Gunuk Wang

List of Publications by Year
in descending order

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93 papers	4,645 citations	87723 38 h-index	98622 67 g-index
98 all docs	98 docs citations	98 times ranked	7194 citing authors

#	Article	IF	Citations
1	Controllable SiO_x Nanorod Memristive Neuron for Probabilistic Bayesian Inference. Advanced Materials, 2022, 34, e2104598.	11.1	17
2	Flexible Neural Network Realized by the Probabilistic SiO _x Memristive Synaptic Array for Energyâ€Efficient Image Learning. Advanced Science, 2022, , 2104773.	5.6	1
3	A Learningâ€Rate Modulable and Reliable TiO_x Memristor Array for Robust, Fast, and Accurate Neuromorphic Computing. Advanced Science, 2022, 9, .	5.6	22
4	Integration of multiple electronic components on a microfibre towards an emerging electronic textile platform. Nature Communications, 2022, 13, .	5.8	27
5	Multiple Switching Modes of NiO_x Memristors for Memory-Driven Multifunctional Device Applications. ACS Applied Electronic Materials, 2022, 4, 3739-3748.	2.0	5
6	Transparent and Unipolar Nonvolatile Memory Using 2D Vertically Stacked Layered Double Hydroxide. Advanced Materials Interfaces, 2021, 8, 2001990.	1.9	1
7	Energy-efficient three-terminal SiO memristor crossbar array enabled by vertical Si/graphene heterojunction barristor. Nano Energy, 2021, 84, 105947.	8.2	27
8	Retinaâ€Inspired Structurally Tunable Synaptic Perovskite Nanocones. Advanced Functional Materials, 2021, 31, 2105596.	7.8	42
9	Tailoring the Interfacial Band Offset by the Molecular Dipole Orientation for a Molecular Heterojunction Selector. Advanced Science, 2021, 8, e2101390.	5.6	9
10	A Hardware and Energy-Efficient Online Learning Neural Network With an RRAM Crossbar Array and Stochastic Neurons. IEEE Transactions on Industrial Electronics, 2021, 68, 11554-11564.	5.2	8
11	Run-off election-based decision method for the training and inference process in an artificial neural network. Scientific Reports, 2021, 11, 895.	1.6	1
12	Tailoring the Interfacial Band Offset by the Molecular Dipole Orientation for a Molecular Heterojunction Selector (Adv. Sci. 21/2021). Advanced Science, 2021, 8, 2170143.	5.6	0
13	Bird-Inspired Self-Navigating Artificial Synaptic Compass. ACS Nano, 2021, 15, 20116-20126.	7.3	12
14	Emerging Memristive Artificial Synapses and Neurons for Energyâ€Efficient Neuromorphic Computing. Advanced Materials, 2020, 32, e2004659.	11.1	175
15	One-dimensional organic artificial multi-synapses enabling electronic textile neural network for wearable neuromorphic applications. Science Advances, 2020, 6, .	4.7	102
16	Artificially Intelligent Tactile Ferroelectric Skin. Advanced Science, 2020, 7, 2001662.	5.6	45
17	Tunable rectification in a molecular heterojunction with two-dimensional semiconductors. Nature Communications, 2020, 11, 1412.	5.8	19
18	Photonic Artificial Synapses: Photonic Organolead Halide Perovskite Artificial Synapse Capable of Accelerated Learning at Low Power Inspired by Dopamineâ€Facilitated Synaptic Activity (Adv. Funct.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	4	

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19	Two-in-One Device with Versatile Compatible Electrical Switching or Data Storage Functions Controlled by the Ferroelectricity of P(VDF-TrFE) via Photocrosslinking. ACS Applied Materials & Interfaces, 2019, 11, 25358-25368.	4.0	7
20	Ultrathin Conformable Organic Artificial Synapse for Wearable Intelligent Device Applications. ACS Applied Materials & Interfaces, 2019, 11, 1071-1080.	4.0	106
21	Photonic Organolead Halide Perovskite Artificial Synapse Capable of Accelerated Learning at Low Power Inspired by Dopamineâ€Facilitated Synaptic Activity. Advanced Functional Materials, 2019, 29, 1806646.	7.8	154
22	2D Singleâ€Crystalline Copper Nanoplates as a Conductive Filler for Electronic Ink Applications. Small, 2018, 14, 1703312.	5.2	47
23	A self-rectifying TaOy/nanoporous TaOx memristor synaptic array for learning and energy-efficient neuromorphic systems. NPG Asia Materials, 2018, 10, 1097-1106.	3.8	92
24	2D Materials: Synaptic Barristor Based on Phaseâ€Engineered 2D Heterostructures (Adv. Mater. 35/2018). Advanced Materials, 2018, 30, 1870266.	11.1	3
25	Correlational Effects of the Molecular-Tilt Configuration and the Intermolecular van der Waals Interaction on the Charge Transport in the Molecular Junction. Nano Letters, 2018, 18, 4322-4330.	4.5	14
26	Synaptic Barristor Based on Phaseâ€Engineered 2D Heterostructures. Advanced Materials, 2018, 30, e1801447.	11.1	134
27	An All-Organic Composite System for Resistive Change Memory via the Self-Assembly of Plastic-Crystalline Molecules. ACS Applied Materials & Interfaces, 2017, 9, 2730-2738.	4.0	10
28	Structurally Engineered Nanoporous Ta₂O_{5â€“x} Selector-Less Memristor for High Uniformity and Low Power Consumption. ACS Applied Materials & Interfaces, 2017, 9, 34015-34023.	4.0	18
29	Controllable Switching Filaments Prepared via Tunable and Well-Defined Single Truncated Conical Nanopore Structures for Fast and Scalable SiO_x Memory. Nano Letters, 2017, 17, 7462-7470.	4.5	21
30	Low-Temperature-Grown KNbO₃ Thin Films and Their Application to Piezoelectric Nanogenerators and Self-Powered ReRAM Device. ACS Applied Materials & Interfaces, 2017, 9, 43220-43229.	4.0	23
31	Interface-Engineered Charge-Transport Properties in Benzenedithiol Molecular Electronic Junctions via Chemically p-Doped Graphene Electrodes. ACS Applied Materials & Interfaces, 2017, 9, 42043-42049.	4.0	10
32	Gate-dependent asymmetric transport characteristics in pentacene barristors with graphene electrodes. Nanotechnology, 2016, 27, 475201.	1.3	3
33	Growth and Transfer of Seamless 3D Grapheneâ€“Nanotube Hybrids. Nano Letters, 2016, 16, 1287-1292.	4.5	26
34	Integrated all-organic 8ÂÃ—Â8 one transistor-one resistor (1T-1R) crossbar resistive switching memory array. Organic Electronics, 2016, 29, 66-71.	1.4	7
35	Growing Carbon Nanotubes from Both Sides of Graphene. ACS Applied Materials & Interfaces, 2016, 8, 7356-7362.	4.0	34
36	Graphene quantum dots as a highly efficient solution-processed charge trapping medium for organic nano-floating gate memory. Nanotechnology, 2016, 27, 145204.	1.3	27

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37	One step synthesis of Au nanoparticle-cyclized polyacrylonitrile composite films and their use in organic nano-floating gate memory applications. Journal of Materials Chemistry C, 2016, 4, 1511-1516.	2.7	14
38	Tungsten-based porous thin-films for electrocatalytic hydrogen generation. Journal of Materials Chemistry A, 2015, 3, 5798-5804.	5.2	43
39	Boron/Nitrogen Co-Doped Helically Unzipped Multiwalled Carbon Nanotubes as Efficient Electrocatalyst for Oxygen Reduction. ACS Applied Materials & Interfaces, 2015, 7, 7786-7794.	4.0	85
40	Three-Dimensional Networked Nanoporous Ta₂O_{5â€“x} Memory System for Ultrahigh Density Storage. Nano Letters, 2015, 15, 6009-6014.	4.5	50
41	Carbon-Free Electrocatalyst for Oxygen Reduction and Oxygen Evolution Reactions. ACS Applied Materials & Interfaces, 2015, 7, 20607-20611.	4.0	39
42	Molecular-scale charge trap medium for organic non-volatile memory transistors. Organic Electronics, 2015, 27, 18-23.	1.4	8
43	Rebar Graphene from Functionalized Boron Nitride Nanotubes. ACS Nano, 2015, 9, 532-538.	7.3	29
44	Redoxâ€Induced Asymmetric Electrical Characteristics of Ferroceneâ€Alkanethiolate Molecular Devices on Rigid and Flexible Substrates. Advanced Functional Materials, 2014, 24, 2472-2480.	7.8	68
45	Three-Dimensional Nanoporous Fe₂O₃/Fe₃C-Graphene Heterogeneous Thin Films for Lithium-Ion Batteries. ACS Nano, 2014, 8, 3939-3946.	7.3	167
46	Conducting-Interlayer SiO_x Memory Devices on Rigid and Flexible Substrates. ACS Nano, 2014, 8, 1410-1418.	7.3	27
47	Molecular Electronics: Redox-Induced Asymmetric Electrical Characteristics of Ferrocene-Alkanethiolate Molecular Devices on Rigid and Flexible Substrates (Adv. Funct. Mater.) Tj ETQq1 1 0.784314 rgBT /Overlock	3.8	
48	Enhanced Electrocatalysis for Hydrogen Evolution Reactions from WS₂ Nanoribbons. Advanced Energy Materials, 2014, 4, 1301875.	10.2	128
49	High thermal conductivity of suspended few-layer hexagonal boron nitride sheets. Nano Research, 2014, 7, 1232-1240.	5.8	211
50	Nanoporous Silicon Oxide Memory. Nano Letters, 2014, 14, 4694-4699.	4.5	62
51	Large Hexagonal Biâ€and Trilayer Graphene Single Crystals with Varied Interlayer Rotations. Angewandte Chemie - International Edition, 2014, 53, 1565-1569.	7.2	82
52	Effect of molecular desorption on the electronic properties of self-assembled polarizable molecular monolayers. Journal of Colloid and Interface Science, 2014, 419, 39-45.	5.0	13
53	Three-Dimensional Thin Film for Lithium-Ion Batteries and Supercapacitors. ACS Nano, 2014, 8, 7279-7287.	7.3	50
54	Flexible Three-Dimensional Nanoporous Metal-Based Energy Devices. Journal of the American Chemical Society, 2014, 136, 6187-6190.	6.6	108

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55	Highâ€Performance and Lowâ€Power Rewritable SiO_x 1 kbit One Diodeâ€“One Resistor Crossbar Memory Array. Advanced Materials, 2013, 25, 4789-4793.	11.1	66
56	Hexagonal Graphene Onion Rings. Journal of the American Chemical Society, 2013, 135, 10755-10762.	6.6	31
57	Flexible molecular-scale electronic devices. Nature Nanotechnology, 2012, 7, 438-442.	15.6	165
58	Effect of PEDOT:PSSâ€“molecule interface on the charge transport characteristics of the large-area molecular electronic junctions. Organic Electronics, 2012, 13, 771-777.	1.4	32
59	Electrical transport characteristics through molecular layers. Journal of Materials Chemistry, 2011, 21, 18117.	6.7	48
60	Effect Of Molecular Tilt Configuration On Molecular Electronic Conduction. AIP Conference Proceedings, 2011, , .	0.3	1
61	Characterization of Organic Field Effect Transistors with Graphene Electrodes. , 2011, , .		0
62	Electronic properties associated with conformational changes in azobenzene-derivative molecular junctions. Organic Electronics, 2011, 12, 2144-2150.	1.4	25
63	Investigation of the Transition Voltage Spectra of Molecular Junctions Considering Frontier Molecular Orbitals and the Asymmetric Coupling Effect. Journal of Physical Chemistry C, 2011, 115, 17979-17985.	1.5	47
64	Enhanced Charge Injection in Pentacene Fieldâ€Effect Transistors with Graphene Electrodes. Advanced Materials, 2011, 23, 100-105.	11.1	124
65	A New Approach for Molecular Electronic Junctions with a Multilayer Graphene Electrode. Advanced Materials, 2011, 23, 755-760.	11.1	171
66	Threeâ€Dimensional Integration of Organic Resistive Memory Devices. Advanced Materials, 2010, 22, 5048-5052.	11.1	213
67	Effect of metal ions on the switching performance of polyfluorene-based organic non-volatile memory devices. Organic Electronics, 2010, 11, 109-114.	1.4	22
68	Tuning of a graphene-electrode work function to enhance the efficiency of organic bulk heterojunction photovoltaic cells with an inverted structure. Applied Physics Letters, 2010, 97, .	1.5	92
69	Tuning of the Electronic Characteristics of ZnO Nanowire Field Effect Transistors by Proton Irradiation. ACS Nano, 2010, 4, 811-818.	7.3	62
70	Electrical properties of ZnO nanowire field effect transistors with varying high-kâ€Al2O3 dielectric thickness. Journal of Applied Physics, 2010, 107, .	1.1	27
71	Effect of Ag nanoparticles on resistive switching of polyfluorene based organic non-volatile memory devices. Journal of the Korean Physical Society, 2010, 56, 128-132.	0.3	4
72	STATISTICAL ANALYSIS OF ELECTRONIC TRANSPORT PROPERTIES OF ALKANETHIOL MOLECULAR JUNCTIONS. , 2010, , 121-150.		0

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73	Resistive switching characteristics of polymer non-volatile memory devices in a scalable via-hole structure. Nanotechnology, 2009, 20, 025201.	1.3	47
74	Tuning of operation mode of ZnO nanowire field effect transistors by solvent-driven surface treatment. Nanotechnology, 2009, 20, 475702.	1.3	21
75	One Transistorâ€“One Resistor Devices for Polymer Nonâ€Volatile Memory Applications. Advanced Materials, 2009, 21, 2497-2500.	11.1	100
76	Unipolar nonvolatile memory devices with composites of poly(9-vinylcarbazole) and titanium dioxide nanoparticles. Organic Electronics, 2009, 10, 473-477.	1.4	94
77	Electrical conduction through self-assembled monolayers in molecular junctions: Au/molecules/Au versus Au/molecule/PEDOT:PSS/Au. Thin Solid Films, 2009, 518, 824-828.	0.8	28
78	Enhancement of Field Emission Transport by Molecular Tilt Configuration in Metalâ^'Moleculeâ^'Metal Junctions. Journal of the American Chemical Society, 2009, 131, 5980-5985.	6.6	75
79	Evolution of nanomorphology and anisotropic conductivity in solvent-modified PEDOT:PSS films for polymeric anodes of polymer solar cells. Journal of Materials Chemistry, 2009, 19, 9045.	6.7	282
80	Statistical Analysis of Metal-Molecule Contacts in Alkyl Molecular Junctions: Sulfur versus Selenium End-Group. Journal of Nanoscience and Nanotechnology, 2009, 9, 7012-5.	0.9	3
81	Structural and electrical characterization of intrinsic n-type In2O3 nanowires. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2008, 313-314, 308-311.	2.3	32
82	Reliable Organic Nonvolatile Memory Device Using a Polyfluorene-Derivative Single-Layer Film. IEEE Electron Device Letters, 2008, 29, 852-855.	2.2	16
83	Statistical Analysis of Electronic Transport Through Chemisorbed Versus Physisorbed Alkanethiol Self-Assembled Monolayers. IEEE Nanotechnology Magazine, 2008, 7, 140-144.	1.1	6
84	Effects of Metalâ^'Molecule Contact and Molecular Structure on Molecular Electronic Conduction in Nonresonant Tunneling Regime: Alkyl versus Conjugated Molecules. Journal of Physical Chemistry C, 2008, 112, 13010-13016.	1.5	55
85	A direct metal transfer method for cross-bar type polymer non-volatile memory applications. Nanotechnology, 2008, 19, 405201.	1.3	21
86	Reversible switching characteristics of polyfluorene-derivative single layer film for nonvolatile memory devices. Applied Physics Letters, 2008, 92, .	1.5	66
87	Influence of metal-molecule contacts on decay coefficients and specific contact resistances in molecular junctions. Physical Review B, 2007, 76, .	1.1	67
88	Statistical analysis of electronic properties of alkanethiols in metalâ€“moleculeâ€“metal junctions. Nanotechnology, 2007, 18, 315204.	1.3	111
89	Charge Transport of Alkanethiol Self-Assembled Monolayers in Micro-Via Hole Devices. Journal of Nanoscience and Nanotechnology, 2006, 6, 3487-3490.	0.9	6
90	Comparisons of charge transport through alkane- monothiols and dithiols. , 2006, , .		0

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91	Length-dependent electronic transport through alkane-dithiol self-assembled monolayer junctions. , 2006, , .		0
92	Charge transport of alkanethiol self-assembled monolayers in micro-via hole devices. Journal of Nanoscience and Nanotechnology, 2006, 6, 3487-90.	0.9	0
93	Memristor Synapses for Neuromorphic Computing. , 0, , .		7