

Huipeng Chen

List of Publications by Year in descending order

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118
papers

3,297
citations

126708

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all docs

118
docs citations

118
times ranked

2637
citing authors

#	ARTICLE	IF	CITATIONS
1	Self-powered artificial synapses actuated by triboelectric nanogenerator. <i>Nano Energy</i> , 2019, 60, 377-384.	8.2	125
2	High Performance Flexible Nonvolatile Memory Based on Vertical Organic Thin Film Transistor. <i>Advanced Functional Materials</i> , 2017, 27, 1703541.	7.8	103
3	Electret-Based Organic Synaptic Transistor for Neuromorphic Computing. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 15446-15455.	4.0	94
4	Artificial multisensory integration nervous system with haptic and iconic perception behaviors. <i>Nano Energy</i> , 2021, 85, 106000.	8.2	83
5	Synaptic Transistor Capable of Accelerated Learning Induced by Temperature-Facilitated Modulation of Synaptic Plasticity. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 46008-46016.	4.0	78
6	Self-powered artificial auditory pathway for intelligent neuromorphic computing and sound detection. <i>Nano Energy</i> , 2020, 78, 105403.	8.2	75
7	Stretchable synaptic transistors with tunable synaptic behavior. <i>Nano Energy</i> , 2020, 75, 104952.	8.2	75
8	Nanoscale channel organic ferroelectric synaptic transistor array for high recognition accuracy neuromorphic computing. <i>Nano Energy</i> , 2021, 85, 106010.	8.2	75
9	The miscibility and depth profile of PCBM in P3HT: thermodynamic information to improve organic photovoltaics. <i>Physical Chemistry Chemical Physics</i> , 2012, 14, 5635.	1.3	73
10	A multi-input light-stimulated synaptic transistor for complex neuromorphic computing. <i>Journal of Materials Chemistry C</i> , 2019, 7, 12523-12531.	2.7	68
11	Precise Structural Development and its Correlation to Function in Conjugated Polymer: Fullerene Thin Films by Controlled Solvent Annealing. <i>Advanced Functional Materials</i> , 2013, 23, 1701-1710.	7.8	65
12	Inkjet-Printed Vertical Organic Field-Effect Transistor Arrays and Their Image Sensors. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 30587-30595.	4.0	65
13	Self-powered high-sensitivity sensory memory actuated by triboelectric sensory receptor for real-time neuromorphic computing. <i>Nano Energy</i> , 2020, 75, 104930.	8.2	64
14	Boost up the electrical performance of InGaZnO thin film transistors by inserting an ultrathin InGaZnO:H layer. <i>Applied Physics Letters</i> , 2016, 108, .	1.5	60
15	Effects of Nitrogen and Hydrogen Codoping on the Electrical Performance and Reliability of InGaZnO Thin-Film Transistors. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 10798-10804.	4.0	59
16	Band-tailored van der Waals heterostructure for multilevel memory and artificial synapse. <i>Information Materials</i> , 2021, 3, 917-928.	8.5	59
17	A one-structure-layer PDMS/Mxenes based stretchable triboelectric nanogenerator for simultaneously harvesting mechanical and light energy. <i>Nano Energy</i> , 2021, 86, 106118.	8.2	56
18	MXene based saturation organic vertical photoelectric transistors with low subthreshold swing. <i>Nature Communications</i> , 2022, 13, .	5.8	56

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19	The Role of Fullerene Mixing Behavior in the Performance of Organic Photovoltaics: PCBM in Low-Bandgap Polymers. <i>Advanced Functional Materials</i> , 2014, 24, 140-150.	7.8	53
20	High Performance Flexible Organic Phototransistors with Ultrashort Channel Length. <i>ACS Photonics</i> , 2018, 5, 3712-3722.	3.2	53
21	Flexible ultra-short channel organic ferroelectric non-volatile memory transistors. <i>Journal of Materials Chemistry C</i> , 2019, 7, 998-1005.	2.7	51
22	Tuning the Morphology and Performance of Low Bandgap Polymer:Fullerene Heterojunctions via Solvent Annealing in Selective Solvents. <i>Advanced Functional Materials</i> , 2014, 24, 5129-5136.	7.8	45
23	High-Performance Organic Electrochemical Transistors with Nanoscale Channel Length and Their Application to Artificial Synapse. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 49915-49925.	4.0	45
24	Bioinspired kinesthetic system for human-machine interaction. <i>Nano Energy</i> , 2021, 88, 106283.	8.2	45
25	High-Performance Low-Voltage Flexible Photodetector Arrays Based on All-Solid-State Organic Electrochemical Transistors for Photosensing and Imaging. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 20214-20224.	4.0	44
26	Defect Self-Compensation for High-Mobility Bilayer InGaZnO/In ₂ O ₃ Thin-Film Transistor. <i>Advanced Electronic Materials</i> , 2019, 5, 1900125.	2.6	43
27	High-performance Nonvolatile Organic Photoelectronic Transistor Memory Based on Bulk Heterojunction Structure. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 31716-31724.	4.0	43
28	High performance flexible multilevel optical memory based on a vertical organic field effect transistor with ultrashort channel length. <i>Journal of Materials Chemistry C</i> , 2019, 7, 9229-9240.	2.7	42
29	Improving device performance of n-type organic field-effect transistors <i>via</i> doping with a p-type organic semiconductor. <i>Journal of Materials Chemistry C</i> , 2019, 7, 4543-4550.	2.7	42
30	An optoelectronic synaptic transistor with efficient dual modulation by light illumination. <i>Journal of Materials Chemistry C</i> , 2021, 9, 3412-3420.	2.7	40
31	Enhanced Reliability of InGaZnO Thin-Film Transistors Through Design of Dual Passivation Layers. <i>IEEE Transactions on Electron Devices</i> , 2018, 65, 2844-2849.	1.6	38
32	High-Performance Organic Synaptic Transistors with an Ultrathin Active Layer for Neuromorphic Computing. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 8672-8681.	4.0	37
33	Heterostructured Vertical Organic Transistor for High-Performance Optoelectronic Memory and Artificial Synapse. <i>ACS Photonics</i> , 2021, 8, 3094-3103.	3.2	37
34	Multifunctional MoTe ₂ FeFET Enabled by Ferroelectric Polarization-Assisted Charge Trapping. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	37
35	Solution-processed metal oxide arrays using femtosecond laser ablation and annealing for thin-film transistors. <i>Journal of Materials Chemistry C</i> , 2017, 5, 9273-9280.	2.7	36
36	High-Performance All-Solution-Processed Flexible Photodetector Arrays Based on Ultrashort Channel Amorphous Oxide Semiconductor Transistors. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 40631-40640.	4.0	36

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37	Gelatin-hydrogel based organic synaptic transistor. <i>Organic Electronics</i> , 2019, 75, 105409.	1.4	36
38	Correlation of polymeric compatibilizer structure to its impact on the morphology and function of P3HT:PCBM bulk heterojunctions. <i>Journal of Materials Chemistry A</i> , 2013, 1, 5309.	5.2	33
39	Controlling Native Oxidation of HfS ₂ for 2D Materials Based Flash Memory and Artificial Synapse. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 10639-10649.	4.0	33
40	Morphology of a Ternary Blend Solar Cell Based on Small Molecule:Conjugated Polymer:Fullerene Fabricated by Blade Coating. <i>Advanced Functional Materials</i> , 2017, 27, 1703268.	7.8	31
41	A novel post-processed surface modified double-network polymer layer for a triboelectric nanogenerator. <i>Journal of Materials Chemistry A</i> , 2020, 8, 6328-6336.	5.2	30
42	A multilevel vertical photonic memory transistor based on organic semiconductor/inorganic perovskite quantum dot blends. <i>Journal of Materials Chemistry C</i> , 2020, 8, 2861-2869.	2.7	29
43	Nonvolatile Multilevel Photomemory Based on Lead-Free Double Perovskite Cs ₂ AgBiBr ₆ Nanocrystals Wrapped Within SiO ₂ as a Charge Trapping Layer. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 43967-43975.	4.0	29
44	Control of morphology and function of low band gap polymer-bis-fullerene mixed heterojunctions in organic photovoltaics with selective solvent vapor annealing. <i>Journal of Materials Chemistry A</i> , 2014, 2, 9883.	5.2	28
45	Solution-Processed Organic Thin-Film Transistor Arrays with the Assistance of Laser Ablation. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 3849-3856.	4.0	27
46	High-Performance All-Inorganic Perovskite-Quantum-Dot-Based Flexible Organic Phototransistor Memory with Architecture Design. <i>Advanced Electronic Materials</i> , 2019, 5, 1900864.	2.6	27
47	High-Performance Quantum-Dot Light-Emitting Transistors Based on Vertical Organic Thin-Film Transistors. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 35888-35895.	4.0	27
48	Tuning the synaptic behaviors of biocompatible synaptic transistor through ion-doping. <i>Organic Electronics</i> , 2021, 89, 106019.	1.4	27
49	High-Performance Nonvolatile Organic Transistor Memory Using Quantum Dots-Based Floating Gate. <i>IEEE Transactions on Electron Devices</i> , 2017, 64, 3816-3821.	1.6	26
50	High performance inkjet-printed metal oxide thin film transistors via addition of insulating polymer with proper molecular weight. <i>Applied Physics Letters</i> , 2018, 112, .	1.5	26
51	Design of Highly Stable Tungsten-Doped IZO Thin-Film Transistors With Enhanced Performance. <i>IEEE Transactions on Electron Devices</i> , 2018, 65, 1018-1022.	1.6	26
52	Flexible metal oxide synaptic transistors using biomass-based hydrogel as gate dielectric. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 484002.	1.3	26
53	Stretchable vertical organic transistors and their applications in neurologically systems. <i>Nano Energy</i> , 2021, 90, 106497.	8.2	26
54	Negative Phototransistors with Ultrahigh Sensitivity and Weak-Light Detection Based on 1D/2D Molecular Crystal-p-n Heterojunctions and their Application in Light Encoders. <i>Advanced Materials</i> , 2022, 34, e2201364.	11.1	26

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55	Programmable neuronal-synaptic transistors based on 2D MXene for a high-efficiency neuromorphic hardware network. <i>Matter</i> , 2022, 5, 3023-3040.	5.0	26
56	The Impact of Fullerene Structure on Its Miscibility with P3HT and Its Correlation of Performance in Organic Photovoltaics. <i>Chemistry of Materials</i> , 2014, 26, 3993-4003.	3.2	25
57	Improving Charge Mobility of Polymer Transistors by Judicious Choice of the Molecular Weight of Insulating Polymer Additive. <i>Journal of Physical Chemistry C</i> , 2016, 120, 17282-17289.	1.5	24
58	High-Performance Organic Phototransistors With Vertical Structure Design. <i>IEEE Transactions on Electron Devices</i> , 2019, 66, 1815-1818.	1.6	24
59	High-resolution organic field-effect transistors manufactured by electrohydrodynamic inkjet printing of doped electrodes. <i>Journal of Materials Chemistry C</i> , 2020, 8, 15219-15223.	2.7	23
60	Regioregular and Regioirregular Poly(selenophene- <i>perylene</i> diimide) Acceptors for Polymer-Polymer Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 32397-32403.	4.0	21
61	Importance of domain purity in semi-conducting polymer/insulating polymer blends transistors. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2016, 54, 1760-1766.	2.4	20
62	Distinguishing the Importance of Fullerene Phase Separation from Polymer Ordering in the Performance of Low Band Gap Polymer:Fullerene Heterojunctions. <i>Advanced Functional Materials</i> , 2014, 24, 7284-7290.	7.8	19
63	Low-temperature solution-processed flexible metal oxide thin-film transistors via laser annealing. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 385105.	1.3	19
64	Solution-Processed Oxide Complementary Inverter via Laser Annealing and Inkjet Printing. <i>IEEE Transactions on Electron Devices</i> , 2019, 66, 4888-4893.	1.6	18
65	Neuromorphic display system for intelligent display. <i>Nano Energy</i> , 2022, 94, 106931.	8.2	17
66	Importance of Solvent Removal Rate on the Morphology and Device Performance of Organic Photovoltaics with Solvent Annealing. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 20679-20685.	4.0	16
67	Bi-mode electrolyte-gated synaptic transistor via additional ion doping and its application to artificial nociceptors. <i>Materials Horizons</i> , 2021, 8, 2797-2807.	6.4	16
68	Vertical Channel Inorganic/Organic Hybrid Electrochemical Phototransistors with Ultrahigh Responsivity and Fast Response Speed. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 7498-7509.	4.0	16
69	Self-powered perception system based on triboelectric nanogenerator and artificial neuron for fast-speed multilevel feature recognition. <i>Nano Energy</i> , 2022, 100, 107525.	8.2	16
70	High performance n-type vertical organic phototransistors. <i>Organic Electronics</i> , 2019, 67, 200-207.	1.4	15
71	Recent advances in stretchable field-effect transistors. <i>Journal of Materials Chemistry C</i> , 2021, 9, 7796-7828.	2.7	15
72	Impact of Fullerene Structure on Nanoscale Morphology and Miscibility and Correlation of Performance on Small Molecules: Fullerene Solar Cell. <i>Journal of Physical Chemistry C</i> , 2016, 120, 21317-21324.	1.5	14

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73	All-metal oxide synaptic transistor with modulatable plasticity. <i>Nanotechnology</i> , 2020, 31, 065201.	1.3	13
74	Photonic Synaptic Transistor Based on P-Type Organic Semiconductor Blending With N-Type Organic Semiconductor. <i>IEEE Electron Device Letters</i> , 2021, 42, 1180-1183.	2.2	13
75	Noise Detection System Based on Noise Triboelectric Nanogenerator and Synaptic Transistors. <i>IEEE Electron Device Letters</i> , 2021, 42, 1334-1337.	2.2	13
76	Low-voltage solution-processed artificial optoelectronic hybrid-integrated neuron based on 2D MXene for multi-task spiking neural network. <i>Nano Energy</i> , 2022, 99, 107418.	8.2	13
77	Low-Frequency Noise in High-Mobility a-InGaZnO/InSnO Nanowire Composite Thin-Film Transistors. <i>IEEE Electron Device Letters</i> , 2017, 38, 1540-1542.	2.2	12
78	A Postalignment Method for High-Mobility Organic Thin-Film Transistors. <i>IEEE Transactions on Electron Devices</i> , 2018, 65, 1101-1106.	1.6	12
79	Gate-tunable all-inorganic QLED with enhanced charge injection balance. <i>Journal of Materials Chemistry C</i> , 2020, 8, 1280-1285.	2.7	12
80	Improved stability and performance of all inorganic perovskite quantum dots synthesized directly with N-alkylmonoamine ligands for light-erasable transistor memory. <i>Organic Electronics</i> , 2020, 86, 105869.	1.4	12
81	A light-emitting electrochemical artificial synapse with dual output of photoelectric signals. <i>Science China Materials</i> , 2022, 65, 2511-2520.	3.5	11
82	Adaptive immunomorphic hardware based on organic semiconductors and oxidized MXene heterostructures for feature information recognition. <i>Cell Reports Physical Science</i> , 2022, 3, 100930.	2.8	11
83	Interface engineering with double-network dielectric structure for flexible organic thin film transistors. <i>Organic Electronics</i> , 2018, 52, 213-221.	1.4	10
84	Oxygen-Assisted Anisotropic Chemical Etching of MoSe ₂ for Enhanced Phototransistors. <i>Chemistry of Materials</i> , 2022, 34, 4212-4223.	3.2	10
85	A Memristor-Based Leaky Integrate-and-Fire Artificial Neuron With Tunable Performance. <i>IEEE Electron Device Letters</i> , 2022, 43, 1231-1234.	2.2	10
86	Ultra-high stability of cesium lead halide nanocrystals synthesized by a simple one-pot method. <i>Materials and Design</i> , 2019, 181, 108100.	3.3	9
87	A universal strategy to improve the mechanical stability of flexible organic thin film transistors. <i>Journal of Materials Chemistry C</i> , 2019, 7, 6323-6331.	2.7	9
88	High-Performance Vertical Organic Phototransistors Enhanced by Ferroelectrics. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 1035-1042.	4.0	9
89	Modulation of bulk heterojunction morphology through small I ₂ -bridge changes for polymer solar cells with enhanced performance. <i>Journal of Materials Chemistry C</i> , 2018, 6, 5999-6007.	2.7	8
90	Impact of new skeletal isomerization in polymer semiconductors. <i>Journal of Materials Chemistry C</i> , 2019, 7, 10860-10867.	2.7	8

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91	Artificial Indium Tin Oxide Synaptic Transistor by Inkjet Printing Using Solution-Processed ZrO ₂ Gate Dielectric. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2020, 217, 2000314.	0.8	8
92	A full transparent high-performance flexible phototransistor with an ultra-short channel length. <i>Journal of Materials Chemistry C</i> , 2021, 9, 1604-1613.	2.7	8
93	Polymer bulk-heterojunction synaptic field-effect transistors with tunable decay constant. <i>Journal of Materials Chemistry C</i> , 2021, 9, 4854-4861.	2.7	8
94	Interpenetration of Donor-Acceptor Hybrid Frameworks for Highly Sensitive Thermal Sensors. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 24575-24582.	4.0	8
95	High-Density Reconfigurable Synaptic Transistors Targeting a Minimalist Neural Network. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 28564-28573.	4.0	7
96	Complementary of Ferroelectric and Floating Gate Structure for High Performance Organic Nonvolatile Memory. <i>Advanced Electronic Materials</i> , 2021, 7, 2100599.	2.6	7
97	An organic synaptic transistor with integration of memory and neuromorphic computing. <i>Journal of Materials Chemistry C</i> , 2021, 9, 9972-9981.	2.7	7
98	Multifunctional Memory-Synaptic Hybrid Optoelectronic Transistors for Neuromorphic Computing. <i>IEEE Transactions on Electron Devices</i> , 2022, 69, 3997-4001.	1.6	7
99	Influence of strain rate and temperature on necking transition in a polydomain smectic main chain elastomer. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2011, 49, 591-598.	2.4	6
100	An intrinsically healing artificial neuromorphic device. <i>Journal of Materials Chemistry C</i> , 2020, 8, 6869-6876.	2.7	6
101	High Performance Organic Phototransistor Doped With MXene. <i>IEEE Electron Device Letters</i> , 2021, 42, 1358-1361.	2.2	6
102	Direct Fabrication of Stretchable Electronics on a Programmable Stiffness Substrate With 100% Strain Isolation. <i>IEEE Electron Device Letters</i> , 2021, 42, 1484-1487.	2.2	6
103	Printed Organic Synaptic Transistor Array for One-to-Many Neural Response. <i>IEEE Electron Device Letters</i> , 2022, 43, 394-397.	2.2	6
104	Surface infusion micropatterning of elastomeric substrates. <i>Microfluidics and Nanofluidics</i> , 2012, 12, 451-464.	1.0	5
105	Modulation of the plasticity of an all-metal oxide synaptic transistor via laser irradiation. <i>Nanotechnology</i> , 2020, 31, 215202.	1.3	5
106	Flexible multi-level quasi-volatile memory based on organic vertical transistor. <i>Nano Research</i> , 2022, 15, 386-394.	5.8	5
107	Synaptic transistor with tunable synaptic behavior based on a thermo-denatured polar polymer material. <i>Journal of Materials Chemistry C</i> , 2022, 10, 5534-5541.	2.7	5
108	Neuron Based Driving Circuit for Flat Panel Display. <i>IEEE Electron Device Letters</i> , 2022, 43, 914-917.	2.2	5

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109	Solution templating of Au and Ag nanoparticles by linear poly[2-(diethylamino)ethyl methacrylate]. <i>Journal of Nanoparticle Research</i> , 2012, 14, 1.	0.8	4
110	Surface Infused Interpenetrating Network as Gate Dielectric for High Performance Thin Film Transistors. <i>Macromolecular Materials and Engineering</i> , 2017, 302, 1600562.	1.7	4
111	Modification of polymer gate dielectrics for organic thin-film transistor from inkjet printing. <i>Applied Physics A: Materials Science and Processing</i> , 2018, 124, 1.	1.1	4
112	Improvement of Device Performance of Organic Photovoltaics via Laser Irradiation. <i>Journal of Physical Chemistry C</i> , 2019, 123, 22058-22065.	1.5	4
113	Micron-Scale Resolution Image Sensor Based on Flexible Organic Thin Film Transistor Arrays via Femtosecond Laser Processing. <i>IEEE Electron Device Letters</i> , 2022, 43, 248-251.	2.2	4
114	Floating-gate based PN blending optoelectronic synaptic transistor for neural machine translation. <i>Science China Materials</i> , 2022, 65, 1383-1390.	3.5	4
115	Quantitative characterization of interface stress using a nanoindentation technique for high performance flexible electronics. <i>Journal of Materials Chemistry C</i> , 2020, 8, 12155-12163.	2.7	2
116	Transparent Organic Nonvolatile Memory and Volatile Synaptic Transistors Based on Floating Gate Structure. <i>IEEE Electron Device Letters</i> , 2022, 43, 733-736.	2.2	2
117	Influence of thermal history on mesoscale ordering in polydomain smectic networks. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2013, 51, 225-230.	2.4	1
118	The effect of light environment during the film formation process on the morphology and function of organic photovoltaics. <i>Journal of Materials Chemistry C</i> , 2019, 7, 10581-10588.	2.7	1