

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	Evolution of nanomorphology and anisotropic conductivity in solvent-modified PEDOT:PSS films for polymeric anodes of polymer solar cells. <i>Journal of Materials Chemistry</i> , 2009, 19, 9045.	6.7	282
2	Three-Dimensional Integration of Organic Resistive Memory Devices. <i>Advanced Materials</i> , 2010, 22, 5048-5052.	11.1	213
3	High thermal conductivity of suspended few-layer hexagonal boron nitride sheets. <i>Nano Research</i> , 2014, 7, 1232-1240.	5.8	211
4	Emerging Memristive Artificial Synapses and Neurons for Energy-Efficient Neuromorphic Computing. <i>Advanced Materials</i> , 2020, 32, e2004659.	11.1	175
5	A New Approach for Molecular Electronic Junctions with a Multilayer Graphene Electrode. <i>Advanced Materials</i> , 2011, 23, 755-760.	11.1	171
6	Three-Dimensional Nanoporous Fe ₂ O ₃ /Fe ₃ C-Graphene Heterogeneous Thin Films for Lithium-Ion Batteries. <i>ACS Nano</i> , 2014, 8, 3939-3946.	7.3	167
7	Flexible molecular-scale electronic devices. <i>Nature Nanotechnology</i> , 2012, 7, 438-442.	15.6	165
8	Photonic Organolead Halide Perovskite Artificial Synapse Capable of Accelerated Learning at Low Power Inspired by Dopamine-Facilitated Synaptic Activity. <i>Advanced Functional Materials</i> , 2019, 29, 1806646.	7.8	154
9	Synaptic Barristor Based on Phase-Engineered 2D Heterostructures. <i>Advanced Materials</i> , 2018, 30, e1801447.	11.1	134
10	Enhanced Electrocatalysis for Hydrogen Evolution Reactions from WS ₂ Nanoribbons. <i>Advanced Energy Materials</i> , 2014, 4, 1301875.	10.2	128
11	Enhanced Charge Injection in Pentacene Field-Effect Transistors with Graphene Electrodes. <i>Advanced Materials</i> , 2011, 23, 100-105.	11.1	124
12	Statistical analysis of electronic properties of alkanethiols in metal-molecule-metal junctions. <i>Nanotechnology</i> , 2007, 18, 315204.	1.3	111
13	Flexible Three-Dimensional Nanoporous Metal-Based Energy Devices. <i>Journal of the American Chemical Society</i> , 2014, 136, 6187-6190.	6.6	108
14	Ultrathin Conformable Organic Artificial Synapse for Wearable Intelligent Device Applications. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 1071-1080.	4.0	106
15	One-dimensional organic artificial multi-synapses enabling electronic textile neural network for wearable neuromorphic applications. <i>Science Advances</i> , 2020, 6, .	4.7	102
16	One Transistor-One Resistor Devices for Polymer Non-Volatile Memory Applications. <i>Advanced Materials</i> , 2009, 21, 2497-2500.	11.1	100
17	Unipolar nonvolatile memory devices with composites of poly(9-vinylcarbazole) and titanium dioxide nanoparticles. <i>Organic Electronics</i> , 2009, 10, 473-477.	1.4	94
18	Tuning of a graphene-electrode work function to enhance the efficiency of organic bulk heterojunction photovoltaic cells with an inverted structure. <i>Applied Physics Letters</i> , 2010, 97, .	1.5	92

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19	A self-rectifying TaO _y /nanoporous TaO _x memristor synaptic array for learning and energy-efficient neuromorphic systems. <i>NPG Asia Materials</i> , 2018, 10, 1097-1106.	3.8	92
20	Boron/Nitrogen Co-Doped Helically Unzipped Multiwalled Carbon Nanotubes as Efficient Electrocatalyst for Oxygen Reduction. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 7786-7794.	4.0	85
21	Large Hexagonal Bi- and Trilayer Graphene Single Crystals with Varied Interlayer Rotations. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 1565-1569.	7.2	82
22	Enhancement of Field Emission Transport by Molecular Tilt Configuration in Metal-Molecule-Metal Junctions. <i>Journal of the American Chemical Society</i> , 2009, 131, 5980-5985.	6.6	75
23	Redox-Induced Asymmetric Electrical Characteristics of Ferrocene-Alkanethiolate Molecular Devices on Rigid and Flexible Substrates. <i>Advanced Functional Materials</i> , 2014, 24, 2472-2480.	7.8	68
24	Influence of metal-molecule contacts on decay coefficients and specific contact resistances in molecular junctions. <i>Physical Review B</i> , 2007, 76, .	1.1	67
25	Reversible switching characteristics of polyfluorene-derivative single layer film for nonvolatile memory devices. <i>Applied Physics Letters</i> , 2008, 92, .	1.5	66
26	High-Performance and Low-Power Rewritable SiO _x 1 kbit One Diode-One Resistor Crossbar Memory Array. <i>Advanced Materials</i> , 2013, 25, 4789-4793.	11.1	66
27	Tuning of the Electronic Characteristics of ZnO Nanowire Field Effect Transistors by Proton Irradiation. <i>ACS Nano</i> , 2010, 4, 811-818.	7.3	62
28	Nanoporous Silicon Oxide Memory. <i>Nano Letters</i> , 2014, 14, 4694-4699.	4.5	62
29	Effects of Metal-Molecule Contact and Molecular Structure on Molecular Electronic Conduction in Nonresonant Tunneling Regime: Alkyl versus Conjugated Molecules. <i>Journal of Physical Chemistry C</i> , 2008, 112, 13010-13016.	1.5	55
30	Three-Dimensional Thin Film for Lithium-Ion Batteries and Supercapacitors. <i>ACS Nano</i> , 2014, 8, 7279-7287.	7.3	50
31	Three-Dimensional Networked Nanoporous Ta ₂ O ₅ Memory System for Ultrahigh Density Storage. <i>Nano Letters</i> , 2015, 15, 6009-6014.	4.5	50
32	Electrical transport characteristics through molecular layers. <i>Journal of Materials Chemistry</i> , 2011, 21, 18117.	6.7	48
33	Resistive switching characteristics of polymer non-volatile memory devices in a scalable via-hole structure. <i>Nanotechnology</i> , 2009, 20, 025201.	1.3	47
34	Investigation of the Transition Voltage Spectra of Molecular Junctions Considering Frontier Molecular Orbitals and the Asymmetric Coupling Effect. <i>Journal of Physical Chemistry C</i> , 2011, 115, 17979-17985.	1.5	47
35	2D Single-Crystalline Copper Nanoplates as a Conductive Filler for Electronic Ink Applications. <i>Small</i> , 2018, 14, 1703312.	5.2	47
36	Artificially Intelligent Tactile Ferroelectric Skin. <i>Advanced Science</i> , 2020, 7, 2001662.	5.6	45

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37	Tungsten-based porous thin-films for electrocatalytic hydrogen generation. <i>Journal of Materials Chemistry A</i> , 2015, 3, 5798-5804.	5.2	43
38	Retina-Inspired Structurally Tunable Synaptic Perovskite Nanocones. <i>Advanced Functional Materials</i> , 2021, 31, 2105596.	7.8	42
39	Carbon-Free Electrocatalyst for Oxygen Reduction and Oxygen Evolution Reactions. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 20607-20611.	4.0	39
40	Growing Carbon Nanotubes from Both Sides of Graphene. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 7356-7362.	4.0	34
41	Structural and electrical characterization of intrinsic n-type In ₂ O ₃ nanowires. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2008, 313-314, 308-311.	2.3	32
42	Effect of PEDOT:PSS molecule interface on the charge transport characteristics of the large-area molecular electronic junctions. <i>Organic Electronics</i> , 2012, 13, 771-777.	1.4	32
43	Hexagonal Graphene Onion Rings. <i>Journal of the American Chemical Society</i> , 2013, 135, 10755-10762.	6.6	31
44	Rebar Graphene from Functionalized Boron Nitride Nanotubes. <i>ACS Nano</i> , 2015, 9, 532-538.	7.3	29
45	Electrical conduction through self-assembled monolayers in molecular junctions: Au/molecules/Au versus Au/molecule/PEDOT:PSS/Au. <i>Thin Solid Films</i> , 2009, 518, 824-828.	0.8	28
46	Electrical properties of ZnO nanowire field effect transistors with varying high- κ Al ₂ O ₃ dielectric thickness. <i>Journal of Applied Physics</i> , 2010, 107, .	1.1	27
47	Conducting-Interlayer SiO ₂ Memory Devices on Rigid and Flexible Substrates. <i>ACS Nano</i> , 2014, 8, 1410-1418.	7.3	27
48	Graphene quantum dots as a highly efficient solution-processed charge trapping medium for organic nano-floating gate memory. <i>Nanotechnology</i> , 2016, 27, 145204.	1.3	27
49	Energy-efficient three-terminal SiO ₂ memristor crossbar array enabled by vertical Si/graphene heterojunction barristor. <i>Nano Energy</i> , 2021, 84, 105947.	8.2	27
50	Integration of multiple electronic components on a microfibre towards an emerging electronic textile platform. <i>Nature Communications</i> , 2022, 13, .	5.8	27
51	Growth and Transfer of Seamless 3D Graphene-Nanotube Hybrids. <i>Nano Letters</i> , 2016, 16, 1287-1292.	4.5	26
52	Electronic properties associated with conformational changes in azobenzene-derivative molecular junctions. <i>Organic Electronics</i> , 2011, 12, 2144-2150.	1.4	25
53	Low-Temperature-Grown KNbO ₃ Thin Films and Their Application to Piezoelectric Nanogenerators and Self-Powered ReRAM Device. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 43220-43229.	4.0	23
54	Effect of metal ions on the switching performance of polyfluorene-based organic non-volatile memory devices. <i>Organic Electronics</i> , 2010, 11, 109-114.	1.4	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, .	5.6	22
56	A direct metal transfer method for cross-bar type polymer non-volatile memory applications. <i>Nanotechnology</i> , 2008, 19, 405201.	1.3	21
57	Tuning of operation mode of ZnO nanowire field effect transistors by solvent-driven surface treatment. <i>Nanotechnology</i> , 2009, 20, 475702.	1.3	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.	4.5	21
59	Tunable rectification in a molecular heterojunction with two-dimensional semiconductors. <i>Nature Communications</i> , 2020, 11, 1412.	5.8	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.	4.0	18
61	Controllable SiO _x Nanorod Memristive Neuron for Probabilistic Bayesian Inference. <i>Advanced Materials</i> , 2022, 34, e2104598.	11.1	17
62	Reliable Organic Nonvolatile Memory Device Using a Polyfluorene-Derivative Single-Layer Film. <i>IEEE Electron Device Letters</i> , 2008, 29, 852-855.	2.2	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.	2.7	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.	4.5	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.	5.0	13
66	Bird-Inspired Self-Navigating Artificial Synaptic Compass. <i>ACS Nano</i> , 2021, 15, 20116-20126.	7.3	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.	4.0	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.	4.0	10
69	Tailoring the Interfacial Band Offset by the Molecular Dipole Orientation for a Molecular Heterojunction Selector. <i>Advanced Science</i> , 2021, 8, e2101390.	5.6	9
70	Molecular-scale charge trap medium for organic non-volatile memory transistors. <i>Organic Electronics</i> , 2015, 27, 18-23.	1.4	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.	5.2	8
72	Integrated all-organic 8 \times 8 one transistor-one resistor (1T-1R) crossbar resistive switching memory array. <i>Organic Electronics</i> , 2016, 29, 66-71.	1.4	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.	4.0	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.	1.1	6
77	Multiple Switching Modes of NiO Memristors for Memory-Driven Multifunctional Device Applications. ACS Applied Electronic Materials, 2022, 4, 3739-3748.	2.0	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.) Tj ETQq0 0 0 rgBT /Overclock 10 Tf		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.	0.3	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.	1.3	3
82	2D Materials: Synaptic Barristor Based on Phase-Engineered 2D Heterostructures (Adv. Mater. 35/2018). Advanced Materials, 2018, 30, 1870266.	11.1	3
83	Effect Of Molecular Tilt Configuration On Molecular Electronic Conduction. AIP Conference Proceedings, 2011, , .	0.3	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
85	Transparent and Unipolar Nonvolatile Memory Using 2D Vertically Stacked Layered Double Hydroxide. Advanced Materials Interfaces, 2021, 8, 2001990.	1.9	1
86	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
87	Flexible Neural Network Realized by the Probabilistic SiO Memristive Synaptic Array for Energy-Efficient Image Learning. Advanced Science, 2022, , 2104773.	5.6	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.	5.6	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