Qing Wan

List of Publications by Year
in descending order

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112 papers	6,069 citations	76294 40 h-index	74108 75 g-index
114 all docs	114 docs citations	114 times ranked	4008 citing authors

#	Article	IF	Citations
1	Artificial synapse network on inorganic proton conductor for neuromorphic systems. Nature Communications, 2014, 5, 3158.	5.8	655
2	Freestanding Artificial Synapses Based on Laterally Protonâ€Coupled Transistors on Chitosan Membranes. Advanced Materials, 2015, 27, 5599-5604.	11.1	352
3	A MoS₂/PTCDA Hybrid Heterojunction Synapse with Efficient Photoelectric Dual Modulation and Versatility. Advanced Materials, 2019, 31, e1806227.	11.1	336
4	An Artificial Sensory Neuron with Tactile Perceptual Learning. Advanced Materials, 2018, 30, e1801291.	11.1	309
5	2D MoS₂ Neuromorphic Devices for Brainâ€Like Computational Systems. Small, 2017, 13, 1700933.	5.2	268
6	Protonâ€Conducting Graphene Oxideâ€Coupled Neuron Transistors for Brainâ€Inspired Cognitive Systems. Advanced Materials, 2016, 28, 3557-3563.	11.1	226
7	Electric-double-layer transistors for synaptic devices and neuromorphic systems. Journal of Materials Chemistry C, 2018, 6, 5336-5352.	2.7	170
8	Spatiotemporal Information Processing Emulated by Multiterminal Neuroâ€Transistor Networks. Advanced Materials, 2019, 31, e1900903.	11.1	151
9	Printed Neuromorphic Devices Based on Printed Carbon Nanotube Thinâ€Film Transistors. Advanced Functional Materials, 2017, 27, 1604447.	7.8	147
10	Flexible Metal Oxide/Graphene Oxide Hybrid Neuromorphic Transistors on Flexible Conducting Graphene Substrates. Advanced Materials, 2016, 28, 5878-5885.	11.1	144
11	Artificial Synapses Based on in-Plane Gate Organic Electrochemical Transistors. ACS Applied Materials & Interfaces, 2016, 8, 26169-26175.	4.0	138
12	A Subâ€10 nm Vertical Organic/Inorganic Hybrid Transistor for Painâ€Perceptual and Sensitizationâ€Regulated Nociceptor Emulation. Advanced Materials, 2020, 32, e1906171.	11.1	135
13	Energy-Efficient Artificial Synapses Based on Flexible IGZO Electric-Double-Layer Transistors. IEEE Electron Device Letters, 2015, 36, 198-200.	2.2	107
14	Coplanar Multigate MoS₂ Electric-Double-Layer Transistors for Neuromorphic Visual Recognition. ACS Applied Materials & Interfaces, 2018, 10, 25943-25948.	4.0	99
15	Flexible Neuromorphic Architectures Based on Self-Supported Multiterminal Organic Transistors. ACS Applied Materials & Interfaces, 2018, 10, 26443-26450.	4.0	99
16	Theoretical investigation of the negative differential resistance in squashed C60 molecular device. Applied Physics Letters, 2008, 92, .	1.5	97
17	Artificial Synaptic Devices Based on Natural Chicken Albumen Coupled Electric-Double-Layer Transistors. Scientific Reports, 2016, 6, 23578.	1.6	97
18	Light Stimulated IGZO-Based Electric-Double-Layer Transistors For Photoelectric Neuromorphic Devices. IEEE Electron Device Letters, 2018, 39, 897-900.	2.2	94

#	Article	IF	Citations
19	Long-Term Synaptic Plasticity Emulated in Modified Graphene Oxide Electrolyte Gated IZO-Based Thin-Film Transistors. ACS Applied Materials & Interfaces, 2016, 8, 30281-30286.	4.0	91
20	Gas Sensors Based on Semiconducting Nanowire Field-Effect Transistors. Sensors, 2014, 14, 17406-17429.	2.1	85
21	Flexible Vertical Photogating Transistor Network with an Ultrashort Channel for Inâ€Sensor Visual Nociceptor. Advanced Functional Materials, 2021, 31, 2104327.	7.8	85
22	Short-Term Synaptic Plasticity Regulation in Solution-Gated Indiumâ€“Galliumâ€“Zinc-Oxide Electric-Double-Layer Transistors. ACS Applied Materials & Interfaces, 2016, 8, 9762-9768.	4.0	81
23	Optoelectronic Properties of Printed Photogating Carbon Nanotube Thin Film Transistors and Their Application for Light-Stimulated Neuromorphic Devices. ACS Applied Materials & Interfaces, 2019, 11, 12161-12169.	4.0	80
24	Flexible Sensory Platform Based on Oxide-based Neuromorphic Transistors. Scientific Reports, 2015, 5, 18082.	1.6	70
25	Short-Term Plasticity and Synaptic Filtering Emulated in Electrolyte-Gated IGZO Transistors. IEEE Electron Device Letters, 2016, 37, 299-302.	2.2	64
26	Optoelectronic Inâ€Gaâ€Znâ€O Memtransistors for Artificial Vision System. Advanced Functional Materials, 2020, 30, 2002325.	7.8	57
27	Solution-Processed, Electrolyte-Gated In₂O₃ Flexible Synaptic Transistors for Brain-Inspired Neuromorphic Applications. ACS Applied Materials & Interfaces, 2020, 12, 1061-1068.	4.0	56
28	Indium-tin-oxide thin film transistor biosensors for label-free detection of avian influenza virus H5N1. Analytica Chimica Acta, 2013, 773, 83-88.	2.6	55
29	Flexible Proton-Gated Oxide Synaptic Transistors on Si Membrane. ACS Applied Materials & Interfaces, 2016, 8, 21770-21775.	4.0	55
30	Low-voltage transparent electric-double-layer ZnO-based thin-film transistors for portable transparent electronics. Applied Physics Letters, 2010, 96, .	1.5	52
31	Oxide-based Synaptic Transistors Gated by Solâ€“Gel Silica Electrolytes. ACS Applied Materials & Interfaces, 2016, 8, 3050-3055.	4.0	52
32	Timeâ€Tailoring van der Waals Heterostructures for Human Memory System Programming. Advanced Science, 2019, 6, 1901072.	5.6	52
33	An Optically Modulated Organic Schottkyâ€Barrier Planarâ€Diodeâ€Based Artificial Synapse. Advanced Optical Materials, 2020, 8, 2000153.	3.6	52
34	Oxide Synaptic Transistors Coupled With Triboelectric Nanogenerators for Bio-Inspired Tactile Sensing Application. IEEE Electron Device Letters, 2020, 41, 617-620.	2.2	51
35	A Photoelectric Spiking Neuron for Visual Depth Perception. Advanced Materials, 2022, 34, e2201895.	11.1	50
36	Recent Progress on Emerging Transistorâ€Based Neuromorphic Devices. Advanced Intelligent Systems, 2021, 3, 2000210.	3.3	47

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37	Activity Dependent Synaptic Plasticity Mimicked on Indiumâ€“Tinâ€“Oxide Electric-Double-Layer Transistor. ACS Applied Materials & Interfaces, 2017, 9, 37064-37069.	4.0	46
38	Flexible protonic/electronic coupled neuron transistors self-assembled on paper substrates for logic applications. Applied Physics Letters, 2013, 102, 093509.	1.5	45
39	Recent Advances in Electric-Double-Layer Transistors for Bio-Chemical Sensing Applications. Sensors, 2019, 19, 3425.	2.1	44
40	Indiumâ€“galliumâ€“zincâ€“oxide thin-film transistors: Materials, devices, and applications. Journal of Semiconductors, 2021, 42, 031101.	2.0	44
41	Laterally Coupled Dual-Gate Oxide-Based Transistors on Sodium Alginate Electrolytes. IEEE Electron Device Letters, 2014, 35, 1257-1259.	2.2	42
42	Hodgkinâ€“Huxley Artificial Synaptic Membrane Based on Protonic/Electronic Hybrid Neuromorphic Transistors. Advanced Biology, 2018, 2, 1700198.	3.0	41
43	Multifunctional Logic Demonstrated in a Flexible Multigate Oxideâ€Based Electricâ€Doubleâ€Layer Transistor on Paper Substrate. Advanced Electronic Materials, 2017, 3, 1600509.	2.6	36
44	Flexible Indiumâ€Tinâ€Oxide Homojunction Thinâ€Film Transistors with Two Inâ€Plane Gates on Celluloseâ€Nanofiberâ€Soaked Papers. Advanced Electronic Materials, 2019, 5, 1900235.	2.6	35
45	Flexible IZO Homojunction TFTs With Graphene Oxide/Chitosan Composite Gate Dielectrics on Paper Substrates. IEEE Electron Device Letters, 2018, 39, 363-366.	2.2	33
46	Synergistic Modulation of Synaptic Plasticity in IGZO-Based Photoelectric Neuromorphic TFTs. IEEE Transactions on Electron Devices, 2021, 68, 1659-1663.	1.6	33
47	Proton Conducting Graphene Oxide/Chitosan Composite Electrolytes as Gate Dielectrics for New-Concept Devices. Scientific Reports, 2016, 6, 34065.	1.6	32
48	Low-voltage transparent SnO2 nanowire transistors gated by microporous SiO2 solid-electrolyte with improved polarization response. Journal of Materials Chemistry, 2010, 20, 8010.	6.7	31
49	Junctionless Flexible Oxide-Based Thin-Film Transistors on Paper Substrates. IEEE Electron Device Letters, 2012, 33, 65-67.	2.2	31
50	Low-Voltage Organic/Inorganic Hybrid Transparent Thin-Film Transistors Gated by Chitosan-Based Proton Conductors. IEEE Electron Device Letters, 2011, 32, 1549-1551.	2.2	30
51	Low-Cost pH Sensors Based on Low-Voltage Oxide-Based Electric-Double-Layer Thin Film Transistors. IEEE Electron Device Letters, 2014, 35, 482-484.	2.2	28
52	Ferromagnetic and metallic properties of the semihydrogenated GaN sheet. Physica Status Solidi (B): Basic Research, 2011, 248, 1442-1445.	0.7	27
53	Laterally Coupled IZO-Based Transistors on Free-Standing Proton Conducting Chitosan Membranes. IEEE Electron Device Letters, 2014, 35, 838-840.	2.2	27
54	Biodegradable oxide synaptic transistors gated by a biopolymer electrolyte. Journal of Materials Chemistry C, 2016, 4, 7744-7750.	2.7	27

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55	Indiumâ€“Galliumâ€“Zincâ€“Oxide Schottky Synaptic Transistors for Silent Synapse Conversion Emulation. IEEE Electron Device Letters, 2019, 40, 139-142.	2.2	27
56	Low-Voltage Oxide-Based Synaptic Transistors for Spiking Humidity Detection. IEEE Electron Device Letters, 2019, 40, 459-462.	2.2	26
57	Junctionless in-plane-gate transparent thin-film transistors. Applied Physics Letters, 2011, 99, .	1.5	24
58	One-Volt Oxide Thin-Film Transistors on Paper Substrates Gated by $hbox{SiO}_{2}$-Based Solid Electrolyte With Controllable Operation Modes. IEEE Transactions on Electron Devices, 2010, 57, 2258-2263.	1.6	22
59	Indiumâ€Galliumâ€Zincâ€Oxide Based Photoelectric Neuromorphic Transistors for Modulable Photoexcited Corneal Nociceptor Emulation. Advanced Electronic Materials, 2021, 7, 2100487.	2.6	21
60	Neuromorphic Devices for Bionic Sensing and Perception. Frontiers in Neuroscience, 2021, 15, 690950.	1.4	20
61	Investigation of Ge nanocrytals in a metal-insulator-semiconductor structure with a HfO2âˆ•SiO2 stack as the tunnel dielectric. Applied Physics Letters, 2005, 86, 113105.	1.5	19
62	Indium-Zinc-Oxide Neuron Thin Film Transistors Laterally Coupled by Sodium Alginate Electrolytes. IEEE Transactions on Electron Devices, 2016, 63, 3958-3963.	1.6	19
63	Multiterminal Ionic Synaptic Transistor With Artificial Blink Reflex Function. IEEE Electron Device Letters, 2021, 42, 351-354.	2.2	19
64	Flexible Low-Voltage Electric-Double-Layer TFTs Self-Assembled on Paper Substrates. IEEE Electron Device Letters, 2011, 32, 518-520.	2.2	18
65	pH-dependent plasticity regulation in proton/electron hybrid oxide-based synaptic transistors. Applied Surface Science, 2019, 481, 1412-1417.	3.1	18
66	Freestanding Dual-Gate Oxide-Based Neuromorphic Transistors for Flexible Artificial Nociceptors. IEEE Transactions on Electron Devices, 2021, 68, 415-420.	1.6	18
67	Photoelectric Synapse Based on InGaZnO Nanofibers for High Precision Neuromorphic Computing. IEEE Electron Device Letters, 2022, 43, 651-654.	2.2	18
68	Toward memristive in-memory computing: principles and applications. Frontiers of Optoelectronics, 2022, 15, .	1.9	17
69	Controllable light transmission through cascaded metal films perforated with periodic hole arrays. Applied Physics Letters, 2008, 93, 221909.	1.5	16
70	Dual in-plane-gate oxide-based thin-film transistors with tunable threshold voltage. Applied Physics Letters, 2011, 99, 113504.	1.5	16
71	Simulation of Laterally Coupled InGaZnO₄-Based Electric-Double-Layer Transistors for Synaptic Electronics. IEEE Electron Device Letters, 2015, 36, 204-206.	2.2	16
72	Flexible Low-Voltage IGZO Thin-Film Transistors With Polymer Electret Gate Dielectrics on Paper Substrates. IEEE Electron Device Letters, 2019, 40, 224-227.	2.2	16

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73	High-Performance Amorphous InGaZnO Thin-Film Transistor Gated by HfAlOâ," Dielectric With Ultralow Subthreshold Swing. IEEE Transactions on Electron Devices, 2021, 68, 6154-6158.	1.6	16
74	A Spiking Stochastic Neuron Based on Stacked InGaZnO Memristors. Advanced Electronic Materials, 2022, 8, 2100918.	2.6	15
75	Multiple enhanced transmission bands through compound periodic array of rectangular holes. Journal of Applied Physics, 2009, 106, .	1.1	14
76	Vertical low-voltage oxide transistors gated by microporous SiO2/LiCl composite solid electrolyte with enhanced electric-double-layer capacitance. Applied Physics Letters, 2010, 97, 052104.	1.5	14
77	Low-Voltage Junctionless Oxide-Based Thin-Film Transistors Self-Assembled by a Gradient Shadow Mask. IEEE Electron Device Letters, 2012, 33, 1720-1722.	2.2	14
78	Neuromorphic Simulation of Proton Conductors Laterally Coupled Oxide-Based Transistors With Multiple in-Plane Gates. IEEE Electron Device Letters, 2017, 38, 525-528.	2.2	14
79	Flexible Oxide-Based Schottky Neuromorphic TFTs With Configurable Spiking Dynamic Functions. IEEE Transactions on Electron Devices, 2020, 67, 5216-5220.	1.6	14
80	Dual Function of Antireflectance and Surface Passivation of Atomic-Layer-Deposited $hbox{Al}_{2}hbox{O}_{3}$ Films. IEEE Electron Device Letters, 2012, 33, 1753-1755.	2.2	13
81	Nanogranular SiO2 proton gated silicon layer transistor mimicking biological synapses. Applied Physics Letters, 2016, 108, .	1.5	13
82	BCM Learning Rules Emulated by a-IGZO-Based Photoelectronic Neuromorphic Transistors. IEEE Transactions on Electron Devices, 2022, 69, 4646-4650.	1.6	13
83	Low-Voltage Oxide-Based Electric-Double-Layer TFTs Gated by Stacked $hbox{SiO}_{2}$ Electrolyte/Chitosan Hybrid Dielectrics. IEEE Electron Device Letters, 2012, 33, 848-850.	2.2	12
84	Schottky contact on ultra-thin silicon nanomembranes under light illumination. Nanotechnology, 2014, 25, 485201.	1.3	12
85	Flexible Low-Voltage Inâ€"Znâ€"O Homojunction TFTs With Beeswax Gate Dielectric on Paper Substrates. IEEE Electron Device Letters, 2016, 37, 287-290.	2.2	11
86	HfZrOx-based capacitive synapses with highly linear and symmetric multilevel characteristics for neuromorphic computing. Applied Physics Letters, 2022, 120, .	1.5	11
87	Low-Voltage Electric-Double-Layer TFTs on $ hbox{SiO}_{2}$-Covered Paper Substrates. IEEE Electron Device Letters, 2011, 32, 1543-1545.	2.2	10
88	Flexible Dual-Gate MoSâ„‚ Neuromorphic Transistors on Freestanding Proton-Conducting Chitosan Membranes. IEEE Transactions on Electron Devices, 2021, 68, 3119-3123.	1.6	10
89	IGZO-based neuromorphic transistors with temperature-dependent synaptic plasticity and spiking logics. Science China Information Sciences, 2022, 65, 1.	2.7	10
90	Proton induced multilevel storage capability in self-assembled indium-zinc-oxide thin-film transistors. Applied Physics Letters, 2013, 103, 113503.	1.5	9

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91	Schmitt Triggers With Adjustable Hysteresis Window Based on Indiumâ€“Tungsten-Oxide Electric-Double-Layer TFTs. IEEE Electron Device Letters, 2019, 40, 1205-1208.	2.2	9
92	Artificial Reflex Arc: An Environment-Adaptive Neuromorphic Camouflage Device. IEEE Electron Device Letters, 2021, 42, 1224-1227.	2.2	9
93	Transparent In-Plane-Gate Junctionless Oxide-Based TFTs Directly Written by Laser Scribing. IEEE Electron Device Letters, 2012, 33, 1723-1725.	2.2	8
94	Chitosan-Based Electrolyte Gated Low Voltage Oxide Transistor With a Coplanar Modulatory Terminal. IEEE Electron Device Letters, 2017, 38, 322-325.	2.2	8
95	Acoustic phonon transport in a four-channel quantum structure. Journal of Applied Physics, 2009, 105, 104515.	1.1	7
96	Electrostatic modification of oxide semiconductors by electric double layers of microporous SiO2-based solid electrolyte. Journal of Applied Physics, 2011, 109, .	1.1	7
97	Improving the Blue Response and Efficiency of Multicrystalline Silicon Solar Cells by Surface Nanotexturing. IEEE Electron Device Letters, 2016, 37, 306-309.	2.2	7
98	Emerging Devices for Biologically Accurate Neuron. ACS Applied Electronic Materials, 2020, 2, 389-397.	2.0	7
99	Freestanding Multi-Gate Amorphous Oxide-Based TFTs on Graphene Oxide Enhanced Electrolyte Membranes. IEEE Electron Device Letters, 2020, 41, 1360-1363.	2.2	7
100	Emerging Memristive Devices for Brain-Inspired Computing and Artificial Perception. Frontiers in Nanotechnology, 0, 4, .	2.4	6
101	Optimization of chitosan gated electric double layer transistors by combining nanoparticle incorporation and acid doping. RSC Advances, 2016, 6, 109803-109808.	1.7	5
102	Dopamine Detection Based on Low-Voltage Oxide Homojunction Electric-Double-Layer Thin-Film Transistors. IEEE Electron Device Letters, 2016, , 1-1.	2.2	5
103	Freestanding multi-gate IZO-based neuromorphic transistors on composite electrolyte membranes. Flexible and Printed Electronics, 2021, 6, 044008.	1.5	5
104	Degenerately Mo-doped In2O3 nanowire arrays on In2O3 microwires with metallic behaviors. Journal of Applied Physics, 2009, 106, 024312.	1.1	4
105	Realization of size controllable graphene micro/nanogap with a micro/nanowire mask method for organic field-effect transistors. Applied Physics Letters, 2011, 99, 103301.	1.5	3
106	Synaptic plasticity and classical conditioning mimicked in single indium-tungsten-oxide based neuromorphic transistor*. Chinese Physics B, 2021, 30, 058102.	0.7	3
107	Low-voltage indium-zinc-oxide thin film transistors gated by solution-processed chitosan-based proton conductors. , 2011, , .		1
108	Indium-Zinc-Oxide Electric-Double-Layer Thin-Film Transistors for Humidity Sensing. , 2018, , .		1

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109	Flexible ITO-Based TFTs on Paper Substrates. , 2018, , .		1
110	Ionic/electronic hybrid transistor for mimicking forgetting curves. , 2013, , .		0
111	Laser patterned junctionless neuron thin-films transistor arrays. , 2013, , .		0
112	Gradient oxygen modulation for junctionless electric-double-layer IZO-based synaptic transistors. , 2014, , .		0