Jie Wang

List of Publications by Year in descending order

96 papers	12,670 citations	26567 56 h-index	40881 93 g-index
97 all docs	97 docs citations	97 times ranked	8541 citing authors

#	Article	IF	Citations
1	Self-powered textile for wearable electronics by hybridizing fiber-shaped nanogenerators, solar cells, and supercapacitors. Science Advances, 2016, 2, e1600097.	4.7	705
2	Standards and figure-of-merits for quantifying the performance of triboelectric nanogenerators. Nature Communications, 2015, 6, 8376.	5.8	644
3	A breathable, biodegradable, antibacterial, and self-powered electronic skin based on all-nanofiber triboelectric nanogenerators. Science Advances, 2020, 6, eaba9624.	4.7	589
4	A highly sensitive, self-powered triboelectric auditory sensor for social robotics and hearing aids. Science Robotics, 2018, 3, .	9.9	573
5	Achieving ultrahigh triboelectric charge density for efficient energy harvesting. Nature Communications, 2017, 8, 88.	5.8	495
6	Sustainably powering wearable electronics solely by biomechanical energy. Nature Communications, 2016, 7, 12744.	5.8	483
7	Effective energy storage from a triboelectric nanogenerator. Nature Communications, 2016, 7, 10987.	5.8	407
8	Triboelectricâ€“Pyroelectricâ€“Piezoelectric Hybrid Cell for Highâ€Efficiency Energyâ€Harvesting and Selfâ€Powered Sensing. Advanced Materials, 2015, 27, 2340-2347.	11.1	397
9	A Flexible Fiberâ€Based Supercapacitorâ€“Triboelectricâ€Nanogenerator Power System for Wearable Electronics. Advanced Materials, 2015, 27, 4830-4836.	11.1	322
10	Stretchableâ€Rubberâ€Based Triboelectric Nanogenerator and Its Application as Selfâ€Powered Body Motion Sensors. Advanced Functional Materials, 2015, 25, 3688-3696.	7.8	320
11	A Highly Stretchable Fiberâ€Based Triboelectric Nanogenerator for Selfâ€Powered Wearable Electronics. Advanced Functional Materials, 2017, 27, 1604378.	7.8	296
12	Shape adaptable and highly resilient 3D braided triboelectric nanogenerators as e-textiles for power and sensing. Nature Communications, 2020, 11, 2868.	5.8	285
13	A highly shape-adaptive, stretchable design based on conductive liquid for energy harvesting and self-powered biomechanical monitoring. Science Advances, 2016, 2, e1501624.	4.7	274
14	Multifunctional TENG for Blue Energy Scavenging and Selfâ€Powered Windâ€Speed Sensor. Advanced Energy Materials, 2017, 7, 1602397.	10.2	273
15	Harvesting Broad Frequency Band Blue Energy by a Triboelectricâ€“Electromagnetic Hybrid Nanogenerator. ACS Nano, 2016, 10, 6526-6534.	7.3	244
16	A Waterâ€Proof Triboelectricâ€“Electromagnetic Hybrid Generator for Energy Harvesting in Harsh Environments. Advanced Energy Materials, 2016, 6, 1501593.	10.2	243
17	A constant current triboelectric nanogenerator arising from electrostatic breakdown. Science Advances, 2019, 5, eaav6437.	4.7	237
18	Allâ€Plasticâ€Materials Based Selfâ€Charging Power System Composed of Triboelectric Nanogenerators and Supercapacitors. Advanced Functional Materials, 2016, 26, 1070-1076.	7.8	190

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19	Capacitance properties of single wall carbon nanotube/polypyrrole composite films. Composites Science and Technology, 2007, 67, 2981-2985.	3.8	185
20	Stretchable and Waterproof Self-Charging Power System for Harvesting Energy from Diverse Deformation and Powering Wearable Electronics. ACS Nano, 2016, 10, 6519-6525.	7.3	182
21	Keystroke dynamics enabled authentication and identification using triboelectric nanogenerator array. Materials Today, 2018, 21, 216-222.	8.3	176
22	A Hybridized Power Panel to Simultaneously Generate Electricity from Sunlight, Raindrops, and Wind around the Clock. Advanced Energy Materials, 2015, 5, 1501152.	10.2	174
23	Harvesting Wind Energy by a Triboelectric Nanogenerator for an Intelligent High-Speed Train System. ACS Energy Letters, 0, , 1490-1499.	8.8	166
24	Electrochemical supercapacitor electrode material based on poly(3,4-ethylenedioxythiophene)/polypyrrole composite. Journal of Power Sources, 2007, 163, 1120-1125.	4.0	165
25	A spring-based resonance coupling for hugely enhancing the performance of triboelectric nanogenerators for harvesting low-frequency vibration energy. Nano Energy, 2017, 32, 287-293.	8.2	164
26	Active resonance triboelectric nanogenerator for harvesting omnidirectional water-wave energy. Joule, 2021, 5, 1613-1623.	11.7	162
27	A Fully Self-Powered Vibration Monitoring System Driven by Dual-Mode Triboelectric Nanogenerators. ACS Nano, 2020, 14, 2475-2482.	7.3	154
28	Selection rules of triboelectric materials for direct-current triboelectric nanogenerator. Nature Communications, 2021, 12, 4686.	5.8	154
29	Silicon Nanowire/Polymer Hybrid Solar Cell-Supercapacitor: A Self-Charging Power Unit with a Total Efficiency of 10.5%. Nano Letters, 2017, 17, 4240-4247.	4.5	149
30	Template-free prepared micro/nanostructured polypyrrole with ultrafast charging/discharging rate and long cycle life. Journal of Power Sources, 2011, 196, 2373-2379.	4.0	141
31	The effect of various electrolyte cations on electrochemical performance of polypyrrole/RGO based supercapacitors. Physical Chemistry Chemical Physics, 2015, 17, 28666-28673.	1.3	140
32	All-Weather Droplet-Based Triboelectric Nanogenerator for Wave Energy Harvesting. ACS Nano, 2021, 15, 13200-13208.	7.3	135
33	An ultrathin paper-based self-powered system for portable electronics and wireless human-machine interaction. Nano Energy, 2017, 39, 328-336.	8.2	134
34	Sustainable Energy Source for Wearable Electronics Based on Multilayer Elastomeric Triboelectric Nanogenerators. Advanced Energy Materials, 2017, 7, 1602832.	10.2	129
35	Rationally patterned electrode of direct-current triboelectric nanogenerators for ultrahigh effective surface charge density. Nature Communications, 2020, 11, 6186.	5.8	129
36	Simultaneously Enhancing Power Density and Durability of Slidingâ€Mode Triboelectric Nanogenerator via Interface Liquid Lubrication. Advanced Energy Materials, 2020, 10, 2002920.	10.2	112

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37	A Dual-Mode Triboelectric Nanogenerator for Wind Energy Harvesting and Self-Powered Wind Speed Monitoring. ACS Nano, 2022, 16, 6244-6254.	7.3	111
38	Self-Powered Sensor for Quantifying Ocean Surface Water Waves Based on Triboelectric Nanogenerator. ACS Nano, 2020, 14, 7092-7100.	7.3	105
39	An inductor-free auto-power-management design built-in triboelectric nanogenerators. Nano Energy, 2017, 31, 302-310.	8.2	104
40	Morphology controllable nano-sheet polypyrroleâ€“graphene composites for high-rate supercapacitor. Physical Chemistry Chemical Physics, 2015, 17, 19885-19894.	1.3	100
41	Structure and Dimension Effects on the Performance of Layered Triboelectric Nanogenerators in Contact-Separation Mode. ACS Nano, 2019, 13, 698-705.	7.3	100
42	Self-Powered Triboelectric Nanosensor for Microfluidics and Cavity-Confined Solution Chemistry. ACS Nano, 2015, 9, 11056-11063.	7.3	99
43	Graphene oxide sheets-induced growth of nanostructured Fe₃O₄ for a high-performance anode material of lithium ion batteries. Journal of Materials Chemistry A, 2015, 3, 12938-12946.	5.2	98
44	Silicone-Based Triboelectric Nanogenerator for Water Wave Energy Harvesting. ACS Applied Materials & Interfaces, 2018, 10, 3616-3623.	4.0	98
45	All-Elastomer-Based Triboelectric Nanogenerator as a Keyboard Cover To Harvest Typing Energy. ACS Nano, 2016, 10, 7973-7981.	7.3	96
46	Porous and high electronic conductivity nitrogen-doped nano-sheet carbon derived from polypyrrole for high-power supercapacitors. Carbon, 2016, 107, 638-645.	5.4	93
47	Capacitance properties of poly(3,4-ethylenedioxythiophene)/polypyrrole composites. Journal of Power Sources, 2006, 159, 370-373.	4.0	88
48	Selfâ€Powered Electrochemical Synthesis of Polypyrrole from the Pulsed Output of a Triboelectric Nanogenerator as a Sustainable Energy System. Advanced Functional Materials, 2016, 26, 3542-3548.	7.8	87
49	Quantifying the power output and structural figure-of-merits of triboelectric nanogenerators in a charging system starting from the Maxwell's displacement current. Nano Energy, 2019, 59, 380-389.	8.2	84
50	Enhancing the Output Charge Density of TENG via Building Longitudinal Paths of Electrostatic Charges in the Contacting Layers. ACS Applied Materials & Interfaces, 2018, 10, 2158-2165.	4.0	83
51	Concurrent Harvesting of Ambient Energy by Hybrid Nanogenerators for Wearable Self-Powered Systems and Active Remote Sensing. ACS Applied Materials & Interfaces, 2018, 10, 14708-14715.	4.0	78
52	A Motion Vector Sensor via Directâ€Current Triboelectric Nanogenerator. Advanced Functional Materials, 2020, 30, 2002547.	7.8	78
53	High charge/discharge rate polypyrrole films prepared by pulse current polymerization. Synthetic Metals, 2010, 160, 1826-1831.	2.1	72
54	Bifilarâ€Pendulumâ€Assisted Multilayerâ€Structured Triboelectric Nanogenerators for Wave Energy Harvesting. Advanced Energy Materials, 2021, 11, 2003616.	10.2	71

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55	Rationally Designed Dualâ€Mode Triboelectric Nanogenerator for Harvesting Mechanical Energy by Both Electrostatic Induction and Dielectric Breakdown Effects. Advanced Energy Materials, 2020, 10, 2000965.	10.2	70
56	Improved Output Performance of Triboelectric Nanogenerator by Fast Accumulation Process of Surface Charges. Advanced Energy Materials, 2021, 11, 2100050.	10.2	67
57	Triboelectric nanogenerator: from alternating current to direct current. IScience, 2021, 24, 102018.	1.9	66
58	A highly efficient constant-voltage triboelectric nanogenerator. Energy and Environmental Science, 2022, 15, 1334-1345.	15.6	62
59	Low-Cost, Environmentally Friendly, and High-Performance Triboelectric Nanogenerator Based on a Common Waste Material. ACS Applied Materials & Interfaces, 2021, 13, 30776-30784.	4.0	56
60	Toward a high specific power and high stability polypyrrole supercapacitors. Synthetic Metals, 2011, 161, 1141-1144.	2.1	55
61	Improving performance of triboelectric nanogenerators by dielectric enhancement effect. Matter, 2022, 5, 180-193.	5.0	53
62	Hugely Enhanced Output Power of Directâ€Current Triboelectric Nanogenerators by Using Electrostatic Breakdown Effect. Advanced Materials Technologies, 2020, 5, 2000289.	3.0	49
63	A review on emerging biodegradable polymers for environmentally benign transient electronic skins. Journal of Materials Science, 2021, 56, 16765-16789.	1.7	49
64	A Selfâ€Powered Dualâ€Type Signal Vector Sensor for Smart Robotics and Automatic Vehicles. Advanced Materials, 2022, 34, e2110363.	11.1	48
65	Bionicâ€Finâ€Structured Triboelectric Nanogenerators for Undersea Energy Harvesting. Advanced Materials Technologies, 2020, 5, 2000531.	3.0	46
66	High Space Efficiency Hybrid Nanogenerators for Effective Water Wave Energy Harvesting. Advanced Functional Materials, 2022, 32, .	7.8	45
67	A high humidity-resistive triboelectric nanogeneratorviacoupling of dielectric material selection and surface-charge engineering. Journal of Materials Chemistry A, 2021, 9, 21357-21365.	5.2	43
68	Achieving Ultrarobust and Humidityâ€Resistant Triboelectric Nanogenerator by Dualâ€Capacitor Enhancement System. Advanced Energy Materials, 0, , 2101958.	10.2	42
69	Gravity-assisted synthesis of micro/nano-structured polypyrrole for supercapacitors. Chemical Engineering Journal, 2017, 330, 1060-1067.	6.6	37
70	Hydrated ruthenium dioxides @ graphene based fiber supercapacitor for wearable electronics. Journal of Power Sources, 2019, 440, 227143.	4.0	35
71	Wearable, Breathable and Waterproof Triboelectric Nanogenerators for Harvesting Human Motion and Raindrop Energy. Advanced Materials Technologies, 2022, 7, .	3.0	30
72	Improving Degradation Efficiency of Organic Pollutants through a Self-Powered Alternating Current Electrocoagulation System. ACS Nano, 2021, 15, 19684-19691.	7.3	29

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73	Electrochemical capacitance of the composite of poly (3,4-ethylenedioxythiophene) and functionalized single-walled carbon nanotubes. Journal of Solid State Electrochemistry, 2008, 12, 947-952.	1.2	28
74	Electropolymerized composite film of polypyrrole and functionalized multi-walled carbon nanotubes: effect of functionalization time on capacitive performance. Journal of Solid State Electrochemistry, 2012, 16, 1781-1789.	1.2	28
75	Achieving Ultrahigh Effective Surface Charge Density of Directâ€Current Triboelectric Nanogenerator in High Humidity. Small, 2022, 18, e2201402.	5.2	28
76	Recent Advances in Self-Powered Electrochemical Systems. Research, 2021, 2021, 4673028.	2.8	27
77	Study on Capacitance Evolving Mechanism of Polypyrrole during Prolonged Cycling. Journal of Physical Chemistry B, 2014, 118, 1353-1362.	1.2	25
78	Improved Degradation Efficiency of Levofloxacin by a Self-Powered Electrochemical System with Pulsed Direct-Current. ACS Nano, 2021, 15, 5478-5485.	7.3	25
79	Seawater-Based Triboelectric Nanogenerators for Marine Anticorrosion. ACS Applied Materials & Interfaces, 2022, 14, 8605-8612.	4.0	25
80	Polypyrrole Films Electrochemically Doped with Dodecylbenzenesulfonate for Copper Protection. Journal of the Electrochemical Society, 2007, 154, C445.	1.3	23
81	Interface Effect on the Electropolymerized Polypyrrole Films with Hollow Micro/Nanohorn Arrays. ACS Applied Materials & Interfaces, 2014, 6, 4693-4704.	4.0	23
82	Highly Stable and Eco-friendly Marine Self-Charging Power Systems Composed of Conductive Polymer Supercapacitors with Seawater as an Electrolyte. ACS Applied Materials & Interfaces, 2022, 14, 9046-9056.	4.0	22
83	Synthesis and Characterization of Bismuth Titanate by an Aqueous Sol?Gel Method. Journal of the American Ceramic Society, 2007, 90, 1382-1385.	1.9	21
84	Highly-Efficient Dendritic Cable Electrodes for Flexible Supercapacitive Fabric. ACS Applied Materials & Interfaces, 2017, 9, 40207-40214.	4.0	21
85	Preinserted Li metal porous carbon nanotubes with high Coulombic efficiency for lithium-ion battery anodes. Chemical Engineering Journal, 2019, 373, 78-85.	6.6	19
86	Improved Output Performance of Directâ€Current Triboelectric Nanogenerator through Field Enhancing Breakdown Effect. Advanced Materials Technologies, 2021, 6, 2100195.	3.0	19
87	Lowâ€Temperature Synthesis of Bismuth Titanate by an Aqueous Solâ€“Gel Method. Journal of the American Ceramic Society, 2008, 91, 2079-2082.	1.9	18
88	Capacitive characteristics of nanocomposites of conducting polypyrrole and functionalized carbon nanotubes: effects of in situ dopant and film thickness. Journal of Solid State Electrochemistry, 2010, 14, 1565-1575.	1.2	17
89	Triboelectric Nanogenerator with Low Crest Factor via Precise Phase Difference Design Realized by 3D Printing. Small Methods, 2021, 5, e2100936.	4.6	13
90	Hybrid Energyâ€Harvesting System by a Coupling of Triboelectric and Thermoelectric Generator. Energy Technology, 2022, 10, .	1.8	8

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91	The effect of K-Ion on the electrochemical performance of spinel LiMn2O4. Electronic Materials Letters, 2015, 11, 138-142.	1.0	6
92	Suppressing Feâ€“Li, Niâ€“Li Antisite Defects in LiFePO₄ and LiNi_{1/3}Co_{1/3}Mn_{1/3}O₂ by Optimized Synthesis Methods. ACS Applied Energy Materials, 2020, 3, 5893-5901.	2.5	6
93	Hydrous ruthenium oxide prepared by steam-assisted thermolysis: Capacitance and stability. Solid State Ionics, 2014, 268, 312-315.	1.3	5
94	A Tuningâ€Fork Triboelectric Nanogenerator with Frequency Multiplication for Efficient Mechanical Energy Harvesting. Small Methods, 2022, 6, e2200066.	4.6	5
95	Capacitive characteristics of nanocomposites of conducting polypyrrole and functionalized carbon nanotubes: pulse current synthesis and tailoring. Journal of Solid State Electrochemistry, 2016, 20, 1413-1420.	1.2	3
96	Electrochemically Prepared Poly(3,4â€ethylenedioxyâ€thiophene)/Polypyrrole Films with Hollow Microâ€/Nanohorn Arrays as Highâ€Efficiency Counter Electrodes for Dyeâ€Sensitized Solar Cells. ChemElectroChem, 2016, 3, 1376-1383.	1.7	0