Haixia Zhang

List of Publications by Year
in descending order

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Version: 2024-02-01

156 papers	8,862 citations	44069 48 h-index	42399 92 g-index
174 all docs	174 docs citations	174 times ranked	7426 citing authors

#	Article	IF	Citations
1	A laser-engraved wearable sensor for sensitive detection of uric acid and tyrosine in sweat. Nature Biotechnology, 2020, 38, 217-224.	17.5	683
2	Frequency-Multiplication High-Output Triboelectric Nanogenerator for Sustainably Powering Biomedical Microsystems. Nano Letters, 2013, 13, 1168-1172.	9.1	591
3	Wireless battery-free wearable sweat sensor powered by human motion. Science Advances, 2020, 6, .	10.3	372
4	A transparent single-friction-surface triboelectric generator and self-powered touch sensor. Energy and Environmental Science, 2013, 6, 3235.	30.8	367
5	High-performance triboelectric nanogenerator with enhanced energy density based on single-step fluorocarbon plasma treatment. Nano Energy, 2014, 4, 123-131.	16.0	287
6	Rollâ€toâ€Roll Green Transfer of CVD Graphene onto Plastic for a Transparent and Flexible Triboelectric Nanogenerator. Advanced Materials, 2015, 27, 5210-5216.	21.0	273
7	Highly Compressible Integrated Supercapacitorâ€“Piezoresistanceâ€Sensor System with CNTâ€“PDMS Sponge for Health Monitoring. Small, 2017, 13, 1702091.	10.0	261
8	All-in-one self-powered flexible microsystems based on triboelectric nanogenerators. Nano Energy, 2018, 47, 410-426.	16.0	249
9	r-Shaped Hybrid Nanogenerator with Enhanced Piezoelectricity. ACS Nano, 2013, 7, 8554-8560.	14.6	225
10	Self-powered electronic skin based on the triboelectric generator. Nano Energy, 2019, 56, 252-268.	16.0	205
11	Flexible fiber-based hybrid nanogenerator for biomechanical energy harvesting and physiological monitoring. Nano Energy, 2017, 38, 43-50.	16.0	201
12	Portable and wearable self-powered systems based on emerging energy harvesting technology. Microsystems and Nanoengineering, 2021, 7, 25.	7.0	194
13	High performance triboelectric nanogenerators based on large-scale mass-fabrication technologies. Nano Energy, 2015, 11, 304-322.	16.0	191
14	High efficiency power management and charge boosting strategy for a triboelectric nanogenerator. Nano Energy, 2017, 38, 438-446.	16.0	174
15	Self-Powered Analogue Smart Skin. ACS Nano, 2016, 10, 4083-4091.	14.6	153
16	Implantable and self-powered blood pressure monitoring based on a piezoelectric thinfilm: Simulated, in vitro and in vivo studies. Nano Energy, 2016, 22, 453-460.	16.0	149
17	A flexible and implantable piezoelectric generator harvesting energy from the pulsation of ascending aorta: in vitro and in vivo studies. Nano Energy, 2015, 12, 296-304.	16.0	148
18	Omnidirectional Bending and Pressure Sensor Based on Stretchable CNT-PU Sponge. Advanced Functional Materials, 2017, 27, 1604434.	14.9	148

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19	Power management and effective energy storage of pulsed output from triboelectric nanogenerator. Nano Energy, 2019, 61, 517-532.	16.0	135
20	Single-Step Fluorocarbon Plasma Treatment-Induced Wrinkle Structure for High-Performance Triboelectric Nanogenerator. Small, 2016, 12, 229-236.	10.0	134
21	Hybrid porous micro structured finger skin inspired self-powered electronic skin system for pressure sensing and sliding detection. Nano Energy, 2018, 51, 496-503.	16.0	131
22	Wearable electrode-free triboelectric generator for harvesting biomechanical energy. Nano Energy, 2015, 12, 19-25.	16.0	127
23	Fingertip-inspired electronic skin based on triboelectric sliding sensing and porous piezoresistive pressure detection. Nano Energy, 2017, 40, 65-72.	16.0	120
24	Self-Powered Wearable Biosensors. Accounts of Materials Research, 2021, 2, 184-197.	11.7	118
25	Integrated self-charging power unit with flexible supercapacitor and triboelectric nanogenerator. Journal of Materials Chemistry A, 2016, 4, 14298-14306.	10.3	117
26	High-efficiency self-charging smart bracelet for portable electronics. Nano Energy, 2019, 55, 29-36.	16.0	116
27	A wave-shaped hybrid piezoelectric and triboelectric nanogenerator based on P(VDF-TrFE) nanofibers. Nanoscale, 2017, 9, 1263-1270.	5.6	111
28	Self-powered flexible printed circuit board with integrated triboelectric generator. Nano Energy, 2013, 2, 1101-1106.	16.0	108
29	High performance triboelectric nanogenerators with aligned carbon nanotubes. Nanoscale, 2016, 8, 18489-18494.	5.6	107
30	Self-powered wireless smart patch for healthcare monitoring. Nano Energy, 2017, 32, 479-487.	16.0	90
31	Magnetic-assisted triboelectric nanogenerators as self-powered visualized omnidirectional tilt sensing system. Scientific Reports, 2014, 4, 4811.	3.3	89
32	Investigation of power generation based on stacked triboelectric nanogenerator. Nano Energy, 2013, 2, 1164-1171.	16.0	87
33	An ultrathin stretchable triboelectric nanogenerator with coplanar electrode for energy harvesting and gesture sensing. Journal of Materials Chemistry A, 2017, 5, 12361-12368.	10.3	86
34	Design, manufacturing and applications of wearable triboelectric nanogenerators. Nano Energy, 2021, 81, 105627.	16.0	86
35	Selfâ€Powered Noncontact Electronic Skin for Motion Sensing. Advanced Functional Materials, 2018, 28, 1704641.	14.9	83
36	Design and Fabrication of Integrated Magnetic MEMS Energy Harvester for Low Frequency Applications. Journal of Microelectromechanical Systems, 2014, 23, 204-212.	2.5	82

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37	Skin-Inspired Humidity and Pressure Sensor with a Wrinkle-on-Sponge Structure. ACS Applied Materials & Interfaces, 2019, 11, 39219-39227.	8.0	82
38	All-in-one piezoresistive-sensing patch integrated with micro-supercapacitor. Nano Energy, 2018, 53, 189-197.	16.0	79
39	Wearable and self-cleaning hybrid energy harvesting system based on micro/nanostructured haze film. Nano Energy, 2020, 67, 104243.	16.0	77
40	Hybrid energy cells based on triboelectric nanogenerator: From principle to system. Nano Energy, 2020, 75, 104980.	16.0	71
41	Waterproof and stretchable triboelectric nanogenerator for biomechanical energy harvesting and self-powered sensing. Applied Physics Letters, 2018, 112, .	3.3	67
42	Low-frequency wide-band hybrid energy harvester based on piezoelectric and triboelectric mechanism. Science China Technological Sciences, 2013, 56, 1835-1841.	4.0	66
43	Hybrid generator based on freestanding magnet as all-direction in-plane energy harvester and vibration sensor. Nano Energy, 2018, 49, 51-58.	16.0	63
44	All-fabric-based wearable self-charging power cloth. Applied Physics Letters, 2017, 111, .	3.3	62
45	Nanofluidic crystal: a facile, high-efficiency and high-power-density scaling up scheme for energy harvesting based on nanofluidic reverse electrodialysis. Nanotechnology, 2013, 24, 345401.	2.6	56
46	Simulation of the Bosch process with a stringâ€“cell hybrid method. Journal of Micromechanics and Microengineering, 2004, 14, 851-858.	2.6	54
47	Controlled fabrication of nanoscale wrinkle structure by fluorocarbon plasma for highly transparent triboelectric nanogenerator. Microsystems and Nanoengineering, 2017, 3, 16074.	7.0	54
48	Self-Powered Multifunctional Electronic Skin for a Smart Anti-Counterfeiting Signature System. ACS Applied Materials & Interfaces, 2020, 12, 22357-22364.	8.0	51
49	Coupling of Piezoelectric and Triboelectric Effects: from Theoretical Analysis to Experimental Verification. Advanced Electronic Materials, 2015, 1, 1500187.	5.1	50
50	Self-powered digital-analog hybrid electronic skin for noncontact displacement sensing. Nano Energy, 2019, 58, 121-129.	16.0	48
51	Self-Cleaning Poly(dimethylsiloxane) Film with Functional Micro/Nano Hierarchical Structures. Langmuir, 2013, 29, 10769-10775.	3.5	47
52	Single-friction-surface triboelectric generator with human body conduit. Applied Physics Letters, 2014, 104, .	3.3	47
53	A flexible hybridized electromagnetic-triboelectric nanogenerator and its application for 3D trajectory sensing. Nano Energy, 2020, 74, 104878.	16.0	46
54	Asymmetrical Triboelectric Nanogenerator with Controllable Direct Electrostatic Discharge. Advanced Functional Materials, 2016, 26, 5524-5533.	14.9	43

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55	Fabrication of micro/nano dual-scale structures by improved deep reactive ion etching. Journal of Micromechanics and Microengineering, 2010, 20, 075028.	2.6	42
56	A Flexible and Transparent Graphene-Based Triboelectric Nanogenerator. IEEE Nanotechnology Magazine, 2016, 15, 435-441.	2.0	42
57	Electrification based devices with encapsulated liquid for energy harvesting, multifunctional sensing, and self-powered visualized detection. Journal of Materials Chemistry A, 2015, 3, 7382-7388.	10.3	39
58	Fabric-based self-powered noncontact smart gloves for gesture recognition. Journal of Materials Chemistry A, 2018, 6, 20277-20288.	10.3	36
59	Study on a PECVD SiC-coated pressure sensor. Journal of Micromechanics and Microengineering, 2007, 17, 426-431.	2.6	35
60	Wideband anti-reflective micro/nano dual-scale structures: fabrication and optical properties. Micro and Nano Letters, 2011, 6, 947.	1.3	35
61	A flexible large-area triboelectric generator by low-cost roll-to-roll process for location-based monitoring. Sensors and Actuators A: Physical, 2016, 247, 206-214.	4.1	35
62	Low frequency wide bandwidth MEMS energy harvester based on spiral-shaped PVDF cantilever. Science China Technological Sciences, 2014, 57, 1068-1072.	4.0	34
63	Modeling and simulation of the lag effect in a deep reactive ion etching process. Journal of Micromechanics and Microengineering, 2006, 16, 2570-2575.	2.6	32
64	Self-powered flexible and transparent smart patch for temperature sensing. Applied Physics Letters, 2020, 116, .	3.3	32
65	Digitalized self-powered strain gauge for static and dynamic measurement. Nano Energy, 2017, 42, 129-137.	16.0	31
66	Analysis of an in-plane electromagnetic energy harvester with integrated magnet array. Sensors and Actuators A: Physical, 2014, 219, 38-46.	4.1	29
67	Application of PECVD SiC in glass micromachining. Journal of Micromechanics and Microengineering, 2007, 17, 775-780.	2.6	26
68	Microsphereâ€Assisted Robust Epidermal Strain Gauge for Static and Dynamic Gesture Recognition. Small, 2017, 13, 1702108.	10.0	26
69	Soft Humanâ€“Machine Interface with Triboelectric Patterns and Archimedes Spiral Electrodes for Enhanced Motion Detection. Advanced Functional Materials, 2021, 31, 2103075.	14.9	26
70	Effect of etch holes on the capacitance and pull-in voltage in MEMS tunable capacitors. International Journal of Electronics, 2010, 97, 1439-1448.	1.4	25
71	Fabrication and characterization of squama-shape micro/nano multi-scale silicon material. Science China Technological Sciences, 2012, 55, 3395-3400.	4.0	21
72	A three-electrode multi-module sensor for accurate bodily-kinesthetic monitoring. Nano Energy, 2020, 68, 104316.	16.0	21

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73	Self-Powered Intelligent Human-Machine Interaction for Handwriting Recognition. Research, 2021, 2021, 4689869.	5.7	21
74	Tunable wetting behavior of nanostructured poly(dimethylsiloxane) by plasma combination treatments. Applied Physics Letters, 2012, 101, .	3.3	19
75	Electrodeposition and characterization of CoNiMnP permanent magnet arrays for MEMS sensors and actuators. Sensors and Actuators A: Physical, 2012, 188, 190-197.	4.1	19
76	Superhydrophobic Micro/Nano Dual-Scale Structures. Journal of Nanoscience and Nanotechnology, 2013, 13, 1539-1542.	0.9	19
77	3D nanostructure reconstruction based on the SEM imaging principle, and applications. Nanotechnology, 2014, 25, 185705.	2.6	19
78	An unmovable single-layer triboloelectric generator driven by sliding friction. Nano Energy, 2014, 9, 401-407.	16.0	18
79	Switchable wetting and flexible SiC thin film with nanostructures for microfluidic surface-enhanced Raman scattering sensors. Sensors and Actuators A: Physical, 2014, 208, 166-173.	4.1	17
80	Parylene-based 3D high performance folded multilayer inductors for wireless power transmission in implanted applications. Sensors and Actuators A: Physical, 2014, 208, 141-151.	4.1	17
81	A cubic triboelectric generator as a self-powered orientation sensor. Science China Technological Sciences, 2015, 58, 842-847.	4.0	16
82	A single-electrode wearable triboelectric nanogenerator based on conductive & stretchable fabric. , 2016, , .		13
83	Complementary metal-oxide semiconductor-compatible silicon carbide pressure sensors based on bulk micromachining. Micro and Nano Letters, 2011, 6, 265.	1.3	12
84	Highly compressionâ€tolerant folded carbon nanotube/paper as solidâ€state supercapacitor electrode. Micro and Nano Letters, 2016, 11, 586-590.	1.3	12
85	Robust PECVD SiC membrane made for stencil lithography. Microelectronic Engineering, 2011, 88, 2790-2793.	2.4	9
86	Investigation and characterization of an arc-shaped piezoelectric generator. Science China Technological Sciences, 2013, 56, 2636-2641.	4.0	9
87	Note: A cubic electromagnetic harvester that convert vibration energy from all directions. Review of Scientific Instruments, 2014, 85, 076109.	1.3	9
88	A 3-D Stacked High-Q PI-Based MEMS Inductor for Wireless Power Transmission System in Bio-Implanted Applications. Journal of Microelectromechanical Systems, 2014, 23, 888-898.	2.5	9
89	Formation mechanism of multi-functional black silicon based on optimized deep reactive ion etching technique with SF6/C4F8. Science China Technological Sciences, 2015, 58, 381-389.	4.0	9
90	Fabrication of controlled hierarchical wrinkle structures on polydimethylsiloxane via one-step C₄F₈plasma treatment. Journal of Micromechanics and Microengineering, 2018, 28, 015007.	2.6	9

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91	Localized modulus-controlled PDMS substrate for 2D and 3D stretchable electronics. Journal of Micromechanics and Microengineering, 2020, 30, 045001.	2.6	9
92	Electro-thermally actuated RF MEMS switch for wireless communication. , 2010, , .		8
93	Ultra-sensitive transparent and stretchable pressure sensor with single electrode. , 2016, , .		8
94	Microstructure and magnetic properties of micro NiFe alloy arrays for MEMS application. Journal of Micromechanics and Microengineering, 2013, 23, 085013.	2.6	7
95	Design and modeling of a continuously variable piezoelectric RF MEMS switch. Microsystem Technologies, 2015, 21, 1293-1300.	2.0	7
96	Magnetic, conductive textile for multipurpose protective clothing and hybrid energy harvesting. Applied Physics Letters, 2021, 118, .	3.3	7
97	Novel Applications of Pulse Laser Annealing in Micro Structures by Boundary Control. Procedia Chemistry, 2009, 1, 786-791.	0.7	6
98	Low frequency PVDF piezoelectric energy harvester with combined d31 and d33 operating modes. , 2013, , .		6
99	GPS-Inspired Stretchable Self-Powered Electronic Skin. IEEE Nanotechnology Magazine, 2018, 17, 460-466.	2.0	6
100	Stamp-Assisted Gravure Printing of Micro-Supercapacitors with General Flexible Substrates. , 2019, , .		6
101	Springless cubic harvester for converting three dimensional vibration energy. , 2014, , .		5
102	A high-efficiency transparent electrification-based generator for harvesting droplet energy. , 2015, , .		5
103	Design and microfabrication of integrated magnetic MEMS energy harvester for low frequency application. , 2011, , .		4
104	Electrodeposition and characterization of CoNiMnP permanent magnet arrays for MEMS applications. , 2011, , .		4
105	A flexible and wearable generator with fluorocarbon plasma induced wrinkle structure. , 2016, , .		4
106	Stretchable, transparent and wearable sensor for multifunctional smart skins. , 2017, , .		4
107	Liquid Assembly of Floating Nanomaterial Sheets for Transparent Electronics. Advanced Materials Technologies, 2019, 4, 1900398.	5.8	4
108	Self-cleaning organic solar cells based on micro/nanostructured haze films with optical enhancement effect. Applied Physics Letters, 2019, 115, .	3.3	4

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109	What Will We Carry Forward from This Time?. ACS Nano, 2020, 14, 14253-14254.	14.6	4
110	Electronic design for an implantable wireless power and data transmission system. , 2008, , .		3
111	Stacked flexible parylene-based 3D inductors with Ni<inf>80</inf>Fe<inf>20</inf> core for wireless power transmission system. , 2013, , .		3
112	Microfluidic sterilization. Biomicrofluidics, 2014, 8, 034119.	2.4	3
113	Fabrication of spiral-shaped PVDF cantilever based vibration energy harvester. , 2014, , .		3
114	Fabrication of silicon hierarchical nanopillar arrays based on nanosphere lithography. Micro and Nano Letters, 2014, 9, 655-659.	1.3	3
115	Gold nanoparticle-coated silicon cone array for surface-enhanced Raman spectroscopy. Spectroscopy Letters, 2016, 49, 51-55.	1.0	3
116	Fabrication of SiC MEMS Pressure Sensor by Anodic Bonding. , 2008, , .		2
117	Fabrication and characteristics of tunable band pass filter using MetalMumps technology. , 2011, , .		2
118	A low-cost, high-efficiency and high-output-power nanofluidic energy harvester. , 2013, , .		2
119	Contactless RF MEMS switch using PZT actuation. , 2013, , .		2
120	Flexible parylene-based folded inductors with magnetic core. , 2013, , .		2
121	Jagged discharge electrodes powered by triboelectric generator. Micro and Nano Letters, 2015, 10, 537-540.	1.3	2
122	Liquid metal droplet based tube-shaped electrostatic energy harvester. , 2016, , .		2
123	Fingerprint-inspired triboelectrific sliding sensor. , 2018, , .		2
124	Double-Sided Laser-Induced Graphene Based Smart Bracelet for Sensing and Energy. , 2021, , .		2
125	A Flexible Pain Sensor Based on PDMS-AgNWs. IEEE Nanotechnology Magazine, 2021, 20, 137-142.	2.0	2
126	Fabrication and Test of PECVD SiC Resonator. , 2007, , .		2

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127	Fabrication and characterization analysis of flexible porous nitrogen-doped carbon-based supercapacitor electrodes. Chinese Science Bulletin, 2016, 61, 1314-1322.	0.7	2
128	Effect of RF sputtering parameters on PZT crystal growth. , 2013, , .		1
129	Silicon carbide capacitive pressure sensors with arrayed sensing membranes. , 2013, , .		1
130	Self-assembly of colloid nano particle by evaporation-induced method. , 2014, , .		1
131	The fabrication of PDMS-based functional surface mimicking the namib desert beetle back for collecting water vapor in the air. , 2014, , .		1
132	A three-step model of black silicon formation in Deep Reactive Ion Etching process. , 2015, , .		1
133	A flexible and transparent graphene based triboelectric nanogenerator. , 2015, , .		1
134	A super-flexible and lightweight membrane for energy harvesting. , 2015, , .		1
135	Triboelectrification based active sensor for liquid flow and bubble detetecting. , 2017, , .		1
136	Bioinspired microporous elastomer with enhanced and tunable stretchability for strain sensing device. , 2017, , .		1
137	A continuous-time voltage readout for SiC micromechanical capacitive pressure sensor. , 2010, , .		0
138	High efficiency coupling with stacked MEMS coils. , 2010, , .		0
139	Wireless energy and signal transmission system for micro implantable medical system. , 2010, , .		0
140	RF MEMS filter based on one step of copper electroplating. , 2010, , .		0
141	Simulation studies on PECVD SiO<inf>2</inf> process aiming at TSV application. , 2011, , .		0
142	Development of TSV simulator: FASTsv. , 2011, , .		0
143	High-Q polyimide-based spiral inductors with magnetic core for RF telemetry applications. , 2013, , .		0
144	High aspect ratio etching of nanopores in PECVD SiC through AAO mask. , 2013, , .		0

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145	Growth of arrayed ZnO nanowires using a solution method. , 2013, , .		0
146	Flexible MEMS inductors based on Parylene-FeNi Compound Substrate for wireless power transmission system. , 2013, , .		0
147	Effects of crystal defects on the electrokinetics of nanofluidic crystal. , 2013, , .		0
148	Growth of ZnO nanowires on flexible polyimide substrates. , 2013, , .		0
149	A Keyboard-Based r-Shaped Triboelectric Generator for Active Noise-Free Recording. Materials Research Society Symposia Proceedings, 2015, 1782, 29-34.	0.1	0
150	Wafer-level fabrication of a triboelectric energy harvester. , 2015, , .		0
151	A novel discharge system based on jagged electrodes with controllable spacing. , 2015, , .		0
152	Improvement of DRIE simulation method for process development application. , 2015, , .		0
153	Floor-based large-area triboelectric generator for active security monitoring. , 2015, , .		0
154	Freestanding solid-state micro-supercapacitor based on laser-patterned nanofibers. , 2017, , .		0
155	Conductive composite-based tactile sensor. , 2021, , 67-90.		0
156	Efficient Manufacturing of Microdome Array for Advanced Electronic and Optical Devicesâ€. , 2021, , .		0