Aaron D Franklin

List of Publications by Year
in descending order

70 papers	4,986 citations	159585 30 h-index	144013 57 g-index
73 all docs	73 docs citations	73 times ranked	6199 citing authors

#	Article	IF	Citations
1	Sub-10 nm Carbon Nanotube Transistor. Nano Letters, 2012, 12, 758-762.	9.1	726
2	Nanomaterials in transistors: From high-performance to thin-film applications. Science, 2015, 349, aab2750.	12.6	495
3	Length scaling of carbon nanotube transistors. Nature Nanotechnology, 2010, 5, 858-862.	31.5	378
4	Transistors based on two-dimensional materials for future integrated circuits. Nature Electronics, 2021, 4, 786-799.	26.0	335
5	The road to carbon nanotube transistors. Nature, 2013, 498, 443-444.	27.8	292
6	Toward High-Performance Digital Logic Technology with Carbon Nanotubes. ACS Nano, 2014, 8, 8730-8745.	14.6	267
7	Sustained Sub-60 mV/decade Switching via the Negative Capacitance Effect in MoS₂ Transistors. Nano Letters, 2017, 17, 4801-4806.	9.1	237
8	Reducing Contact Resistance in Graphene Devices through Contact Area Patterning. ACS Nano, 2013, 7, 3661-3667.	14.6	185
9	Carbon Nanotube Complementary Wrap-Gate Transistors. Nano Letters, 2013, 13, 2490-2495.	9.1	168
10	Additive engineering for high-performance room-temperature-processed perovskite absorbers with micron-size grains and microsecond-range carrier lifetimes. Energy and Environmental Science, 2017, 10, 2365-2371.	30.8	157
11	Completely Printed, Flexible, Stable, and Hysteresisâ€Free Carbon Nanotube Thinâ€Film Transistors via Aerosol Jet Printing. Advanced Electronic Materials, 2017, 3, 1700057.	5.1	137
12	A Compact Virtual-Source Model for Carbon Nanotube FETs in the Sub-10-nm Regimeâ€"Part II: Extrinsic Elements, Performance Assessment, and Design Optimization. IEEE Transactions on Electron Devices, 2015, 62, 3070-3078.	3.0	123
13	Variability in Carbon Nanotube Transistors: Improving Device-to-Device Consistency. ACS Nano, 2012, 6, 1109-1115.	14.6	115
14	Sub-60â€‰mV/decade switching in 2D negative capacitance field-effect transistors with integrated ferroelectric polymer. Applied Physics Letters, 2016, 109, .	3.3	103
15	Improving Contact Interfaces in Fully Printed Carbon Nanotube Thin-Film Transistors. ACS Nano, 2016, 10, 5221-5229.	14.6	97
16	Flexible, Print-in-Place 1Dâ€"2D Thin-Film Transistors Using Aerosol Jet Printing. ACS Nano, 2019, 13, 11263-11272.	14.6	96
17	Immunity to Contact Scaling in MoS₂ Transistors Using in Situ Edge Contacts. Nano Letters, 2019, 19, 5077-5085.	9.1	76
18	High-Performance Air-Stable n-Type Carbon Nanotube Transistors with Erbium Contacts. ACS Nano, 2013, 7, 8303-8308.	14.6	68

#	Article	IF	Citations
19	Patterned Liquid Metal Contacts for Printed Carbon Nanotube Transistors. ACS Nano, 2018, 12, 5482-5488.	14.6	63
20	Silver nanowire inks for direct-write electronic tattoo applications. Nanoscale, 2019, 11, 14294-14302.	5.6	63
21	Printable and recyclable carbon electronics using crystalline nanocellulose dielectrics. Nature Electronics, 2021, 4, 261-268.	26.0	62
22	Fully Printed and Flexible Carbon Nanotube Transistors for Pressure Sensing in Automobile Tires. IEEE Sensors Journal, 2018, 18, 7875-7880.	4.7	61
23	Uniform Growth of Sub-5-Nanometer High-Îº Dielectrics on MoS₂ Using Plasma-Enhanced Atomic Layer Deposition. ACS Applied Materials & Interfaces, 2017, 9, 23072-23080.	8.0	45
24	Realizing ferroelectric Hf0.5Zr0.5O2 with elemental capping layers. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2018, 36, .	1.2	40
25	Carbon nanotube electronics for IoT sensors. Nano Futures, 2020, 4, 012001.	2.2	40
26	Plasma-Enhanced Atomic Layer Deposition of HfO₂ on Monolayer, Bilayer, and Trilayer MoS₂ for the Integration of High-Îº Dielectrics in Two-Dimensional Devices. ACS Applied Nano Materials, 2019, 2, 4085-4094.	5.0	36
27	Uniform and Stable Aerosol Jet Printing of Carbon Nanotube Thin-Film Transistors by Ink Temperature Control. ACS Applied Materials & Interfaces, 2020, 12, 43083-43089.	8.0	34
28	Electronic Stability of Carbon Nanotube Transistors Under Long-Term Bias Stress. Nano Letters, 2019, 19, 1460-1466.	9.1	33
29	Aerosol jet printing of biological inks by ultrasonic delivery. Biofabrication, 2020, 12, 025004.	7.1	33
30	In-Place Printing of Carbon Nanotube Transistors at Low Temperature. ACS Applied Nano Materials, 2018, 1, 1863-1869.	5.0	32
31	Noninvasive Material Thickness Detection by Aerosol Jet Printed Sensors Enhanced Through Metallic Carbon Nanotube Ink. IEEE Sensors Journal, 2017, 17, 4612-4618.	4.7	30
32	Contacting and Gating 2-D Nanomaterials. IEEE Transactions on Electron Devices, 2018, 65, 4073-4083.	3.0	30
33	Impact of Morphology on Printed Contact Performance in Carbon Nanotube Thinâ€Film Transistors. Advanced Functional Materials, 2019, 29, 1805727.	14.9	28
34	Printed carbon nanotube thin-film transistors: progress on printable materials and the path to applications. Nanoscale, 2020, 12, 23371-23390.	5.6	26
35	Fully Printed Memristors from Cuâ€“SiO2 Coreâ€“Shell Nanowire Composites. Journal of Electronic Materials, 2017, 46, 4596-4603.	2.2	24
36	Convergent ion beam alteration of 2D materials and metal-2D interfaces. 2D Materials, 2019, 6, 034005.	4.4	24

#	Article	IF	Citations
37	Poly(oligo(ethylene glycol) methyl ether methacrylate) Brushes on High-Îº Metal Oxide Dielectric Surfaces for Bioelectrical Environments. ACS Applied Materials & Interfaces, 2017, 9, 5522-5529.	8.0	23
38	Capping Layers to Improve the Electrical Stress Stability of MoS₂ Transistors. ACS Applied Materials & Interfaces, 2020, 12, 35698-35706.	8.0	20
39	Gate-Free Electrical Breakdown of Metallic Pathways in Single-Walled Carbon Nanotube Crossbar Networks. Nano Letters, 2015, 15, 6058-6065.	9.1	16
40	Crossâ€Plane Carrier Transport in Van der Waals Layered Materials. Small, 2018, 14, e1703808.	10.0	15
41	Fully printed prothrombin time sensor for point-of-care testing. Biosensors and Bioelectronics, 2021, 172, 112770.	10.1	15
42	Are 2D Interfaces Really Flat?. ACS Nano, 2022, 16, 5316-5324.	14.6	15
43	Modifying the Ni-MoS₂Contact Interface Using a Broad-Beam Ion Source. IEEE Electron Device Letters, 2016, 37, 1234-1237.	3.9	12
44	Flash ablation metallization of conductive thermoplastics. Additive Manufacturing, 2020, 36, 101409.	3.0	12
45	In-Place Printing of Flexible Electrolyte-Gated Carbon Nanotube Transistors With Enhanced Stability. IEEE Electron Device Letters, 2021, 42, 367-370.	3.9	12
46	Understanding and Mapping Sensitivity in MoS₂ Field-Effect-Transistor-Based Sensors. ACS Nano, 2020, 14, 11637-11647.	14.6	11
47	How good are 2D transistors? An application-specific benchmarking study. Applied Physics Letters, 2021, 118, 030501.	3.3	11
48	Short-channel robustness from negative capacitance in 2D NC-FETs. Applied Physics Letters, 2021, 118, .	3.3	9
49	Unanticipated Polarity Shift in Edge-Contacted Tungsten-Based 2D Transition Metal Dichalcogenide Transistors. IEEE Electron Device Letters, 2021, 42, 1563-1566.	3.9	9
50	Printed Electronic Sensor Array for Mapping Tire Tread Thickness Profiles. IEEE Sensors Journal, 2019, 19, 8913-8919.	4.7	8
51	Modification of Silver/Single-Wall Carbon Nanotube Electrical Contact Interfaces via Ion Irradiation. ACS Applied Materials & Interfaces, 2017, 9, 7406-7411.	8.0	5
52	Fully printed and flexible carbon nanotube transistors designed for environmental pressure sensing and aimed at smart tire applications. , 2017, , .		5
53	Electrically Tunable Surface Acoustic Wave Propagation at MHz Frequencies Based on Carbon Nanotube Thinâ€Film Transistors. Advanced Functional Materials, 2021, 31, 2010744.	14.9	5
54	Enabling Ultrasensitive Photo-detection Through Control of Interface Properties in Molybdenum Disulfide Atomic Layers. Scientific Reports, 2016, 6, 39465.	3.3	4

#	Article	IF	Citations
55	Aerosol Jet Printing of SU-8 as a Passivation Layer Against Ionic Solutions. Journal of Electronic Materials, 2022, 51, 1583-1590.	2.2	4
56	Effects of Gate Stack Composition and Thickness in 2-D Negative Capacitance FETs. IEEE Journal of the Electron Devices Society, 2019, 7, 645-649.	2.1	3
57	Scaling, stacking, and printing: How 1D and 2D nanomaterials still hold promise for a new era of electronics. , 2017, , .		2
58	75 Years of the Device Research Conferenceâ€"A History Worth Repeating. IEEE Journal of the Electron Devices Society, 2018, 6, 116-120.	2.1	2
59	Using Ar Ion beam exposure to improve contact resistance in MoS<inf>2</inf> FETs. , 2016, , .		1
60	Fully printed memristors from Cu-SiO<inf>2</inf> core-shell nanowire composites. , 2017, , .		0
61	Edge contacts to multilayer MoS<inf>2</inf> using in situ Ar ion beam. , 2017, , .		0
62	Exploring Silver Contact Morphologies in Printed Carbon Nanotube Thin-Film Transistors. , 2018, , .		0
63	Printing h-BN Gate Dielectric for Flexible, Low-hysteresis Carbon Nanotube Thin-Film Transistors at Low Temperature. , 2019, , .		0
64	(Invited) From the Top or through the Edge: What Is the Most Scalable Contact to 2D Semiconductors?. ECS Meeting Abstracts, 2021, MA2021-01, 662-662.	0.0	0
65	(Invited) Improving Conducting and Insulating Interfaces to 2D Materials. ECS Meeting Abstracts, 2018, , .	0.0	0
66	(Invited) Improving Conducting and Insulating Interfaces to 2D Materials. ECS Meeting Abstracts, 2019, , .	0.0	0
67	(Invited) From the Top or through the Edge: What Is the Most Scalable Contact to 2D Semiconductors?. ECS Meeting Abstracts, 2020, MA2020-01, 850-850.	0.0	0
68	Nanomaterials in transistors. , 2021, , .		0
69	(Invited) from the Top or through the Edge: What Is the Most Scalable Contact to 2D Semiconductors?. ECS Meeting Abstracts, 2020, MA2020-02, 1835-1835.	0.0	0
70	(Invited) Influence of Materials and Processing on Edge Contacts to 2D Semiconductors. ECS Meeting Abstracts, 2022, MA2022-01, 871-871.	0.0	0