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	Aerosol Jet Printing of SU-8 as a Passivation Layer Against Ionic Solutions. Journal of Electronic Materials, 2022, 51, 1583-1590.	2.2	4
2	Are 2D Interfaces Really Flat?. ACS Nano, 2022, 16, 5316-5324.	14.6	15
3	(Invited) Influence of Materials and Processing on Edge Contacts to 2D Semiconductors. ECS Meeting Abstracts, 2022, MA2022-01, 871-871.	0.0	0
4	Fully printed prothrombin time sensor for point-of-care testing. Biosensors and Bioelectronics, 2021, 172, 112770.	10.1	15
5	How good are 2D transistors? An application-specific benchmarking study. Applied Physics Letters, 2021, 118, 030501.	3.3	11
6	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
7	In-Place Printing of Flexible Electrolyte-Gated Carbon Nanotube Transistors With Enhanced Stability. IEEE Electron Device Letters, 2021, 42, 367-370.	3.9	12
8	Short-channel robustness from negative capacitance in 2D NC-FETs. Applied Physics Letters, 2021, 118, .	3.3	9
9	Printable and recyclable carbon electronics using crystalline nanocellulose dielectrics. Nature Electronics, 2021, 4, 261-268.	26.0	62
10	(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
11	Unanticipated Polarity Shift in Edge-Contacted Tungsten-Based 2D Transition Metal Dichalcogenide Transistors. IEEE Electron Device Letters, 2021, 42, 1563-1566.	3.9	9
12	Transistors based on two-dimensional materials for future integrated circuits. Nature Electronics, 2021, 4, 786-799.	26.0	335
13	Nanomaterials in transistors. , 2021, , .		0
14	Carbon nanotube electronics for IoT sensors. Nano Futures, 2020, 4, 012001.	2.2	40
15	Aerosol jet printing of biological inks by ultrasonic delivery. Biofabrication, 2020, 12, 025004.	7.1	33
16	Printed carbon nanotube thin-film transistors: progress on printable materials and the path to applications. Nanoscale, 2020, 12, 23371-23390.	5.6	26
17	Capping Layers to Improve the Electrical Stress Stability of MoS₂ Transistors. ACS Applied Materials & Interfaces, 2020, 12, 35698-35706.	8.0	20
18	Understanding and Mapping Sensitivity in MoS₂ Field-Effect-Transistor-Based Sensors. ACS Nano, 2020, 14, 11637-11647.	14.6	11

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19	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
20	Flash ablation metallization of conductive thermoplastics. Additive Manufacturing, 2020, 36, 101409.	3.0	12
21	(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
22	(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
23	Plasma-Enhanced Atomic Layer Deposition of HfO₂ on Monolayer, Bilayer, and Trilayer MoS₂ for the Integration of High-Î° Dielectrics in Two-Dimensional Devices. ACS Applied Nano Materials, 2019, 2, 4085-4094.	5.0	36
24	Silver nanowire inks for direct-write electronic tattoo applications. Nanoscale, 2019, 11, 14294-14302.	5.6	63
25	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
26	Immunity to Contact Scaling in MoS₂ Transistors Using in Situ Edge Contacts. Nano Letters, 2019, 19, 5077-5085.	9.1	76
27	Flexible, Print-in-Place 1Dâ€“2D Thin-Film Transistors Using Aerosol Jet Printing. ACS Nano, 2019, 13, 11263-11272.	14.6	96
28	Printed Electronic Sensor Array for Mapping Tire Tread Thickness Profiles. IEEE Sensors Journal, 2019, 19, 8913-8919.	4.7	8
29	Convergent ion beam alteration of 2D materials and metal-2D interfaces. 2D Materials, 2019, 6, 034005.	4.4	24
30	Electronic Stability of Carbon Nanotube Transistors Under Long-Term Bias Stress. Nano Letters, 2019, 19, 1460-1466.	9.1	33
31	Printing h-BN Gate Dielectric for Flexible, Low-hysteresis Carbon Nanotube Thin-Film Transistors at Low Temperature. , 2019, , .		0
32	Impact of Morphology on Printed Contact Performance in Carbon Nanotube Thinâ€Film Transistors. Advanced Functional Materials, 2019, 29, 1805727.	14.9	28
33	(Invited) Improving Conducting and Insulating Interfaces to 2D Materials. ECS Meeting Abstracts, 2019, , .	0.0	0
34	Crossâ€Plane Carrier Transport in Van der Waals Layered Materials. Small, 2018, 14, e1703808.	10.0	15
35	In-Place Printing of Carbon Nanotube Transistors at Low Temperature. ACS Applied Nano Materials, 2018, 1, 1863-1869.	5.0	32
36	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

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37	Realizing ferroelectric Hf0.5Zr0.5O2 with elemental capping layers. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2018, 36, .	1.2	40
38	Exploring Silver Contact Morphologies in Printed Carbon Nanotube Thin-Film Transistors. , 2018, , .		0
39	Contacting and Gating 2-D Nanomaterials. IEEE Transactions on Electron Devices, 2018, 65, 4073-4083.	3.0	30
40	Patterned Liquid Metal Contacts for Printed Carbon Nanotube Transistors. ACS Nano, 2018, 12, 5482-5488.	14.6	63
41	Fully Printed and Flexible Carbon Nanotube Transistors for Pressure Sensing in Automobile Tires. IEEE Sensors Journal, 2018, 18, 7875-7880.	4.7	61
42	(Invited) Improving Conducting and Insulating Interfaces to 2D Materials. ECS Meeting Abstracts, 2018, , .	0.0	0
43	Poly(oligo(ethylene glycol) methyl ether methacrylate) Brushes on High-Î<sup> Metal Oxide Dielectric Surfaces for Bioelectrical Environments. ACS Applied Materials & Interfaces, 2017, 9, 5522-5529.	8.0	23
44	Modification of Silver/Single-Wall Carbon Nanotube Electrical Contact Interfaces via Ion Irradiation. ACS Applied Materials & Interfaces, 2017, 9, 7406-7411.	8.0	5
45	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
46	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
47	Fully Printed Memristors from Cuâ€“SiO2 Coreâ€“Shell Nanowire Composites. Journal of Electronic Materials, 2017, 46, 4596-4603.	2.2	24
48	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
49	Scaling, stacking, and printing: How 1D and 2D nanomaterials still hold promise for a new era of electronics. , 2017, , .		2
50	Fully printed memristors from Cu-SiO<inf>2</inf> core-shell nanowire composites. , 2017, , .		0
51	Sustained Sub-60 mV/decade Switching via the Negative Capacitance Effect in MoS₂ Transistors. Nano Letters, 2017, 17, 4801-4806.	9.1	237
52	Uniform Growth of Sub-5-Nanometer High-Î<sup> Dielectrics on MoS₂ Using Plasma-Enhanced Atomic Layer Deposition. ACS Applied Materials & Interfaces, 2017, 9, 23072-23080.	8.0	45
53	Fully printed and flexible carbon nanotube transistors designed for environmental pressure sensing and aimed at smart tire applications. , 2017, , .		5
54	Edge contacts to multilayer MoS<inf>2</inf> using in situ Ar ion beam. , 2017, , .		0

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55	Modifying the Ni-MoS₂Contact Interface Using a Broad-Beam Ion Source. IEEE Electron Device Letters, 2016, 37, 1234-1237.	3.9	12
56	Enabling Ultrasensitive Photo-detection Through Control of Interface Properties in Molybdenum Disulfide Atomic Layers. Scientific Reports, 2016, 6, 39465.	3.3	4
57	Using Ar Ion beam exposure to improve contact resistance in MoS<inf>2</inf> FETs. , 2016, , .		1
58	Sub-60â€‰mV/decade switching in 2D negative capacitance field-effect transistors with integrated ferroelectric polymer. Applied Physics Letters, 2016, 109, .	3.3	103
59	Improving Contact Interfaces in Fully Printed Carbon Nanotube Thin-Film Transistors. ACS Nano, 2016, 10, 5221-5229.	14.6	97
60	Nanomaterials in transistors: From high-performance to thin-film applications. Science, 2015, 349, aab2750.	12.6	495
61	Gate-Free Electrical Breakdown of Metallic Pathways in Single-Walled Carbon Nanotube Crossbar Networks. Nano Letters, 2015, 15, 6058-6065.	9.1	16
62	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
63	Toward High-Performance Digital Logic Technology with Carbon Nanotubes. ACS Nano, 2014, 8, 8730-8745.	14.6	267
64	Reducing Contact Resistance in Graphene Devices through Contact Area Patterning. ACS Nano, 2013, 7, 3661-3667.	14.6	185
65	Carbon Nanotube Complementary Wrap-Gate Transistors. Nano Letters, 2013, 13, 2490-2495.	9.1	168
66	The road to carbon nanotube transistors. Nature, 2013, 498, 443-444.	27.8	292
67	High-Performance Air-Stable n-Type Carbon Nanotube Transistors with Erbium Contacts. ACS Nano, 2013, 7, 8303-8308.	14.6	68
68	Sub-10 nm Carbon Nanotube Transistor. Nano Letters, 2012, 12, 758-762.	9.1	726
69	Variability in Carbon Nanotube Transistors: Improving Device-to-Device Consistency. ACS Nano, 2012, 6, 1109-1115.	14.6	115
70	Length scaling of carbon nanotube transistors. Nature Nanotechnology, 2010, 5, 858-862.	31.5	378