

Keon Jae Lee

List of Publications by Year in descending order

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114
papers

12,798
citations

20759

60
h-index

22764

112
g-index

120
all docs

120
docs citations

120
times ranked

12876
citing authors

#	ARTICLE	IF	CITATIONS
1	Transfer printing by kinetic control of adhesion to an elastomeric stamp. <i>Nature Materials</i> , 2006, 5, 33-38.	13.3	1,348
2	Piezoelectric BaTiO ₃ Thin Film Nanogenerator on Plastic Substrates. <i>Nano Letters</i> , 2010, 10, 4939-4943.	4.5	711
3	Highly Efficient, Flexible Piezoelectric PZT Thin Film Nanogenerator on Plastic Substrates. <i>Advanced Materials</i> , 2014, 26, 2514-2520.	11.1	690
4	Flexible Nanocomposite Generator Made of BaTiO ₃ Nanoparticles and Graphitic Carbons. <i>Advanced Materials</i> , 2012, 24, 2999-3004.	11.1	601
5	Self-Powered Cardiac Pacemaker Enabled by Flexible Single Crystalline PMN-PT Piezoelectric Energy Harvester. <i>Advanced Materials</i> , 2014, 26, 4880-4887.	11.1	558
6	Self-Powered Real-Time Arterial Pulse Monitoring Using Ultrathin Epidermal Piezoelectric Sensors. <i>Advanced Materials</i> , 2017, 29, 1702308.	11.1	495
7	A Hyperstretchable Elastic Composite Energy Harvester. <i>Advanced Materials</i> , 2015, 27, 2866-2875.	11.1	350
8	Topographically-Designed Triboelectric Nanogenerator via Block Copolymer Self-Assembly. <i>Nano Letters</i> , 2014, 14, 7031-7038.	4.5	310
9	Wireless smart contact lens for diabetic diagnosis and therapy. <i>Science Advances</i> , 2020, 6, eaba3252.	4.7	255
10	Flexible Memristive Memory Array on Plastic Substrates. <i>Nano Letters</i> , 2011, 11, 5438-5442.	4.5	250
11	Flexible Piezoelectric Thin-Film Energy Harvesters and Nanosensors for Biomedical Applications. <i>Advanced Healthcare Materials</i> , 2015, 4, 646-658.	3.9	249
12	Large-Area and Flexible Lead-Free Nanocomposite Generator Using Alkaline Niobate Particles and Metal Nanorod Filler. <i>Advanced Functional Materials</i> , 2014, 24, 2620-2629.	7.8	211
13	Flexible and Large-Area Nanocomposite Generators Based on Lead Zirconate Titanate Particles and Carbon Nanotubes. <i>Advanced Energy Materials</i> , 2013, 3, 1539-1544.	10.2	210
14	Self-powered deep brain stimulation via a flexible PIMNT energy harvester. <i>Energy and Environmental Science</i> , 2015, 8, 2677-2684.	15.6	207
15	Flash-Induced Self-Limited Plasmonic Welding of Silver Nanowire Network for Transparent Flexible Energy Harvester. <i>Advanced Materials</i> , 2017, 29, 1603473.	11.1	207
16	High-Performance Flexible Thermoelectric Power Generator Using Laser Multiscanning Lift-Off Process. <i>ACS Nano</i> , 2016, 10, 10851-10857.	7.3	199
17	Self-powered fully-flexible light-emitting system enabled by flexible energy harvester. <i>Energy and Environmental Science</i> , 2014, 7, 4035-4043.	15.6	179
18	Self-Powered Wireless Sensor Node Enabled by an Aerosol-Deposited PZT Flexible Energy Harvester. <i>Advanced Energy Materials</i> , 2016, 6, 1600237.	10.2	179

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19	Flexible Inorganic Piezoelectric Acoustic Nanosensors for Biomimetic Artificial Hair Cells. <i>Advanced Functional Materials</i> , 2014, 24, 6914-6921.	7.8	176
20	Laser Irradiation of Metal Oxide Films and Nanostructures: Applications and Advances. <i>Advanced Materials</i> , 2018, 30, e1705148.	11.1	170
21	In Vivo Self-Powered Wireless Transmission Using Biocompatible Flexible Energy Harvesters. <i>Advanced Functional Materials</i> , 2017, 27, 1700341.	7.8	160
22	Flexible Piezoelectric Acoustic Sensors and Machine Learning for Speech Processing. <i>Advanced Materials</i> , 2020, 32, e1904020.	11.1	155
23	High-speed mechanically flexible single-crystal silicon thin-film transistors on plastic substrates. <i>IEEE Electron Device Letters</i> , 2006, 27, 460-462.	2.2	154
24	Laser-Material Interactions for Flexible Applications. <i>Advanced Materials</i> , 2017, 29, 1606586.	11.1	132
25	Micro Light-Emitting Diodes for Display and Flexible Biomedical Applications. <i>Advanced Functional Materials</i> , 2019, 29, 1808075.	7.8	132
26	Water-resistant flexible GaN LED on a liquid crystal polymer substrate for implantable biomedical applications. <i>Nano Energy</i> , 2012, 1, 145-151.	8.2	123
27	Laser Crystallization of Organic-Inorganic Hybrid Perovskite Solar Cells. <i>ACS Nano</i> , 2016, 10, 7907-7914.	7.3	123
28	Comprehensive biocompatibility of nontoxic and high-output flexible energy harvester using lead-free piezoceramic thin film. <i>APL Materials</i> , 2017, 5, .	2.2	121
29	Machine learning-based self-powered acoustic sensor for speaker recognition. <i>Nano Energy</i> , 2018, 53, 658-665.	8.2	121
30	Performance-enhanced triboelectric nanogenerator enabled by wafer-scale nanogrates of multistep pattern downscaling. <i>Nano Energy</i> , 2017, 35, 415-423.	8.2	120
31	Achieving high-resolution pressure mapping via flexible GaN/ ZnO nanowire LEDs array by piezo-phototronic effect. <i>Nano Energy</i> , 2019, 58, 633-640.	8.2	120
32	Flexible Crossbar-Structured Resistive Memory Arrays on Plastic Substrates via Inorganic-Based Laser Lift-Off. <i>Advanced Materials</i> , 2014, 26, 7480-7487.	11.1	118
33	Skin-Like Oxide Thin-Film Transistors for Transparent Displays. <i>Advanced Functional Materials</i> , 2016, 26, 6170-6178.	7.8	118
34	A Reconfigurable Rectified Flexible Energy Harvester via Solid-State Single Crystal Grown PMN-PZT. <i>Advanced Energy Materials</i> , 2015, 5, 1500051.	10.2	116
35	A flexible energy harvester based on a lead-free and piezoelectric BCTZ nanoparticle-polymer composite. <i>Nanoscale</i> , 2016, 8, 17632-17638.	2.8	114
36	Self-powered flexible inorganic electronic system. <i>Nano Energy</i> , 2015, 14, 111-125.	8.2	110

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37	A Printable Form of Single-Crystalline Gallium Nitride for Flexible Optoelectronic Systems. <i>Small</i> , 2005, 1, 1164-1168.	5.2	109
38	<i>In Vivo</i> Silicon-Based Flexible Radio Frequency Integrated Circuits Monolithically Encapsulated with Biocompatible Liquid Crystal Polymers. <i>ACS Nano</i> , 2013, 7, 4545-4553.	7.3	108
39	Stretchable piezoelectric nanocomposite generator. <i>Nano Convergence</i> , 2016, 3, 12.	6.3	104
40	Biomimetic and flexible piezoelectric mobile acoustic sensors with multiresonant ultrathin structures for machine learning biometrics. <i>Science Advances</i> , 2021, 7, .	4.7	104
41	Laser Writing Block Copolymer Self-Assembly on Graphene Light-Absorbing Layer. <i>ACS Nano</i> , 2016, 10, 3435-3442.	7.3	102
42	Plasmonic-Tuned Flash Cu Nanowelding with Ultrafast Photochemical-Reducing and Interlocking on Flexible Plastics. <i>Advanced Functional Materials</i> , 2017, 27, 1701138.	7.8	98
43	Novel Electronics for Flexible and Neuromorphic Computing. <i>Advanced Functional Materials</i> , 2018, 28, 1801690.	7.8	94
44	Reliable Control of Filament Formation in Resistive Memories by Self-Assembled Nanoinsulators Derived from a Block Copolymer. <i>ACS Nano</i> , 2014, 8, 9492-9502.	7.3	93
45	Performance Enhancement of Electronic and Energy Devices via Block Copolymer Self-Assembly. <i>Advanced Materials</i> , 2015, 27, 3982-3998.	11.1	91
46	Reliable Memristive Switching Memory Devices Enabled by Densely Packed Silver Nanocone Arrays as Electric-Field Concentrators. <i>ACS Nano</i> , 2016, 10, 9478-9488.	7.3	90
47	Modulation of surface physics and chemistry in triboelectric energy harvesting technologies. <i>Science and Technology of Advanced Materials</i> , 2019, 20, 758-773.	2.8	90
48	Monolithic Flexible Vertical GaN Light-Emitting Diodes for a Transparent Wireless Brain Optical Stimulator. <i>Advanced Materials</i> , 2018, 30, e1800649.	11.1	88
49	Performance improvement of flexible piezoelectric energy harvester for irregular human motion with energy extraction enhancement circuit. <i>Nano Energy</i> , 2019, 58, 211-219.	8.2	88
50	Flexible highly-effective energy harvester via crystallographic and computational control of nanointerfacial morphotropic piezoelectric thin film. <i>Nano Research</i> , 2017, 10, 437-455.	5.8	86
51	Complementary Logic Gates and Ring Oscillators on Plastic Substrates by Use of Printed Ribbons of Single-Crystalline Silicon. <i>IEEE Electron Device Letters</i> , 2008, 29, 73-76.	2.2	85
52	Basilar membrane-inspired self-powered acoustic sensor enabled by highly sensitive multi tunable frequency band. <i>Nano Energy</i> , 2018, 53, 198-205.	8.2	85
53	Wireless powered wearable micro light-emitting diodes. <i>Nano Energy</i> , 2019, 55, 454-462.	8.2	83
54	Flash Light Millisecond Self-Assembly of High-Resolution Block Copolymers for Wafer-Scale Sub-10 nm Nanopatterning. <i>Advanced Materials</i> , 2017, 29, 1700595.	11.1	78

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55	Laser-induced phase separation of silicon carbide. <i>Nature Communications</i> , 2016, 7, 13562.	5.8	75
56	Self-Assembled Incorporation of Modulated Block Copolymer Nanostructures in Phase-Change Memory for Switching Power Reduction. <i>ACS Nano</i> , 2013, 7, 2651-2658.	7.3	74
57	Flexible One Diode-One Phase Change Memory Array Enabled by Block Copolymer Self-Assembly. <i>ACS Nano</i> , 2015, 9, 4120-4128.	7.3	74
58	Self-powered flexible electronics beyond thermal limits. <i>Nano Energy</i> , 2019, 56, 531-546.	8.2	74
59	Trichogenic Photostimulation Using Monolithic Flexible Vertical AlGaInP Light-Emitting Diodes. <i>ACS Nano</i> , 2018, 12, 9587-9595.	7.3	72
60	Optogenetic control of body movements via flexible vertical light-emitting diodes on brain surface. <i>Nano Energy</i> , 2018, 44, 447-455.	8.2	68
61	TFT Channel Materials for Display Applications: From Amorphous Silicon to Transition Metal Dichalcogenides. <i>Advanced Materials</i> , 2020, 32, e1907166.	11.1	58
62	Optogenetic brain neuromodulation by stray magnetic field via flash-enhanced magneto-mechano-triboelectric nanogenerator. <i>Nano Energy</i> , 2020, 75, 104951.	8.2	54
63	Simultaneous Roll Transfer and Interconnection of Flexible Silicon NAND Flash Memory. <i>Advanced Materials</i> , 2016, 28, 8371-8378.	11.1	53
64	Laser-Induced Solid-Phase Doped Graphene. <i>ACS Nano</i> , 2014, 8, 7671-7677.	7.3	48
65	Electrical Biomolecule Detection Using Nanopatterned Silicon via Block Copolymer Lithography. <i>Small</i> , 2014, 10, 337-343.	5.2	48
66	Versatile Transfer of an Ultralong and Seamless Nanowire Array Crystallized at High Temperature for Use in High-Performance Flexible Devices. <i>ACS Nano</i> , 2017, 11, 1520-1529.	7.3	48
67	Optogenetic Mapping of Functional Connectivity in Freely Moving Mice via Insertable Wrapping Electrode Array Beneath the Skull. <i>ACS Nano</i> , 2016, 10, 2791-2802.	7.3	46
68	Flexible one diode-one resistor resistive switching memory arrays on plastic substrates. <i>RSC Advances</i> , 2014, 4, 20017-20023.	1.7	40
69	Flexible wireless powered drug delivery system for targeted administration on cerebral cortex. <i>Nano Energy</i> , 2018, 51, 102-112.	8.2	37
70	Flash-Induced Stretchable Cu Conductor via Multiscale Interfacial Couplings. <i>Advanced Science</i> , 2018, 5, 1801146.	5.6	36
71	Flexible Self-Charging, Ultrafast, High-Power-Density Ceramic Capacitor System. <i>ACS Energy Letters</i> , 0, , 1383-1391.	8.8	36
72	Simultaneous emulation of synaptic and intrinsic plasticity using a memristive synapse. <i>Nature Communications</i> , 2022, 13, 2811.	5.8	35

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73	Flash-induced ultrafast recrystallization of perovskite for flexible light-emitting diodes. <i>Nano Energy</i> , 2019, 61, 236-244.	8.2	34
74	Flexible Crossbar-Structured Phase Change Memory Array via Mo-Based Interfacial Physical Lift-Off. <i>Advanced Functional Materials</i> , 2019, 29, 1806338.	7.8	31
75	Progress in Brain-Compatible Interfaces with Soft Nanomaterials. <i>Advanced Materials</i> , 2020, 32, e1907522.	11.1	29
76	Hierarchically Surface-Textured Ultrastable Hybrid Film for Large-Scale Triboelectric Nanogenerators. <i>Advanced Functional Materials</i> , 2020, 30, 2005610.	7.8	28
77	Janus Graphene Liquid Crystalline Fiber with Tunable Properties Enabled by Ultrafast Flash Reduction. <i>Small</i> , 2019, 15, e1901529.	5.2	27
78	Self-Structured Conductive Filament Nanoheater for Chalcogenide Phase Transition. <i>ACS Nano</i> , 2015, 9, 6587-6594.	7.3	26
79	Tailoring the Magnetoelectric Properties of $\text{Pb}(\text{Zr,Ti})\text{O}_3$ Film Deposited on Amorphous Metglas Foil by Laser Annealing. <i>Journal of the American Ceramic Society</i> , 2016, 99, 2680-2687.	1.9	26
80	Xenon Flash Lamp-Induced Ultrafast Multilayer Graphene Growth. <i>Particle and Particle Systems Characterization</i> , 2017, 34, 1600429.	1.2	26
81	An Ionic Capacitor for Integrated Iontronic Circuits. <i>Advanced Materials Technologies</i> , 2019, 4, 1800494.	3.0	24
82	Flashlight-material interaction for wearable and flexible electronics. <i>Materials Today</i> , 2021, 51, 525-551.	8.3	23
83	Memory-centric neuromorphic computing for unstructured data processing. <i>Nano Research</i> , 2021, 14, 3126-3142.	5.8	21
84	Laser lift-off of GaN thin film and its application to the flexible light emitting diodes. <i>Proceedings of SPIE</i> , 2012, , .	0.8	19
85	Deep learning-based noise robust flexible piezoelectric acoustic sensors for speech processing. <i>Nano Energy</i> , 2022, 101, 107610.	8.2	17
86	Nanotransplantation Printing of Crystallographic-Orientation-Controlled Single-Crystalline Nanowire Arrays on Diverse Surfaces. <i>ACS Nano</i> , 2017, 11, 11642-11652.	7.3	16
87	Flash-welded ultraflat silver nanowire network for flexible organic light-emitting diode and triboelectric tactile sensor. <i>APL Materials</i> , 2021, 9, .	2.2	16
88	A Flash-Induced Robust Cu Electrode on Glass Substrates and Its Application for Thin-Film LEDs. <i>Advanced Materials</i> , 2021, 33, e2007186.	11.1	15
89	Self-Powered Flexible Full-Color Display via Dielectric-Tuned Hybrimer Triboelectric Nanogenerators. <i>ACS Energy Letters</i> , 2021, 6, 4097-4107.	8.8	15
90	Unconventional Inorganic-Based Memristive Devices for Advanced Intelligent Systems. <i>Advanced Materials Technologies</i> , 2019, 4, 1900080.	3.0	14

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91	Nanogenerators: Highly Efficient, Flexible Piezoelectric PZT Thin Film Nanogenerator on Plastic Substrates (Adv. Mater. 16/2014). Advanced Materials, 2014, 26, 2450-2450.	11.1	9
92	Siloxane Hybrid Material-Encapsulated Highly Robust Flexible μ LEDs for Biocompatible Lighting Applications. ACS Applied Materials & Interfaces, 2022, 14, 28258-28269.	4.0	9
93	Current density enhancement nano-contact phase-change memory for low writing current. Applied Physics Letters, 2013, 103, .	1.5	8
94	Speech Recognition: Flexible Piezoelectric Acoustic Sensors and Machine Learning for Speech Processing (Adv. Mater. 35/2020). Advanced Materials, 2020, 32, 2070259.	11.1	8
95	Biointegrated flexible inorganic light emitting diodes. Nanobiosensors in Disease Diagnosis, 2012, , 5.	0.0	7
96	Nanocomposites: Flexible and Large Area Nanocomposite Generators Based on Lead Zirconate Titanate Particles and Carbon Nanotubes (Adv. Energy Mater. 12/2013). Advanced Energy Materials, 2013, 3, 1530-1530.	10.2	7
97	Autonomous Microcapillary Drug Delivery System Self-Powered by a Flexible Energy Harvester. Advanced Materials Technologies, 2021, 6, 2100526.	3.0	7
98	ACF-packaged ultrathin Si-based flexible NAND flash memory. , 2015, , .		6
99	Metastable quantum dot for photoelectric devices via flash-induced one-step sequential self-formation. Nano Energy, 2021, 84, 105889.	8.2	6
100	Universal Patterning for 2D Van der Waals Materials via Direct Optical Lithography. Advanced Functional Materials, 2021, 31, 2105302.	7.8	6
101	Implantable Micro-Light-Emitting Diode (μ LED)-based optogenetic interfaces toward human applications. Advanced Drug Delivery Reviews, 2022, 187, 114399.	6.6	6
102	Flexible micro light-emitting diodes for wearable applications. , 2019, , .		5
103	Nanogenerators: Self-Powered Cardiac Pacemaker Enabled by Flexible Single Crystalline PMN-PT Piezoelectric Energy Harvester (Adv. Mater. 28/2014). Advanced Materials, 2014, 26, 4754-4754.	11.1	4
104	Self-Powered Devices: Self-Powered Wireless Sensor Node Enabled by an Aerosol-Deposited PZT Flexible Energy Harvester (Adv. Energy Mater. 13/2016). Advanced Energy Materials, 2016, 6, .	10.2	4
105	Piezoelectric Sensors: Self-Powered Real-Time Arterial Pulse Monitoring Using Ultrathin Epidermal Piezoelectric Sensors (Adv. Mater. 37/2017). Advanced Materials, 2017, 29, .	11.1	4
106	Light-material interfaces for self-powered optoelectronics. Journal of Materials Chemistry A, 2021, 9, 25694-25705.	5.2	4
107	Transparent Displays: Skin-Like Oxide Thin-Film Transistors for Transparent Displays (Adv. Funct.) Tj ETQq1 1 0.784314 rgBT /Overlock 1	7.8	3
108	Light-Emitting Diodes: Monolithic Flexible Vertical GaN Light-Emitting Diodes for a Transparent Wireless Brain Optical Stimulator (Adv. Mater. 28/2018). Advanced Materials, 2018, 30, 1870208.	11.1	2

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109	Neuromedical Devices: Progress in Brain-Compatible Interfaces with Soft Nanomaterials (Adv. Mater.) Tj ETQq1 1 0.784314,rgBT /Ower	11.1	2
110	Flexible Electronics: Flexible Crossbar-Structured Resistive Memory Arrays on Plastic Substrates via Inorganic-Based Laser Lift-Off (Adv. Mater. 44/2014). Advanced Materials, 2014, 26, 7418-7418.	11.1	1
111	Siloxane Hybrid Materials: Hierarchically Surface-Textured Ultrastable Hybrid Film for Large-Scale Triboelectric Nanogenerators (Adv. Funct. Mater. 49/2020). Advanced Functional Materials, 2020, 30, 2070327.	7.8	1
112	Multidisciplinary Materials Research in KAIST Over the Last 50 Years. Advanced Materials, 2020, 32, e2000696.	11.1	1
113	Low Power Phase Change Memory via Block Copolymer Self-assembly Technology. Materials Research Society Symposia Proceedings, 2013, 1556, 1.	0.1	0
114	Sensors: Flexible Inorganic Piezoelectric Acoustic Nanosensors for Biomimetic Artificial Hair Cells (Adv. Funct. Mater. 44/2014). Advanced Functional Materials, 2014, 24, 6898-6898.	7.8	0