

# Carlo Ricciardi

## List of Publications by Citations

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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 graphene oxide. <i>Carbon</i> , <b>2015</b> , 85, 383-396	10.4	103
112	Vapor-phase self-assembled monolayers of aminosilane on plasma-activated silicon substrates. <i>Journal of Colloid and Interface Science</i> , <b>2008</b> , 321, 235-41	9.3	102
111	Self-limited single nanowire systems combining all-in-one memristive and neuromorphic functionalities. <i>Nature Communications</i> , <b>2018</b> , 9, 5151	17.4	83
110	3D printable light-responsive polymers. <i>Materials Horizons</i> , <b>2017</b> , 4, 396-401	14.4	68
109	Zinc Oxide Thin Films for Memristive Devices: A Review. <i>Critical Reviews in Solid State and Materials Sciences</i> , <b>2017</b> , 42, 153-172	10.1	64
108	Recent Developments and Perspectives for Memristive Devices Based on Metal Oxide Nanowires. <i>Advanced Electronic Materials</i> , <b>2019</b> , 5, 1800909	6.4	58
107	Development of a microcantilever-based immunosensing method for mycotoxin detection. <i>Biosensors and Bioelectronics</i> , <b>2013</b> , 40, 233-9	11.8	53
106	Integration of microfluidic and cantilever technology for biosensing application in liquid environment. <i>Biosensors and Bioelectronics</i> , <b>2010</b> , 26, 1565-70	11.8	52
105	Poly(ethylene glycol) monolayer formation and stability on gold and silicon nitride substrates. <i>Langmuir</i> , <b>2008</b> , 24, 10646-53	4	47
104	Memristive behaviour in inkjet printed graphene oxide thin layers. <i>RSC Advances</i> , <b>2015</b> , 5, 68565-68570	3.7	42
103	Polymeric 3D Printed Functional Microcantilevers for Biosensing Applications. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 19193-19201	9.5	41
102	A biofunctional polymeric coating for microcantilever molecular recognition. <i>Analytica Chimica Acta</i> , <b>2008</b> , 630, 161-7	6.6	36
101	Development of microcantilever-based biosensor array to detect Angiopoietin-1, a marker of tumor angiogenesis. <i>Biosensors and Bioelectronics</i> , <b>2010</b> , 25, 1193-8	11.8	35
100	Validation of a mass spectrometry-based method for milk traces detection in baked food. <i>Food Chemistry</i> , <b>2016</b> , 199, 119-27	8.5	34
99	Multiple resistive switching in core-shell ZnO nanowires exhibiting tunable surface states. <i>Journal of Materials Chemistry C</i> , <b>2017</b> , 5, 10517-10523	7.1	33
98	Polymeric mask protection for alternative KOH silicon wet etching. <i>Journal of Micromechanics and Microengineering</i> , <b>2007</b> , 17, 1387-1393	2	33
97	Ionic liquid-enhanced soft resistive switching devices. <i>RSC Advances</i> , <b>2016</b> , 6, 94128-94138	3.7	28

96	Unravelling Resistive Switching Mechanism in ZnO NW Arrays: The Role of the Polycrystalline Base Layer. <i>Journal of Physical Chemistry C</i> , <b>2018</b> , 122, 866-874	3.8	28
95	Brain-Inspired Structural Plasticity through Reweighting and Rewiring in Multi-Terminal Self-Organizing Memristive Nanowire Networks. <i>Advanced Intelligent Systems</i> , <b>2020</b> , 2, 2000096	6	27
94	Online Portable Microcantilever Biosensors for Salmonella enterica Serotype Enteritidis Detection. <i>Food and Bioprocess Technology</i> , <b>2010</b> , 3, 956-960	5.1	27
93	Spin-coated silver nanocomposite resistive switching devices. <i>Microelectronic Engineering</i> , <b>2017</b> , 168, 27-31	2.5	26
92	In materia reservoir computing with a fully memristive architecture based on self-organizing nanowire networks. <i>Nature Materials</i> , <b>2021</b> ,	27	26
91	Low-temperature atomic layer deposition of TiO <sub>2</sub> thin layers for the processing of memristive devices. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2016</b> , 34, 01A147	2.9	26
90	Extended memory lifetime in spiking neural networks employing memristive synapses with nonlinear conductance dynamics. <i>Nanotechnology</i> , <b>2019</b> , 30, 015102	3.4	25
89	2022 roadmap on neuromorphic computing and engineering. <i>Neuromorphic Computing and Engineering</i> ,		24
88	Macroscopic growth of carbon nanotube mats and their mechanical properties. <i>Carbon</i> , <b>2007</b> , 45, 1133-1136	13.6	23
87	Demonstration of diffraction enhancement via Bloch surface waves in a-SiN:H multilayers. <i>Applied Physics Letters</i> , <b>2009</b> , 94, 043117	3.4	22
86	Synthesis, characterization and modelling of silicon based opals. <i>Journal of Non-Crystalline Solids</i> , <b>2006</b> , 352, 1425-1429	3.9	22
85	Amorphous Silicon Nitride: a suitable alloy for optical multilayered structures. <i>Journal of Non-Crystalline Solids</i> , <b>2006</b> , 352, 1294-1297	3.9	22
84	A new Finite Element approach for studying the effect of surface stress on microstructures. <i>Sensors and Actuators A: Physical</i> , <b>2010</b> , 159, 141-148	3.9	20
83	A multi-level memristor based on atomic layer deposition of iron oxide. <i>Nanotechnology</i> , <b>2018</b> , 29, 4952014	3.4	20
82	Memristive behaviour in poly-acrylic acid coated TiO nanotube arrays. <i>Nanotechnology</i> , <b>2016</b> , 27, 4852083	3.4	19
81	WORM and bipolar inkjet printed resistive switching devices based on silver nanocomposites. <i>Flexible and Printed Electronics</i> , <b>2017</b> , 2, 024002	3.1	18
80	Two-Photon Polymerization Lithography and Laser Doppler Vibrometry of a SU-8-Based Suspended Microchannel Resonator. <i>Journal of Microelectromechanical Systems</i> , <b>2015</b> , 24, 1038-1042	2.5	18
79	Tuning ZnO Nanowire Dissolution by Electron Beam Modification of Surface Wetting Properties. <i>Journal of Physical Chemistry C</i> , <b>2018</b> , 122, 8011-8021	3.8	18

78	Immunodetection of 17 $\beta$ -Estradiol in serum at ppt level by microcantilever resonators. <i>Biosensors and Bioelectronics</i> , <b>2013</b> , 40, 407-11	11.8	18
77	CVD diamond microdosimeters. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , <b>2001</b> , 458, 360-364	1.2	18
76	Microstructure analysis of a-SiC:H thin films grown by high-growth-rate PECVD. <i>Journal of Non-Crystalline Solids</i> , <b>2006</b> , 352, 1380-1383	3.9	17
75	Resistive Switching in Polymer Nanocomposites by Matrix-Controlled in Situ Nanoparticles Generation. <i>Journal of Physical Chemistry C</i> , <b>2017</b> , 121, 14285-14295	3.8	16
74	Ionic Modulation of Electrical Conductivity of ZnO Due to Ambient Moisture. <i>Advanced Materials Interfaces</i> , <b>2019</b> , 6, 1900803	4.6	16
73	Experimental evidence of Fano resonances in nanomechanical resonators. <i>Scientific Reports</i> , <b>2017</b> , 7, 1065	4.9	16
72	Low temperature growth of thin film coatings for the surface modification of dental prostheses. <i>Surface and Coatings Technology</i> , <b>2008</b> , 202, 2477-2481	4.4	16
71	Physical properties of ECR-CVD polycrystalline SiC films for micro-electro-mechanical systems. <i>Diamond and Related Materials</i> , <b>2003</b> , 12, 1236-1240	3.5	16
70	Optimization and characterization of a homogeneous carboxylic surface functionalization for silicon-based biosensing. <i>Colloids and Surfaces B: Biointerfaces</i> , <b>2016</b> , 143, 252-259	6	16
69	Resistive switching in sub-micrometric ZnO polycrystalline films. <i>Nanotechnology</i> , <b>2019</b> , 30, 065707	3.4	15
68	Monolithic glass suspended microchannel resonators for enhanced mass sensing of liquids. <i>Sensors and Actuators B: Chemical</i> , <b>2019</b> , 283, 298-303	8.5	15
67	Microcantilever resonator arrays for immunodetection of $\beta$ -lactoglobulin milk allergen. <i>Sensors and Actuators B: Chemical</i> , <b>2018</b> , 254, 613-617	8.5	15
66	Effects of single-pulse Al <sub>2</sub> O <sub>3</sub> insertion in TiO <sub>2</sub> oxide memristors by low temperature ALD. <i>Applied Physics A: Materials Science and Processing</i> , <b>2018</b> , 124, 1	2.6	15
65	Nanomechanical DNA resonators for sensing and structural analysis of DNA-ligand complexes. <i>Nature Communications</i> , <b>2019</b> , 10, 1690	17.4	14
64	Defect characterization of 4H-SiC wafers for power electronic device applications. <i>Journal of Physics Condensed Matter</i> , <b>2002</b> , 14, 13397-13402	1.8	14
63	Highly performing ionic liquid enriched hybrid RSDs. <i>Journal of Materials Chemistry C</i> , <b>2017</b> , 5, 6144-6155	7.1	13
62	Surface area enhancement by mesoporous silica deposition on microcantilever sensors for small molecule detection. <i>Journal of Materials Chemistry C</i> , <b>2015</b> , 3, 12507-12513	7.1	13
61	Microstructure analysis on polycrystalline 3C $\beta$ -SiC thin films. <i>Diamond and Related Materials</i> , <b>2005</b> , 14, 1134-1137	3.5	13

60	Water-Mediated Ionic Migration in Memristive Nanowires with a Tunable Resistive Switching Mechanism. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 48773-48780	9.5	13
59	Analog Control of Retainable Resistance Multistates in HfO <sub>2</sub> Resistive-Switching Random Access Memories (ReRAMs). <i>ACS Applied Electronic Materials</i> , <b>2019</b> , 1, 900-909	4	12
58	In situ generation of silver nanoparticles in PVDF for the development of resistive switching devices. <i>Applied Surface Science</i> , <b>2018</b> , 455, 418-424	6.7	12
57	Polycrystalline SiC growth and characterization. <i>Applied Surface Science</i> , <b>2004</b> , 238, 331-335	6.7	12
56	Structural and electrical characterization of epitaxial 4H <sub>2</sub> SiC layers for power electronic device applications. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , <b>2003</b> , 102, 298-303	3.1	12
55	Functionalized ZnO nanowires for microcantilever biosensors with enhanced binding capability. <i>Analytical and Bioanalytical Chemistry</i> , <b>2017</b> , 409, 2615-2625	4.4	11
54	Large-scale parallelization of nanomechanical mass spectrometry with weakly-coupled resonators. <i>Nature Communications</i> , <b>2019</b> , 10, 3647	17.4	11
53	Junction properties of single ZnO nanowires with asymmetrical Pt and Cu contacts. <i>Nanotechnology</i> , <b>2019</b> , 30, 244001	3.4	11
52	TEM Nanostructural Investigation of Ag-Conductive Filaments in Polycrystalline ZnO-Based Resistive Switching Devices. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 29451-29460	9.5	11
51	Second-harmonic generation in hydrogenated amorphous-Si <sub>1-x</sub> N <sub>x</sub> doubly resonant microcavities with periodic dielectric mirrors. <i>Applied Physics Letters</i> , <b>2005</b> , 87, 191110	3.4	10
50	Modeling of Short-Term Synaptic Plasticity Effects in ZnO Nanowire-Based Memristors Using a Potentiation-Depression Rate Balance Equation. <i>IEEE Nanotechnology Magazine</i> , <b>2020</b> , 19, 609-612	2.6	10
49	Mapping Time-Dependent Conductivity of Metallic Nanowire Networks by Electrical Resistance Tomography toward Transparent Conductive Materials. <i>ACS Applied Nano Materials</i> , <b>2020</b> , 3, 11987-11997 <sup>5,6</sup>		10
48	Succinic anhydride functionalized microcantilevers for protein immobilization and quantification. <i>Analytical and Bioanalytical Chemistry</i> , <b>2016</b> , 408, 7917-7926	4.4	10
47	A finite element model for the frequency spectrum estimation of a resonating microplate in a microfluidic chamber. <i>Microfluidics and Nanofluidics</i> , <b>2013</b> , 15, 275-284	2.8	9
46	Silicon-Carbon-Nitrides grown by plasma-enhanced chemical vapor deposition technique. <i>Thin Solid Films</i> , <b>2007</b> , 515, 7639-7642	2.2	9
45	Second harmonic generation analysis in hydrogenated amorphous silicon nitride thin films. <i>Applied Physics Letters</i> , <b>2007</b> , 90, 021919	3.4	9
44	Surface analysis and defect characterization of 4H <sub>2</sub> SiC wafers for power electronic device applications. <i>Diamond and Related Materials</i> , <b>2003</b> , 12, 1224-1226	3.5	9
43	Resistive switching and impedance properties of soft nanocomposites based on Ag nanoparticles. <i>Applied Surface Science</i> , <b>2017</b> , 424, 352-358	6.7	8

42	Performance comparison of hybrid resistive switching devices based on solution-processable nanocomposites. <i>Applied Surface Science</i> , <b>2018</b> , 443, 475-483	6.7	8
41	Controlled light emission from dye-impregnated porous silicon microcavities. <i>Journal of Non-Crystalline Solids</i> , <b>2006</b> , 352, 1230-1233	3.9	8
40	Characterization of polycrystalline SiC layers grown by ECR-PECVD for micro-electro-mechanical systems. <i>Thin Solid Films</i> , <b>2003</b> , 427, 187-190	2.2	8
39	Toward mechano-spintronics: Nanostructured magnetic multilayers for the realization of microcantilever sensors featuring wireless actuation for liquid environments. <i>Journal of Intelligent Material Systems and Structures</i> , <b>2013</b> , 24, 2189-2196	2.3	7
38	a-SiO <sub>x</sub> Coatings Grown on Dental Materials by PECVD: Compositional Analysis and Preliminary Investigation of Biocompatibility Improvements. <i>Chemical Vapor Deposition</i> , <b>2010</b> , 16, 29-34		7
37	Band-edge and cavity second harmonic conversion in doubly resonant microcavity. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , <b>2007</b> , 40, 727-734	1.3	7
36	Field localization and enhanced Second-Harmonic Generation in silicon-based microcavities. <i>Optics Express</i> , <b>2007</b> , 15, 4159-67	3.3	7
35	Compact Modeling of the I-V Characteristics of ZnO Nanowires Including Nonlinear Series Resistance Effects. <i>IEEE Nanotechnology Magazine</i> , <b>2020</b> , 19, 297-300	2.6	6
34	Evolution of nanomechanical properties and crystallinity of individual titanium dioxide nanotube resonators. <i>Nanotechnology</i> , <b>2018</b> , 29, 085702	3.4	6
33	Low temperature growth of SiO <sub>2</sub> on SiC by plasma enhanced chemical vapor deposition for power device applications. <i>Thin Solid Films</i> , <b>2003</b> , 427, 142-146	2.2	6
32	Correlation between Defects and Electrical Properties of 4H-SiC Based Schottky Diodes. <i>Materials Science Forum</i> , <b>2003</b> , 433-436, 455-458	0.4	6
31	Hydrothermally grown ZnO nanowire array as an oxygen vacancies reservoir for improved resistive switching. <i>Nanotechnology</i> , <b>2020</b> , 31, 374001	3.4	5
30	New insights on amorphous silicon-nitride microcavities. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2003</b> , 16, 591-595	3	5
29	Resonating Behaviour of Nanomachined Holed Microcantilevers. <i>Scientific Reports</i> , <b>2015</b> , 5, 17837	4.9	5
28	High-Throughput Characterization of Microcantilever Resonator Arrays for Low-Concentration Detection of Small Molecules. <i>Journal of Microelectromechanical Systems</i> , <b>2017</b> , 26, 246-254	2.5	4
27	Electrochemical metallization ReRAMs (ECM) - Experiments and modelling: general discussion. <i>Faraday Discussions</i> , <b>2019</b> , 213, 115-150	3.6	4
26	<b>2015</b> ,		4
25	Characterization of silicon carbide thin films grown on Si and SiO <sub>2</sub> /Si substrates. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , <b>2004</b> , 114-115, 279-283	3.1	4

24	Structure-Dependent Influence of Moisture on Resistive Switching Behavior of ZnO Thin Films. <i>Advanced Materials Interfaces</i> , <b>2021</b> , 8, 2100915	4.6	4
23	Quantum conductance in memristive devices: fundamentals, developments, and applications.. <i>Advanced Materials</i> , <b>2022</b> , e2201248	24	4
22	Improvement of titanium film absorption with antireflection coatings. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , <b>2006</b> , 559, 757-759	1.2	3
21	Structural characterisation of nickel silicide performed by two-dimensional X-ray microdiffraction. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , <b>2004</b> , 114-115, 236-240	2.1	3
20	Luminescence properties of amorphous silicon-nitride-based optical microcavities. <i>Journal of Non-Crystalline Solids</i> , <b>2002</b> , 299-302, 653-657	3.9	3
19	Advanced ELISA-like Biosensing Based on Ultralarge-Pore Silica Microbeads.. <i>ACS Applied Bio Materials</i> , <b>2020</b> , 3, 5787-5795	4.1	3
18	Memristive Devices for Quantum Metrology. <i>Advanced Quantum Technologies</i> , <b>2020</b> , 3, 2000009	4.3	3
17	Metal-insulator transition in single crystalline ZnO nanowires. <i>Nanotechnology</i> , <b>2021</b> , 32, 185202	3.4	3
16	Switching Kinetics Control of W-Based ReRAM Cells in Transient Operation by Interface Engineering. <i>Advanced Electronic Materials</i> , <b>2019</b> , 5, 1800835	6.4	2
15	Plasma-assisted SiC oxidation for power device fabrication. <i>Applied Surface Science</i> , <b>2004</b> , 238, 336-340	6.7	2
14	Micro-IBICC and micro-IL analyses of CVD diamond microdosimeters. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , <b>2001</b> , 181, 349-353	1.2	2
13	Reaching silicon-based NEMS performances with 3D printed nanomechanical resonators. <i>Nature Communications</i> , <b>2021</b> , 12, 6080	17.4	2
12	Functionalization protocols of silicon micro/nano-mechanical biosensors. <i>Methods in Molecular Biology</i> , <b>2013</b> , 1025, 109-15	1.4	2
11	Brain-Inspired Structural Plasticity through Reweighting and Rewiring in Multi-Terminal Self-Organizing Memristive Nanowire Networks. <i>Advanced Intelligent Systems</i> , <b>2020</b> , 2, 2080071	6	2
10	Recommended implementation of electrical resistance tomography for conductivity mapping of metallic nanowire networks using voltage excitation. <i>Scientific Reports</i> , <b>2021</b> , 11, 13167	4.9	2
9	Synaptic and neuromorphic functions: general discussion. <i>Faraday Discussions</i> , <b>2019</b> , 213, 553-578	3.6	1
8	In Materia Should Be Used Instead of In Materio. <i>Frontiers in Nanotechnology</i> , <b>2022</b> , 4,	5.5	1
7	Fabrication of clamped-clamped beam resonators with embedded fluidic nanochannel. <i>Microelectronic Engineering</i> , <b>2020</b> , 231, 111395	2.5	1

- 6 Memristive devices based on single ZnO nanowires from material synthesis to neuromorphic functionalities. *Semiconductor Science and Technology*, **2022**, 37, 034002 1.8 ○
- 5 Connectome of memristive nanowire networks through graph theory.. *Neural Networks*, **2022**, 150, 137-148 1.8 ○
- 4 Microcantilever Biosensor Array for Cancer Research. *Series in Sensors*, **2012**, 803-814
- 3 Optical harmonic generation in amorphous silicon nitride microcavities. *Journal of Luminescence*, **2006**, 121, 274-277 3.8
- 2 Silicon-based microcavities: theory and experiment. *Semiconductor Science and Technology*, **2004**, 19, S489-S491 1.8
- 1 Characterization of Electrical Contacts on Polycrystalline 3C-SiC Thin Films. *Materials Science Forum*, **2005**, 483-485, 745-748 0.4