

# Gianluca Fiori

## List of Publications by Citations

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112  
papers

5,619  
citations

31  
h-index

74  
g-index

130  
ext. papers

6,576  
ext. citations

5.8  
avg. IF

5.95  
L-index

#	Paper	IF	Citations
112	Electronics based on two-dimensional materials. <i>Nature Nanotechnology</i> , <b>2014</b> , 9, 768-79	28.7	1953
111	Water-based and biocompatible 2D crystal inks for all-inkjet-printed heterostructures. <i>Nature Nanotechnology</i> , <b>2017</b> , 12, 343-350	28.7	335
110	Ab-initio simulations of deformation potentials and electron mobility in chemically modified graphene and two-dimensional hexagonal boron-nitride. <i>Applied Physics Letters</i> , <b>2011</b> , 99, 222108	3.4	278
109	Simulation of Graphene Nanoribbon Field-Effect Transistors. <i>IEEE Electron Device Letters</i> , <b>2007</b> , 28, 760-762	4.4	249
108	Performance of arsenene and antimonene double-gate MOSFETs from first principles. <i>Nature Communications</i> , <b>2016</b> , 7, 12585	17.4	224
107	Quantum engineering of transistors based on 2D materials heterostructures. <i>Nature Nanotechnology</i> , <b>2018</b> , 13, 183-191	28.7	198
106	Lateral graphene-hBCN heterostructures as a platform for fully two-dimensional transistors. <i>ACS Nano</i> , <b>2012</b> , 6, 2642-8	16.7	115
105	Ultralow-Voltage Bilayer Graphene Tunnel FET. <i>IEEE Electron Device Letters</i> , <b>2009</b> , 30, 1096-1098	4.4	114
104	Performance Comparison of Graphene Nanoribbon FETs With Schottky Contacts and Doped Reservoirs. <i>IEEE Transactions on Electron Devices</i> , <b>2008</b> , 55, 2314-2323	2.9	108
103	Multiscale Modeling for Graphene-Based Nanoscale Transistors. <i>Proceedings of the IEEE</i> , <b>2013</b> , 101, 1653-1669	11.5	106
102	Current saturation and voltage gain in bilayer graphene field effect transistors. <i>Nano Letters</i> , <b>2012</b> , 12, 1324-8	11.5	94
101	Electrical properties of graphene-metal contacts. <i>Scientific Reports</i> , <b>2017</b> , 7, 5109	4.9	82
100	Gate-Tunable Atomically Thin Lateral MoS <sub>2</sub> Schottky Junction Patterned by Electron Beam. <i>Nano Letters</i> , <b>2016</b> , 16, 3788-94	11.5	82
99	A Three-Dimensional Simulation Study of the Performance of Carbon Nanotube Field-Effect Transistors With Doped Reservoirs and Realistic Geometry. <i>IEEE Transactions on Electron Devices</i> , <b>2006</b> , 53, 1782-1788	2.9	75
98	On the Possibility of Tunable-Gap Bilayer Graphene FET. <i>IEEE Electron Device Letters</i> , <b>2009</b> , 30, 261-264	4.4	74
97	Inkjet printed 2D-crystal based strain gauges on paper. <i>Carbon</i> , <b>2018</b> , 129, 462-467	10.4	70
96	Heterojunction hybrid devices from vapor phase grown MoS <sub>2</sub> . <i>Scientific Reports</i> , <b>2014</b> , 4, 5458	4.9	65

95	Low-voltage 2D materials-based printed field-effect transistors for integrated digital and analog electronics on paper. <i>Nature Communications</i> , <b>2020</b> , 11, 3566	17.4	61
94	All-2D Material Inkjet-Printed Capacitors: Toward Fully Printed Integrated Circuits. <i>ACS Nano</i> , <b>2019</b> , 13, 54-60	16.7	60
93	Velocity saturation in few-layer MoS <sub>2</sub> transistor. <i>Applied Physics Letters</i> , <b>2013</b> , 103, 233509	3.4	52
92	A Semianalytical Model of Bilayer-Graphene Field-Effect Transistor. <i>IEEE Transactions on Electron Devices</i> , <b>2009</b> , 56, 2979-2986	2.9	49
91	Very Large Current Modulation in Vertical Heterostructure Graphene/hBN Transistors. <i>IEEE Transactions on Electron Devices</i> , <b>2013</b> , 60, 268-273	2.9	48
90	Effects due to backscattering and pseudogap features in graphene nanoribbons with single vacancies. <i>Physical Review B</i> , <b>2010</b> , 81,	3.3	48
89	Atomistic boron-doped graphene field-effect transistors: a route toward unipolar characteristics. <i>ACS Nano</i> , <b>2012</b> , 6, 7942-7	16.7	47
88	Strong mobility degradation in ideal graphene nanoribbons due to phonon scattering. <i>Applied Physics Letters</i> , <b>2011</b> , 98, 212111	3.4	45
87	Simulation of hydrogenated graphene field-effect transistors through a multiscale approach. <i>Physical Review B</i> , <b>2010</b> , 82,	3.3	43
86	An Open-Source Multiscale Framework for the Simulation of Nanoscale Devices. <i>IEEE Transactions on Electron Devices</i> , <b>2014</b> , 61, 48-53	2.9	40
85	Three-Dimensional Simulation of One-Dimensional Transport in Silicon Nanowire Transistors. <i>IEEE Nanotechnology Magazine</i> , <b>2007</b> , 6, 524-529	2.6	40
84	Negative Differential Resistance in Mono and Bilayer Graphene p-n Junctions. <i>IEEE Electron Device Letters</i> , <b>2011</b> , 32, 1334-1336	4.4	34
83	. <i>IEEE Transactions on Electron Devices</i> , <b>2011</b> , 58, 2824-2830	2.9	34
82	Bilayer Graphene Transistors for Analog Electronics. <i>IEEE Transactions on Electron Devices</i> , <b>2014</b> , 61, 729-733	3.1	31
81	Analogue two-dimensional semiconductor electronics. <i>Nature Electronics</i> , <b>2020</b> , 3, 486-491	28.4	31
80	Coupled Mode Space Approach for the Simulation of Realistic Carbon Nanotube Field-Effect Transistors. <i>IEEE Nanotechnology Magazine</i> , <b>2007</b> , 6, 475-480	2.6	29
79	Ultralow Specific Contact Resistivity in Metal-Graphene Junctions via Contact Engineering. <i>Advanced Materials Interfaces</i> , <b>2019</b> , 6, 1801285	4.6	29
78	Modelling and simulation challenges for nanoscale MOSFETs in the ballistic limit. <i>Solid-State Electronics</i> , <b>2004</b> , 48, 581-587	1.7	26

77	First-Principles Simulations of FETs Based on Two-Dimensional InSe. <i>IEEE Electron Device Letters</i> , <b>2018</b> , 39, 626-629	4.4	25
76	Vertical transport in graphene-hexagonal boron nitride heterostructure devices. <i>Scientific Reports</i> , <b>2015</b> , 5, 14519	4.9	25
75	Comparison of Modeling Approaches for the Capacitance-Voltage and Current-Voltage Characteristics of Advanced Gate Stacks. <i>IEEE Transactions on Electron Devices</i> , <b>2007</b> , 54, 106-114	2.9	25
74	Graphene-based lateral heterostructure transistors exhibit better intrinsic performance than graphene-based vertical transistors as post-CMOS devices. <i>Scientific Reports</i> , <b>2014</b> , 4, 6607	4.9	24
73	Transistor Concepts Based on Lateral Heterostructures of Metallic and Semiconducting Phases of MoS <sub>2</sub> . <i>Physical Review Applied</i> , <b>2017</b> , 8,	4.3	24
72	. <i>IEEE Nanotechnology Magazine</i> , <b>2015</b> , 14, 1068-1082	2.6	23
71	Two-Dimensional Tunnel Transistors Based on $\text{Bi}_2\text{Se}_3$ Thin Film. <i>IEEE Electron Device Letters</i> , <b>2014</b> , 35, 129-131	4.4	23
70	Lateral Heterostructure Field-Effect Transistors Based on Two-Dimensional Material Stacks with Varying Thickness and Energy Filtering Source. <i>ACS Nano</i> , <b>2020</b> , 14, 1982-1989	16.7	21
69	. <i>IEEE Nanotechnology Magazine</i> , <b>2006</b> , 5, 368-372	2.6	21
68	Perspectives of graphene nanoelectronics: probing technological options with modeling <b>2009</b> ,		20
67	High-Performance 2D p-Type Transistors Based on GaSe Layers: An Ab Initio Study. <i>Advanced Electronic Materials</i> , <b>2017</b> , 3, 1600399	6.4	18
66	Shot Noise Suppression in Quasi-One-Dimensional Field-Effect Transistors. <i>IEEE Transactions on Electron Devices</i> , <b>2009</b> , 56, 2137-2143	2.9	17
65	Modeling of Electron Devices Based on 2-D Materials. <i>IEEE Transactions on Electron Devices</i> , <b>2018</b> , 65, 4167-4179	2.9	16
64	First principles investigation of tunnel FETs based on nanoribbons from topological two-dimensional materials. <i>Nanoscale</i> , <b>2017</b> , 9, 19390-19397	7.7	16
63	Geometrical Effects on Valley-Orbital Filling Patterns in Silicon Quantum Dots for Robust Qubit Implementation. <i>Applied Physics Express</i> , <b>2012</b> , 5, 124001	2.4	16
62	Modeling of ballistic nanoscale metal-oxide-semiconductor field effect transistors. <i>Applied Physics Letters</i> , <b>2002</b> , 81, 3672-3674	3.4	16
61	Insights on radio frequency bilayer graphene FETs <b>2012</b> ,		15
60	A comparison of advanced transport models for the computation of the drain current in nanoscale nMOSFETs. <i>Solid-State Electronics</i> , <b>2009</b> , 53, 1293-1302	1.7	14

59	Comparison of short-channel effects in monolayer MoS2 based junctionless and inversion-mode field-effect transistors. <i>Applied Physics Letters</i> , <b>2016</b> , 108, 023506	3.4	13
58	Simulation of the Performance of Graphene FETs With a Semiclassical Model, Including Band-to-Band Tunneling. <i>IEEE Transactions on Electron Devices</i> , <b>2014</b> , 61, 1567-1574	2.9	12
57	Drift velocity peak and negative differential mobility in high field transport in graphene nanoribbons explained by numerical simulations. <i>Applied Physics Letters</i> , <b>2011</b> , 99, 242108	3.4	11
56	Dependence of the programming window of silicon-on-insulator nanocrystal memories on channel width. <i>Applied Physics Letters</i> , <b>2005</b> , 86, 113502	3.4	11
55	The effect of quantum confinement and discrete dopants in nanoscale 50 nm n-MOSFETs: a three-dimensional simulation. <i>Nanotechnology</i> , <b>2002</b> , 13, 294-298	3.4	11
54	Insights on the physics and application of off-plane quantum transport through graphene and 2D materials. <i>Solid-State Electronics</i> , <b>2016</b> , 115, 213-218	1.7	10
53	On Transport in Vertical Graphene Heterostructures. <i>IEEE Electron Device Letters</i> , <b>2014</b> , 35, 966-968	4.4	10
52	Atomistic quantum transport modeling of metal-graphene nanoribbon heterojunctions. <i>Physical Review B</i> , <b>2010</b> , 82,	3.3	9
51	Statistical theory of shot noise in quasi-one-dimensional field-effect transistors in the presence of electron-electron interaction. <i>Physical Review B</i> , <b>2010</b> , 81,	3.3	9
50	Performance Analysis of Graphene Bilayer Transistors Through Tight-Binding Simulations <b>2009</b> ,		9
49	Code for the 3D Simulation of Nanoscale Semiconductor Devices, Including Drift-Diffusion and Ballistic Transport in 1D and 2D Subbands, and 3D Tunneling. <i>Journal of Computational Electronics</i> , <b>2005</b> , 4, 63-66	1.8	9
48	Stacking and interlayer electron transport in MoS2. <i>Physical Review B</i> , <b>2018</b> , 98,	3.3	9
47	Inkjet-printed graphene Hall mobility measurements and low-frequency noise characterization. <i>Nanoscale</i> , <b>2020</b> , 12, 6708-6716	7.7	8
46	Quantum transport modeling of defected graphene nanoribbons. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2012</b> , 44, 981-984	3	8
45	Effect of material parameters on two-dimensional materials based TFETs: An energy-delay perspective <b>2016</b> ,		7
44	Three-dimensional Simulation of the dependence of the programming window of SOI nanocrystal memories on the channel width. <i>IEEE Nanotechnology Magazine</i> , <b>2005</b> , 4, 326-330	2.6	7
43	Can graphene outperform indium tin oxide as transparent electrode in organic solar cells?. <i>2D Materials</i> , <b>2015</b> , 2, 045006	5.9	6
42	Tunnel-Field-Effect Spin Filter from Two-Dimensional Antiferromagnetic Stanene. <i>Physical Review Applied</i> , <b>2018</b> , 10,	4.3	6

41	Engineering Interband Tunneling in Nanowires With Diamond Cubic or Zincblende Crystalline Structure Based on Atomistic Modeling. <i>IEEE Nanotechnology Magazine</i> , <b>2013</b> , 12, 839-842	2.6	5
40	Electron-hole transport asymmetry in boron-doped graphene field effect transistors <b>2012</b> ,		5
39	<b>2009</b> ,		5
38	Performance Comparison of Graphene Nanoribbon Schottky Barrier and MOS FETs <b>2007</b> ,		5
37	Three-dimensional atomistic simulation of carbon nanotube FETs with realistic geometry		5
36	Three-dimensional simulation of realistic single electron transistors. <i>IEEE Nanotechnology Magazine</i> , <b>2005</b> , 4, 415-421	2.6	5
35	Physical insights into the operation of a 1-nm gate length transistor based on MoS2 with metallic carbon nanotube gate. <i>Applied Physics Letters</i> , <b>2018</b> , 113, 183507	3-4	5
34	Doped and textured graphene as electrode for organic solar cells <b>2015</b> ,		4
33	Multi-scale simulation of partially unzipped CNT hetero-junction Tunneling Field Effect Transistor <b>2010</b> ,		4
32	Shot noise in quasi one-dimensional FETs <b>2008</b> ,		4
31	Hierarchical simulation of transport in silicon nanowire transistors. <i>Journal of Computational Electronics</i> , <b>2008</b> , 7, 415-418	1.8	4
30	Experimental and theoretical investigation of quantum point contacts for the validation of models for surface states. <i>Nanotechnology</i> , <b>2002</b> , 13, 299-303	3-4	4
29	Suppressed and enhanced shot noise in one dimensional field-effect transistors. <i>Journal of Computational Electronics</i> , <b>2015</b> , 14, 94-106	1.8	3
28	On current transients in MoS Field Effect Transistors. <i>Scientific Reports</i> , <b>2017</b> , 7, 11575	4-9	3
27	Understanding the nature of metal-graphene contacts: A theoretical and experimental study <b>2015</b> ,		3
26	Semi-analytical model for schottky-barrier carbon nanotube and graphene nanoribbon transistors <b>2010</b> ,		3
25	Corrections to a three-dimensional simulation study of the performance of carbon nanotube field-effect transistors with doped reservoirs and realistic geometry [Aug 06 1782-1788]. <i>IEEE Transactions on Electron Devices</i> , <b>2008</b> , 55, 1094-1095	2.9	3
24	Threshold voltage dispersion and impurity scattering limited mobility in carbon nanotube field effect transistors with randomly doped reservoirs. <i>Solid-State Device Research Conference, 2008 ESSDERC 2008 38th European</i> , <b>2006</b> ,		3

23	Analysis of shot-noise suppression in disordered quantum wires. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2003</b> , 19, 107-111	3	3
22	Inkjet-printed low-dimensional materials-based complementary electronic circuits on paper. <i>Npj 2D Materials and Applications</i> , <b>2021</b> , 5,	8.8	3
21	Transport properties in partially overlapping van der Waals junctions through a multiscale investigation. <i>Physical Review B</i> , <b>2021</b> , 104,	3.3	3
20	Improvement of the accuracy of noise measurements by the two-amplifier correlation method. <i>Review of Scientific Instruments</i> , <b>2013</b> , 84, 104702	1.7	2
19	Relevance of the physics of off-plane transport through 2D materials on the design of vertical transistors <b>2015</b> ,		2
18	Full band assessment of phonon-limited mobility in Graphene NanoRibbons <b>2010</b> ,		2
17	Enhanced shot noise in carbon nanotube FETs due to electron-hole interaction <b>2010</b> ,		2
16	Nanodevices in Flatland: Two-dimensional graphene-based transistors with high Ion/Ioff ratio <b>2011</b> ,		2
15	Enhanced shot noise in carbon nanotube field-effect transistors. <i>Applied Physics Letters</i> , <b>2009</b> , 95, 252108	4	2
14	Numerical Analysis of Transport Properties of Boron-Doped Graphene FETs <b>2009</b> ,		2
13	Sub-Maxwellian Source Injection and Negative Differential Transconductance in Decorated Graphene Nanoribbons. <i>Physical Review Applied</i> , <b>2020</b> , 14,	4.3	1
12	Optimization and benchmarking of graphene-based heterostructure FETs <b>2014</b> ,		1
11	Comparison of advanced transport models for nanoscale nMOSFETs <b>2009</b> ,		1
10	Shot noise suppression in p $\bar{n}$ junctions due to carrier generation-recombination. <i>Physical Review B</i> , <b>2011</b> , 83,	3.3	1
9	Two Dimensional Graphene/h-BCN Based Devices with Large Ion/Ioff Ratio for Digital Applications. <i>Advances in Science and Technology</i> , <b>2012</b> , 77, 266-269	0.1	1
8	3D simulation of a silicon quantum dot in a magnetic field based on current spin density functional theory. <i>Journal of Computational Electronics</i> , <b>2007</b> , 6, 191-194	1.8	1
7	Electronic Transport in 2D-Based Printed FETs from a Multiscale Perspective. <i>Advanced Electronic Materials</i> , 2100972	6.4	1
6	Ballistic two-dimensional lateral heterojunction bipolar transistor. <i>Physical Review Research</i> , <b>2021</b> , 3,	3.9	1

5	1/f Noise Characterization of Bilayer MoS <sub>2</sub> Field-Effect Transistors on Paper with Inkjet-Printed Contacts and hBN Dielectrics. <i>Advanced Electronic Materials</i> , <b>2021</b> , 7, 2100283	6.4	1
4	Two-dimensional transistors based on MoS <sub>2</sub> lateral heterostructures <b>2016</b> ,		1
3	Physical insights on transistors based on lateral heterostructures of monolayer and multilayer PtSe via Ab initio modelling of interfaces. <i>Scientific Reports</i> , <b>2021</b> , 11, 18482	4.9	1
2	A SPICE Compact Model for Ambipolar 2-D-Material FETs Aiming at Circuit Design. <i>IEEE Transactions on Electron Devices</i> , <b>2021</b> , 68, 3096-3103	2.9	0
1	Beyond CMOS443-470		