

Gunuk Wang

List of Publications by Year in descending order

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93
papers

4,645
citations

87888

38
h-index

98798

67
g-index

98
all docs

98
docs citations

98
times ranked

7194
citing authors

#	ARTICLE	IF	CITATIONS
1	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
2	Three-Dimensional Integration of Organic Resistive Memory Devices. Advanced Materials, 2010, 22, 5048-5052.	21.0	213
3	High thermal conductivity of suspended few-layer hexagonal boron nitride sheets. Nano Research, 2014, 7, 1232-1240.	10.4	211
4	Emerging Memristive Artificial Synapses and Neurons for Energy-Efficient Neuromorphic Computing. Advanced Materials, 2020, 32, e2004659.	21.0	175
5	A New Approach for Molecular Electronic Junctions with a Multilayer Graphene Electrode. Advanced Materials, 2011, 23, 755-760.	21.0	171
6	Three-Dimensional Nanoporous Fe ₂ O ₃ /Fe ₃ C-Graphene Heterogeneous Thin Films for Lithium-Ion Batteries. ACS Nano, 2014, 8, 3939-3946.	14.6	167
7	Flexible molecular-scale electronic devices. Nature Nanotechnology, 2012, 7, 438-442.	31.5	165
8	Photonic Organolead Halide Perovskite Artificial Synapse Capable of Accelerated Learning at Low Power Inspired by Dopamine-Facilitated Synaptic Activity. Advanced Functional Materials, 2019, 29, 1806646.	14.9	154
9	Synaptic Barristor Based on Phase-Engineered 2D Heterostructures. Advanced Materials, 2018, 30, e1801447.	21.0	134
10	Enhanced Electrocatalysis for Hydrogen Evolution Reactions from WS ₂ Nanoribbons. Advanced Energy Materials, 2014, 4, 1301875.	19.5	128
11	Enhanced Charge Injection in Pentacene Field-Effect Transistors with Graphene Electrodes. Advanced Materials, 2011, 23, 100-105.	21.0	124
12	Statistical analysis of electronic properties of alkanethiols in metal-molecule-metal junctions. Nanotechnology, 2007, 18, 315204.	2.6	111
13	Flexible Three-Dimensional Nanoporous Metal-Based Energy Devices. Journal of the American Chemical Society, 2014, 136, 6187-6190.	13.7	108
14	Ultrathin Conformable Organic Artificial Synapse for Wearable Intelligent Device Applications. ACS Applied Materials & Interfaces, 2019, 11, 1071-1080.	8.0	106
15	One-dimensional organic artificial multi-synapses enabling electronic textile neural network for wearable neuromorphic applications. Science Advances, 2020, 6, .	10.3	102
16	One Transistor-One Resistor Devices for Polymer Non-Volatile Memory Applications. Advanced Materials, 2009, 21, 2497-2500.	21.0	100
17	Unipolar nonvolatile memory devices with composites of poly(9-vinylcarbazole) and titanium dioxide nanoparticles. Organic Electronics, 2009, 10, 473-477.	2.6	94
18	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, .	3.3	92

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19	A self-rectifying TaO _y /nanoporous TaO _x memristor synaptic array for learning and energy-efficient neuromorphic systems. NPC Asia Materials, 2018, 10, 1097-1106.	7.9	92
20	Boron/Nitrogen Co-Doped Helically Unzipped Multiwalled Carbon Nanotubes as Efficient Electrocatalyst for Oxygen Reduction. ACS Applied Materials & Interfaces, 2015, 7, 7786-7794.	8.0	85
21	Large Hexagonal and Trilayer Graphene Single Crystals with Varied Interlayer Rotations. Angewandte Chemie - International Edition, 2014, 53, 1565-1569.	13.8	82
22	Enhancement of Field Emission Transport by Molecular Tilt Configuration in Metal-Molecule-Metal Junctions. Journal of the American Chemical Society, 2009, 131, 5980-5985.	13.7	75
23	Redox-Induced Asymmetric Electrical Characteristics of Ferrocene-Alkanethiolate Molecular Devices on Rigid and Flexible Substrates. Advanced Functional Materials, 2014, 24, 2472-2480.	14.9	68
24	Influence of metal-molecule contacts on decay coefficients and specific contact resistances in molecular junctions. Physical Review B, 2007, 76, .	3.2	67
25	Reversible switching characteristics of polyfluorene-derivative single layer film for nonvolatile memory devices. Applied Physics Letters, 2008, 92, .	3.3	66
26	High-Performance and Low-Power Rewritable SiO _x 1 kbit One Diode-One Resistor Crossbar Memory Array. Advanced Materials, 2013, 25, 4789-4793.	21.0	66
27	Tuning of the Electronic Characteristics of ZnO Nanowire Field Effect Transistors by Proton Irradiation. ACS Nano, 2010, 4, 811-818.	14.6	62
28	Nanoporous Silicon Oxide Memory. Nano Letters, 2014, 14, 4694-4699.	9.1	62
29	Effects of Metal-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.	3.1	55
30	Three-Dimensional Thin Film for Lithium-Ion Batteries and Supercapacitors. ACS Nano, 2014, 8, 7279-7287.	14.6	50
31	Three-Dimensional Networked Nanoporous Ta ₂ O ₅ Memory System for Ultrahigh Density Storage. Nano Letters, 2015, 15, 6009-6014.	9.1	50
32	Electrical transport characteristics through molecular layers. Journal of Materials Chemistry, 2011, 21, 18117.	6.7	48
33	Resistive switching characteristics of polymer non-volatile memory devices in a scalable via-hole structure. Nanotechnology, 2009, 20, 025201.	2.6	47
34	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.	3.1	47
35	2D Single-Crystalline Copper Nanoplates as a Conductive Filler for Electronic Ink Applications. Small, 2018, 14, 1703312.	10.0	47
36	Artificially Intelligent Tactile Ferroelectric Skin. Advanced Science, 2020, 7, 2001662.	11.2	45

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37	Tungsten-based porous thin-films for electrocatalytic hydrogen generation. Journal of Materials Chemistry A, 2015, 3, 5798-5804.	10.3	43
38	Retina-Inspired Structurally Tunable Synaptic Perovskite Nanocones. Advanced Functional Materials, 2021, 31, 2105596.	14.9	42
39	Carbon-Free Electrocatalyst for Oxygen Reduction and Oxygen Evolution Reactions. ACS Applied Materials & Interfaces, 2015, 7, 20607-20611.	8.0	39
40	Growing Carbon Nanotubes from Both Sides of Graphene. ACS Applied Materials & Interfaces, 2016, 8, 7356-7362.	8.0	34
41	Structural and electrical characterization of intrinsic n-type In ₂ O ₃ nanowires. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2008, 313-314, 308-311.	4.7	32
42	Effect of PEDOT:PSS molecule interface on the charge transport characteristics of the large-area molecular electronic junctions. Organic Electronics, 2012, 13, 771-777.	2.6	32
43	Hexagonal Graphene Onion Rings. Journal of the American Chemical Society, 2013, 135, 10755-10762.	13.7	31
44	Rebar Graphene from Functionalized Boron Nitride Nanotubes. ACS Nano, 2015, 9, 532-538.	14.6	29
45	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.	1.8	28
46	Electrical properties of ZnO nanowire field effect transistors with varying high- κ Al ₂ O ₃ dielectric thickness. Journal of Applied Physics, 2010, 107, .	2.5	27
47	Conducting-Interlayer SiO ₂ Memory Devices on Rigid and Flexible Substrates. ACS Nano, 2014, 8, 1410-1418.	14.6	27
48	Graphene quantum dots as a highly efficient solution-processed charge trapping medium for organic nano-floating gate memory. Nanotechnology, 2016, 27, 145204.	2.6	27
49	Energy-efficient three-terminal SiO ₂ memristor crossbar array enabled by vertical Si/graphene heterojunction barristor. Nano Energy, 2021, 84, 105947.	16.0	27
50	Integration of multiple electronic components on a microfibre towards an emerging electronic textile platform. Nature Communications, 2022, 13, .	12.8	27
51	Growth and Transfer of Seamless 3D Graphene-Nanotube Hybrids. Nano Letters, 2016, 16, 1287-1292.	9.1	26
52	Electronic properties associated with conformational changes in azobenzene-derivative molecular junctions. Organic Electronics, 2011, 12, 2144-2150.	2.6	25
53	Low-Temperature-Grown KNbO ₃ Thin Films and Their Application to Piezoelectric Nanogenerators and Self-Powered ReRAM Device. ACS Applied Materials & Interfaces, 2017, 9, 43220-43229.	8.0	23
54	Effect of metal ions on the switching performance of polyfluorene-based organic non-volatile memory devices. Organic Electronics, 2010, 11, 109-114.	2.6	22

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55	A Learning-Rate Modulable and Reliable TiO _x Memristor Array for Robust, Fast, and Accurate Neuromorphic Computing. <i>Advanced Science</i> , 2022, 9, .	11.2	22
56	A direct metal transfer method for cross-bar type polymer non-volatile memory applications. <i>Nanotechnology</i> , 2008, 19, 405201.	2.6	21
57	Tuning of operation mode of ZnO nanowire field effect transistors by solvent-driven surface treatment. <i>Nanotechnology</i> , 2009, 20, 475702.	2.6	21
58	Controllable Switching Filaments Prepared via Tunable and Well-Defined Single Truncated Conical Nanopore Structures for Fast and Scalable SiO _x Memory. <i>Nano Letters</i> , 2017, 17, 7462-7470.	9.1	21
59	Tunable rectification in a molecular heterojunction with two-dimensional semiconductors. <i>Nature Communications</i> , 2020, 11, 1412.	12.8	19
60	Structurally Engineered Nanoporous Ta ₂ O ₅ Selector-Less Memristor for High Uniformity and Low Power Consumption. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 34015-34023.	8.0	18
61	Controllable SiO _x Nanorod Memristive Neuron for Probabilistic Bayesian Inference. <i>Advanced Materials</i> , 2022, 34, e2104598.	21.0	17
62	Reliable Organic Nonvolatile Memory Device Using a Polyfluorene-Derivative Single-Layer Film. <i>IEEE Electron Device Letters</i> , 2008, 29, 852-855.	3.9	16
63	One step synthesis of Au nanoparticle-cyclized polyacrylonitrile composite films and their use in organic nano-floating gate memory applications. <i>Journal of Materials Chemistry C</i> , 2016, 4, 1511-1516.	5.5	14
64	Correlational Effects of the Molecular-Tilt Configuration and the Intermolecular van der Waals Interaction on the Charge Transport in the Molecular Junction. <i>Nano Letters</i> , 2018, 18, 4322-4330.	9.1	14
65	Effect of molecular desorption on the electronic properties of self-assembled polarizable molecular monolayers. <i>Journal of Colloid and Interface Science</i> , 2014, 419, 39-45.	9.4	13
66	Bird-Inspired Self-Navigating Artificial Synaptic Compass. <i>ACS Nano</i> , 2021, 15, 20116-20126.	14.6	12
67	An All-Organic Composite System for Resistive Change Memory via the Self-Assembly of Plastic-Crystalline Molecules. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 2730-2738.	8.0	10
68	Interface-Engineered Charge-Transport Properties in Benzenedithiol Molecular Electronic Junctions via Chemically p-Doped Graphene Electrodes. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 42043-42049.	8.0	10
69	Tailoring the Interfacial Band Offset by the Molecular Dipole Orientation for a Molecular Heterojunction Selector. <i>Advanced Science</i> , 2021, 8, e2101390.	11.2	9
70	Molecular-scale charge trap medium for organic non-volatile memory transistors. <i>Organic Electronics</i> , 2015, 27, 18-23.	2.6	8
71	A Hardware and Energy-Efficient Online Learning Neural Network With an RRAM Crossbar Array and Stochastic Neurons. <i>IEEE Transactions on Industrial Electronics</i> , 2021, 68, 11554-11564.	7.9	8
72	Integrated all-organic 8T-1R one transistor-one resistor (1T-1R) crossbar resistive switching memory array. <i>Organic Electronics</i> , 2016, 29, 66-71.	2.6	7

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73	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.	8.0	7
74	Memristor Synapses for Neuromorphic Computing. , 0, , .		7
75	Charge Transport of Alkanethiol Self-Assembled Monolayers in Micro-Via Hole Devices. Journal of Nanoscience and Nanotechnology, 2006, 6, 3487-3490.	0.9	6
76	Statistical Analysis of Electronic Transport Through Chemisorbed Versus Physisorbed Alkanethiol Self-Assembled Monolayers. IEEE Nanotechnology Magazine, 2008, 7, 140-144.	2.0	6
77	Multiple Switching Modes of NiO _x Memristors for Memory-Driven Multifunctional Device Applications. ACS Applied Electronic Materials, 2022, 4, 3739-3748.	4.3	5
78	Photonic Artificial Synapses: Photonic Organolead Halide Perovskite Artificial Synapse Capable of Accelerated Learning at Low Power Inspired by Dopamine-Facilitated Synaptic Activity (Adv. Funct. Mater.) Tj ETQq0 0 0 rgBT /Overclock 10 Tf	1.8	4
79	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.	0.7	4
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	Gate-dependent asymmetric transport characteristics in pentacene barristors with graphene electrodes. Nanotechnology, 2016, 27, 475201.	2.6	3
82	2D Materials: Synaptic Barristor Based on Phase-Engineered 2D Heterostructures (Adv. Mater. 35/2018). Advanced Materials, 2018, 30, 1870266.	21.0	3
83	Effect Of Molecular Tilt Configuration On Molecular Electronic Conduction. AIP Conference Proceedings, 2011, , .	0.4	1
84	Molecular Electronics: Redox-Induced Asymmetric Electrical Characteristics of Ferrocene-Alkanethiolate Molecular Devices on Rigid and Flexible Substrates (Adv. Funct. Mater.) Tj ETQq0 0 0 rgBT /Overclock 10 Tf 50 2	1.4	1
85	Transparent and Unipolar Nonvolatile Memory Using 2D Vertically Stacked Layered Double Hydroxide. Advanced Materials Interfaces, 2021, 8, 2001990.	3.7	1
86	Run-off election-based decision method for the training and inference process in an artificial neural network. Scientific Reports, 2021, 11, 895.	3.3	1
87	Flexible Neural Network Realized by the Probabilistic SiO _x Memristive Synaptic Array for Energy-Efficient Image Learning. Advanced Science, 2022, , 2104773.	11.2	1
88	Comparisons of charge transport through alkane- monothiols and dithiols. , 2006, , .		0
89	Length-dependent electronic transport through alkane-dithiol self-assembled monolayer junctions. , 2006, , .		0
90	Characterization of Organic Field Effect Transistors with Graphene Electrodes. , 2011, , .		0

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91	STATISTICAL ANALYSIS OF ELECTRONIC TRANSPORT PROPERTIES OF ALKANETHIOL MOLECULAR JUNCTIONS. , 2010, , 121-150.		0
92	Tailoring the Interfacial Band Offset by the Molecular Dipole Orientation for a Molecular Heterojunction Selector (Adv. Sci. 21/2021). Advanced Science, 2021, 8, 2170143.	11.2	0
93	Charge transport of alkanethiol self-assembled monolayers in micro-via hole devices. Journal of Nanoscience and Nanotechnology, 2006, 6, 3487-90.	0.9	0