Gianluca Fiori

List of Publications by Year in Descending Order

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	Inkjet-printed low-dimensional materials-based complementary electronic circuits on paper. *Npj 2D Materials and Applications*, **2021**, 5,	8.8	3
111	Ballistic two-dimensional lateral heterojunction bipolar transistor. *Physical Review Research*, **2021**, 3,	3.9	1
110	1/f Noise Characterization of Bilayer MoS2 Field-Effect Transistors on Paper with Inkjet-Printed Contacts and hBN Dielectrics. *Advanced Electronic Materials*, **2021**, 7, 2100283	6.4	1
109	A SPICE Compact Model for Ambipolar 2-D-Material FETs Aiming at Circuit Design. *IEEE Transactions on Electron Devices*, **2021**, 68, 3096-3103	2.9	0
108	Transport properties in partially overlapping van der Waals junctions through a multiscale investigation. *Physical Review B*, **2021**, 104,	3.3	3
107	Physical insights on transistors based on lateral heterostructures of monolayer and multilayer PtSe via Ab initio modelling of interfaces. *Scientific Reports*, **2021**, 11, 18482	4.9	1
106	Sub-Maxwellian Source Injection and Negative Differential Transconductance in Decorated Graphene Nanoribbons. *Physical Review Applied*, **2020**, 14,	4.3	1
105	Inkjet-printed graphene Hall mobility measurements and low-frequency noise characterization. *Nanoscale*, **2020**, 12, 6708-6716	7.7	8
104	Lateral Heterostructure Field-Effect Transistors Based on Two-Dimensional Material Stacks with Varying Thickness and Energy Filtering Source. *ACS Nano*, **2020**, 14, 1982-1989	16.7	21
103	Low-voltage 2D materials-based printed field-effect transistors for integrated digital and analog electronics on paper. *Nature Communications*, **2020**, 11, 3566	17.4	61
102	Analogue two-dimensional semiconductor electronics. *Nature Electronics*, **2020**, 3, 486-491	28.4	31
101	Ultralow Specific Contact Resistivity in Metal□Graphene Junctions via Contact Engineering. *Advanced Materials Interfaces*, **2019**, 6, 1801285	4.6	29
100	All-2D Material Inkjet-Printed Capacitors: Toward Fully Printed Integrated Circuits. *ACS Nano*, **2019**, 13, 54-60	16.7	60
99	Quantum engineering of transistors based on 2D materials heterostructures. *Nature Nanotechnology*, **2018**, 13, 183-191	28.7	198
98	First-Principles Simulations of FETs Based on Two-Dimensional InSe. *IEEE Electron Device Letters*, **2018**, 39, 626-629	4.4	25
97	Inkjet printed 2D-crystal based strain gauges on paper. *Carbon*, **2018**, 129, 462-467	10.4	70
96	Modeling of Electron Devices Based on 2-D Materials. *IEEE Transactions on Electron Devices*, **2018**, 65, 4167-4179	2.9	16

95	Tunnel-Field-Effect Spin Filter from Two-Dimensional Antiferromagnetic Stanene. *Physical Review Applied*, **2018**, 10,	4.3	6
94	Physical insights into the operation of a 1-nm gate length transistor based on MoS2 with metallic carbon nanotube gate. *Applied Physics Letters*, **2018**, 113, 183507	3.4	5
93	Stacking and interlayer electron transport in MoS2. *Physical Review B*, **2018**, 98,	3.3	9
92	High-Performance 2D p-Type Transistors Based on GaSe Layers: An Ab Initio Study. *Advanced Electronic Materials*, **2017**, 3, 1600399	6.4	18
91	Water-based and biocompatible 2D crystal inks for all-inkjet-printed heterostructures. *Nature Nanotechnology*, **2017**, 12, 343-350	28.7	335
90	On current transients in MoS Field Effect Transistors. *Scientific Reports*, **2017**, 7, 11575	4.9	3
89	Electrical properties of graphene-metal contacts. *Scientific Reports*, **2017**, 7, 5109	4.9	82
88	Transistor Concepts Based on Lateral Heterostructures of Metallic and Semiconducting Phases of MoS2. *Physical Review Applied*, **2017**, 8,	4.3	24
87	First principles investigation of tunnel FETs based on nanoribbons from topological two-dimensional materials. *Nanoscale*, **2017**, 9, 19390-19397	7.7	16
86	Insights on the physics and application of off-plane quantum transport through graphene and 2D materials. *Solid-State Electronics*, **2016**, 115, 213-218	1.7	10
85	Effect of material parameters on two-dimensional materials based TFETs: An energy-delay perspective **2016**,		7
84	Performance of arsenene and antimonene double-gate MOSFETs from first principles. *Nature Communications*, **2016**, 7, 12585	17.4	224
83	Comparison of short-channel effects in monolayer MoS2 based junctionless and inversion-mode field-effect transistors. *Applied Physics Letters*, **2016**, 108, 023506	3.4	13
82	Two-dimensional transistors based on MoS2 lateral heterostructures **2016**,		1
81	Gate-Tunable Atomically Thin Lateral MoS2 Schottky Junction Patterned by Electron Beam. *Nano Letters*, **2016**, 16, 3788-94	11.5	82
80	Suppressed and enhanced shot noise in one dimensional field-effect transistors. *Journal of Computational Electronics*, **2015**, 14, 94-106	1.8	3
79	. *IEEE Nanotechnology Magazine*, **2015**, 14, 1068-1082	2.6	23
78	Vertical transport in graphene-hexagonal boron nitride heterostructure devices. *Scientific Reports*, **2015**, 5, 14519	4.9	25

77	Relevance of the physics of off-plane transport through 2D materials on the design of vertical transistors **2015**,		2
76	Understanding the nature of metal-graphene contacts: A theoretical and experimental study **2015**,		3
75	Can graphene outperform indium tin oxide as transparent electrode in organic solar cells?. *2D Materials*, **2015**, 2, 045006	5.9	6
74	Doped and textured graphene as electrode for organic solar cells **2015**,		4
73	Graphene-based lateral heterostructure transistors exhibit better intrinsic performance than graphene-based vertical transistors as post-CMOS devices. *Scientific Reports*, **2014**, 4, 6607	4.9	24
72	Heterojunction hybrid devices from vapor phase grown MoS2. *Scientific Reports*, **2014**, 4, 5458	4.9	65
71	Simulation of the Performance of Graphene FETs With a Semiclassical Model, Including Band-to-Band Tunneling. *IEEE Transactions on Electron Devices*, **2014**, 61, 1567-1574	2.9	12
70	Bilayer Graphene Transistors for Analog Electronics. *IEEE Transactions on Electron Devices*, **2014**, 61, 729-733	2.9	31
69	An Open-Source Multiscale Framework for the Simulation of Nanoscale Devices. *IEEE Transactions on Electron Devices*, **2014**, 61, 48-53	2.9	40
68	On Transport in Vertical Graphene Heterostructures. *IEEE Electron Device Letters*, **2014**, 35, 966-968	4.4	10
67	Electronics based on two-dimensional materials. *Nature Nanotechnology*, **2014**, 9, 768-79	28.7	1953
66	Two-Dimensional Tunnel Transistors Based on ${rm Bi}_{2}{rm Se}_{3}$ Thin Film. *IEEE Electron Device Letters*, **2014**, 35, 129-131	4.4	23
65	Optimization and benchmarking of graphene-based heterostructure FETs **2014**,		1
64	Improvement of the accuracy of noise measurements by the two-amplifier correlation method. *Review of Scientific Instruments*, **2013**, 84, 104702	1.7	2
63	Very Large Current Modulation in Vertical Heterostructure Graphene/hBN Transistors. *IEEE Transactions on Electron Devices*, **2013**, 60, 268-273	2.9	48
62	Multiscale Modeling for Graphene-Based Nanoscale Transistors. *Proceedings of the IEEE*, **2013**, 101, 1653-1669	4.9	106
61	Velocity saturation in few-layer MoS2 transistor. *Applied Physics Letters*, **2013**, 103, 233509	3.4	52
60	Engineering Interband Tunneling in Nanowires With Diamond Cubic or Zincblende Crystalline Structure Based on Atomistic Modeling. *IEEE Nanotechnology Magazine*, **2013**, 12, 839-842	2.6	5

59	Quantum transport modeling of defected graphene nanoribbons. *Physica E: Low-Dimensional Systems and Nanostructures*, **2012**, 44, 981-984	3	8
58	Current saturation and voltage gain in bilayer graphene field effect transistors. *Nano Letters*, **2012**, 12, 1324-8	11.5	94
57	Insights on radio frequency bilayer graphene FETs **2012**,		15
56	Lateral graphene-hBCN heterostructures as a platform for fully two-dimensional transistors. *ACS Nano*, **2012**, 6, 2642-8	16.7	115
55	Atomistic boron-doped graphene field-effect transistors: a route toward unipolar characteristics. *ACS Nano*, **2012**, 6, 7942-7	16.7	47
54	Geometrical Effects on Valley-Orbital Filling Patterns in Silicon Quantum Dots for Robust Qubit Implementation. *Applied Physics Express*, **2012**, 5, 124001	2.4	16
53	Two Dimensional Graphene/h-BCN Based Devices with Large Ion/Ioff Ratio for Digital Applications. *Advances in Science and Technology*, **2012**, 77, 266-269	0.1	1
52	Electron-hole transport asymmetry in boron-doped graphene field effect transistors **2012**,		5
51	Negative Differential Resistance in Mono and Bilayer Graphene p-n Junctions. *IEEE Electron Device Letters*, **2011**, 32, 1334-1336	4.4	34
50	. *IEEE Transactions on Electron Devices*, **2011**, 58, 2824-2830	2.9	34
49	Nanodevices in Flatland: Two-dimensional graphene-based transistors with high Ion/Ioff ratio **2011**,		2
48	Ab-initio simulations of deformation potentials and electron mobility in chemically modified graphene and two-dimensional hexagonal boron-nitride. *Applied Physics Letters*, **2011**, 99, 222108	3.4	278
47	Strong mobility degradation in ideal graphene nanoribbons due to phonon scattering. *Applied Physics Letters*, **2011**, 98, 212111	3.4	45
46	Shot noise suppression in p□ junctions due to carrier generation-recombination. *Physical Review B*, **2011**, 83,	3.3	1
45	Drift velocity peak and negative differential mobility in high field transport in graphene nanoribbons explained by numerical simulations. *Applied Physics Letters*, **2011**, 99, 242108	3.4	11
44	Full band assessment of phonon-limited mobility in Graphene NanoRibbons **2010**,		2
43	Simulation of hydrogenated graphene field-effect transistors through a multiscale approach. *Physical Review B*, **2010**, 82,	3.3	43
42	Multi-scale simulation of partially unzipped CNT hetero-junction Tunneling Field Effect Transistor **2010**,		4

41	Atomistic quantum transport modeling of metal-graphene nanoribbon heterojunctions. *Physical Review B*, **2010**, 82,	3.3	9
40	Semi-analytical model for schottky-barrier carbon nanotube and graphene nanoribbon transistors **2010**,		3
39	Effects due to backscattering and pseudogap features in graphene nanoribbons with single vacancies. *Physical Review B*, **2010**, 81,	3.3	48
38	Statistical theory of shot noise in quasi-one-dimensional field-effect transistors in the presence of electron-electron interaction. *Physical Review B*, **2010**, 81,	3.3	9
37	Enhanced shot noise in carbon nanotube FETs due to electron-hole interaction **2010**,		2
36	Enhanced shot noise in carbon nanotube field-effect transistors. *Applied Physics Letters*, **2009**, 95, 252108	3.4	2
35	Shot Noise Suppression in Quasi-One-Dimensional Field-Effect Transistors. *IEEE Transactions on Electron Devices*, **2009**, 56, 2137-2143	2.9	17
34	A Semianalytical Model of Bilayer-Graphene Field-Effect Transistor. *IEEE Transactions on Electron Devices*, **2009**, 56, 2979-2986	2.9	49
33	A comparison of advanced transport models for the computation of the drain current in nanoscale nMOSFETs. *Solid-State Electronics*, **2009**, 53, 1293-1302	1.7	14
32	Comparison of advanced transport models for nanoscale nMOSFETs **2009**,		1
31	Performance Analysis of Graphene Bilayer Transistors Through Tight-Binding Simulations **2009**,		9
30	Perspectives of graphene nanoelectronics: probing technological options with modeling **2009**,		20
29	On the Possibility of Tunable-Gap Bilayer Graphene FET. *IEEE Electron Device Letters*, **2009**, 30, 261-264	4.4	74
28	Numerical Analysis of Transport Properties of Boron-Doped Graphene FETs **2009**,		2
27	**2009**,		5
26	Ultralow-Voltage Bilayer Graphene Tunnel FET. *IEEE Electron Device Letters*, **2009**, 30, 1096-1098	4.4	114
25	Corrections to ‘‘three-dimensional simulation study of the performance of carbon nanotube field-effect transistors with doped reservoirs and realistic geometry’’[Aug 06 1782-1788]. *IEEE Transactions on Electron Devices*, **2008**, 55, 1094-1095	2.9	3
24	Performance Comparison of Graphene Nanoribbon FETs With Schottky Contacts and Doped Reservoirs. *IEEE Transactions on Electron Devices*, **2008**, 55, 2314-2323	2.9	108

23	Shot noise in quasi one-dimensional FETs **2008**,		4
22	Hierarchical simulation of transport in silicon nanowire transistors. *Journal of Computational Electronics*, **2008**, 7, 415-418	1.8	4
21	Comparison of Modeling Approaches for the Capacitance–Voltage and Current–Voltage Characteristics of Advanced Gate Stacks. *IEEE Transactions on Electron Devices*, **2007**, 54, 106-114	2.9	25
20	3D simulation of a silicon quantum dot in a magnetic field based on current spin density functional theory. *Journal of Computational Electronics*, **2007**, 6, 191-194	1.8	1
19	Simulation of Graphene Nanoribbon Field-Effect Transistors. *IEEE Electron Device Letters*, **2007**, 28, 760-762	44	249
18	Coupled Mode Space Approach for the Simulation of Realistic Carbon Nanotube Field-Effect Transistors. *IEEE Nanotechnology Magazine*, **2007**, 6, 475-480	2.6	29
17	Three-Dimensional Simulation of One-Dimensional Transport in Silicon Nanowire Transistors. *IEEE Nanotechnology Magazine*, **2007**, 6, 524-529	2.6	40
16	Performance Comparison of Graphene Nanoribbon Schottky Barrier and MOS FETs **2007**,		5
15	A Three-Dimensional Simulation Study of the Performance of Carbon Nanotube Field-Effect Transistors With Doped Reservoirs and Realistic Geometry. *IEEE Transactions on Electron Devices*, **2006**, 53, 1782-1788	2.9	75
14	Threshold voltage dispersion and impurity scattering limited mobility in carbon nanotube field effect transistors with randomly doped reservoirs. *Solid-State Device Research Conference, 2008 ESSDERC 2008 38th European*, **2006**,		3
13	. *IEEE Nanotechnology Magazine*, **2006**, 5, 368-372	2.6	21
12	Three-dimensional Simulation of the dependence of the programming window of SOI nanocrystal memories on the channel width. *IEEE Nanotechnology Magazine*, **2005**, 4, 326-330	2.6	7
11	Three-dimensional simulation of realistic single electron transistors. *IEEE Nanotechnology Magazine* , **2005**, 4, 415-421	2.6	5
10	Code for the 3D Simulation of Nanoscale Semiconductor Devices, Including Drift-Diffusion and Ballistic Transport in 1D and 2D Subbands, and 3D Tunneling. *Journal of Computational Electronics*, **2005**, 4, 63-66	1.8	9
9	Dependence of the programming window of silicon-on-insulator nanocrystal memories on channel width. *Applied Physics Letters*, **2005**, 86, 113502	3.4	11
8	Modelling and simulation challenges for nanoscale MOSFETs in the ballistic limit. *Solid-State Electronics*, **2004**, 48, 581-587	1.7	26
7	Analysis of shot-noise suppression in disordered quantum wires. *Physica E: Low-Dimensional Systems and Nanostructures*, **2003**, 19, 107-111	3	3
6	Modeling of ballistic nanoscale metal-oxide-semiconductor field effect transistors. *Applied Physics Letters*, **2002**, 81, 3672-3674	3.4	16

5	Experimental and theoretical investigation of quantum point contacts for the validation of models for surface states. *Nanotechnology*, **2002**, 13, 299-303	3.4	4
4	The effect of quantum confinement and discrete dopants in nanoscale 50 nm n-MOSFETs: a three-dimensional simulation. *Nanotechnology*, **2002**, 13, 294-298	3.4	11
3	Three-dimensional atomistic simulation of carbon nanotube FETs with realistic geometry		5
2	Electronic Transport in 2D-Based Printed FETs from a Multiscale Perspective. *Advanced Electronic Materials*,2100972	6.4	1
1	Beyond CMOS443-470		