513	7.1	13
51	**2015**,		4
50	Memristive devices based on graphene oxide. *Carbon*, **2015**, 85, 383-396	10.4	103
49	Resonating Behaviour of Nanomachined Holed Microcantilevers. *Scientific Reports*, **2015**, 5, 17837	4.9	5
48	Toward mechano-spintronics: Nanostructured magnetic multilayers for the realization of microcantilever sensors featuring wireless actuation for liquid environments. *Journal of Intelligent Material Systems and Structures*, **2013**, 24, 2189-2196	2.3	7
47	Development of a microcantilever-based immunosensing method for mycotoxin detection. *Biosensors and Bioelectronics*, **2013**, 40, 233-9	11.8	53
46	A finite element model for the frequency spectrum estimation of a resonating microplate in a microfluidic chamber. *Microfluidics and Nanofluidics*, **2013**, 15, 275-284	2.8	9
45	Immunodetection of 17β-estradiol in serum at ppt level by microcantilever resonators. *Biosensors and Bioelectronics*, **2013**, 40, 407-11	11.8	18
44	Functionalization protocols of silicon micro/nano-mechanical biosensors. *Methods in Molecular Biology*, **2013**, 1025, 109-15	1.4	2
43	Microcantilever Biosensor Array for Cancer Research. *Series in Sensors*, **2012**, 803-814		

42	Online Portable Microcantilever Biosensors for Salmonella enterica Serotype Enteritidis Detection. *Food and Bioprocess Technology*, **2010**, 3, 956-960	5.1	27
41	a-SiOx Coatings Grown on Dental Materials by PECVD: Compositional Analysis and Preliminary Investigation of Biocompatibility Improvements. *Chemical Vapor Deposition*, **2010**, 16, 29-34		7
40	A new Finite Element approach for studying the effect of surface stress on microstructures. *Sensors and Actuators A: Physical*, **2010**, 159, 141-148	3.9	20
39	Development of microcantilever-based biosensor array to detect Angiopoietin-1, a marker of tumor angiogenesis. *Biosensors and Bioelectronics*, **2010**, 25, 1193-8	11.8	35
38	Integration of microfluidic and cantilever technology for biosensing application in liquid environment. *Biosensors and Bioelectronics*, **2010**, 26, 1565-70	11.8	52
37	Demonstration of diffraction enhancement via Bloch surface waves in a-SiN:H multilayers. *Applied Physics Letters*, **2009**, 94, 043117	3.4	22
36	Poly(ethylene glycol) monolayer formation and stability on gold and silicon nitride substrates. *Langmuir*, **2008**, 24, 10646-53	4	47
35	A biofunctional polymeric coating for microcantilever molecular recognition. *Analytica Chimica Acta* , **2008**, 630, 161-7	6.6	36
34	Vapor-phase self-assembled monolayers of aminosilane on plasma-activated silicon substrates. *Journal of Colloid and Interface Science*, **2008**, 321, 235-41	9.3	102
33	Low temperature growth of thin film coatings for the surface modification of dental prostheses. *Surface and Coatings Technology*, **2008**, 202, 2477-2481	4.4	16
32	Polymeric mask protection for alternative KOH silicon wet etching. *Journal of Micromechanics and Microengineering*, **2007**, 17, 1387-1393	2	33
31	Macroscopic growth of carbon nanotube mats and their mechanical properties. *Carbon*, **2007**, 45, 1133-1136	6.2	23
30	Silicon Carbon Oxynitrides grown by plasma-enhanced chemical vapor deposition technique. *Thin Solid Films*, **2007**, 515, 7639-7642	2.2	9
29	Band-edge and cavity second harmonic conversion in doubly resonant microcavity. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **2007**, 40, 727-734	1.3	7
28	Field localization and enhanced Second-Harmonic Generation in silicon-based microcavities. *Optics Express*, **2007**, 15, 4159-67	3.3	7
27	Second harmonic generation analysis in hydrogenated amorphous silicon nitride thin films. *Applied Physics Letters*, **2007**, 90, 021919	3.4	9
26	Synthesis, characterization and modelling of silicon based opals. *Journal of Non-Crystalline Solids*, **2006**, 352, 1425-1429	3.9	22
25	Amorphous Silicon Nitride: a suitable alloy for optical multilayered structures. *Journal of Non-Crystalline Solids*, **2006**, 352, 1294-1297	3.9	22

24	Microstructure analysis of a-SiC:H thin films grown by high-growth-rate PECVD. *Journal of Non-Crystalline Solids*, **2006**, 352, 1380-1383	3.9	17
23	Controlled light emission from dye-impregnated porous silicon microcavities. *Journal of Non-Crystalline Solids*, **2006**, 352, 1230-1233	3.9	8
22	Improvement of titanium film absorption with antireflection coatings. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2006**, 559, 757-759	1.2	3
21	Optical harmonic generation in amorphous silicon nitride microcavities. *Journal of Luminescence*, **2006**, 121, 274-277	3.8	
20	Microstructure analysis on polycrystalline 3C-SiC thin films. *Diamond and Related Materials*, **2005**, 14, 1134-1137	3.5	13
19	Characterization of Electrical Contacts on Polycrystalline 3C-SiC Thin Films. *Materials Science Forum*, **2005**, 483-485, 745-748	0.4	
18	Second-harmonic generation in hydrogenated amorphous-Si1−xNx doubly resonant microcavities with periodic dielectric mirrors. *Applied Physics Letters*, **2005**, 87, 191110	3.4	10
17	Silicon-based microcavities: theory and experiment. *Semiconductor Science and Technology*, **2004**, 19, S489-S491	1.8	
16	Characterization of silicon carbide thin films grown on Si and SiO2/Si substrates. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, **2004**, 114-115, 279-283	3.1	4
15	Structural characterisation of nickel silicide performed by two-dimensional X-ray microdiffraction. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, **2004**, 114-115, 236-240	3.1	3
14	Plasma-assisted SiC oxidation for power device fabrication. *Applied Surface Science*, **2004**, 238, 336-340	6.7	2
13	Polycrystalline SiC growth and characterization. *Applied Surface Science*, **2004**, 238, 331-335	6.7	12
12	Low temperature growth of SiO2 on SiC by plasma enhanced chemical vapor deposition for power device applications. *Thin Solid Films*, **2003**, 427, 142-146	2.2	6
11	Characterization of polycrystalline SiC layers grown by ECR-PECVD for micro-electro-mechanical systems. *Thin Solid Films*, **2003**, 427, 187-190	2.2	8
10	Structural and electrical characterization of epitaxial 4H-SiC layers for power electronic device applications. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, **2003**, 102, 298-303	3.1	12
9	New insights on amorphous silicon-nitride microcavities. *Physica E: Low-Dimensional Systems and Nanostructures*, **2003**, 16, 591-595	3	5
8	Physical properties of ECR-CVD polycrystalline SiC films for micro-electro-mechanical systems. *Diamond and Related Materials*, **2003**, 12, 1236-1240	3.5	16
7	Surface analysis and defect characterization of 4H-SiC wafers for power electronic device applications. *Diamond and Related Materials*, **2003**, 12, 1224-1226	3.5	9

6	Correlation between Defects and Electrical Properties of 4H-SiC Based Schottky Diodes. *Materials Science Forum*, **2003**, 433-436, 455-458	0.4	6
5	Defect characterization of 4H-SiC wafers for power electronic device applications. *Journal of Physics Condensed Matter*, **2002**, 14, 13397-13402	1.8	14
4	Luminescence properties of amorphous silicon-nitride-based optical microcavities. *Journal of Non-Crystalline Solids*, **2002**, 299-302, 653-657	3.9	3
3	CVD diamond microdosimeters. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2001**, 458, 360-364	1.2	18
2	Micro-IBICC and micro-IL analyses of CVD diamond microdosimeters. *Nuclear Instruments & Methods in Physics Research B*, **2001**, 181, 349-353	1.2	2
1	2022 roadmap on neuromorphic computing and engineering. *Neuromorphic Computing and Engineering*,		24