Dukhyun Choi

List of Publications by Year
in descending order

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123 papers	5,681 citations	76326 40 h-index	82547 72 g-index
126 all docs	126 docs citations	126 times ranked	7347 citing authors

#	Article	IF	Citations
1	Reliable Output Performance of a Photovoltaicâ€“Piezoelectric Hybridized Energy Harvester with an Automatic Position-Adjustable Bending Instrument. International Journal of Precision Engineering and Manufacturing - Green Technology, 2022, 9, 1077-1086.	4.9	2
2	Designable functional polymer nanocomposites via layer-by-layer assembly for highly deformable power-boosted triboelectric nanogenerators. Composites Part B: Engineering, 2022, 230, 109513.	12.0	17
3	Mechanical Conversion and Transmission Systems for Controlling Triboelectric Nanogenerators. Nanoenergy Advances, 2022, 2, 29-51.	7.7	6
4	Interfacial molecular engineering for enhanced polarization of negative tribo-materials. Nano Energy, 2022, 96, 107110.	16.0	12
5	Extremely Foldable and Highly Porous Reduced Graphene Oxide Films for Shapeâ€Adaptive Triboelectric Nanogenerators. Small, 2021, 17, e1903089.	10.0	30
6	Longâ€Lasting and Steady Triboelectric Energy Harvesting from Lowâ€Frequency Irregular Motions Using Escapement Mechanism. Advanced Energy Materials, 2021, 11, 2002929.	19.5	27
7	Sustainable highly charged C₆₀-functionalized polyimide in a non-contact mode triboelectric nanogenerator. Energy and Environmental Science, 2021, 14, 1004-1015.	30.8	52
8	Magnetic Force Enhanced Sustainability and Power of Cam-Based Triboelectric Nanogenerator. Research, 2021, 2021, 6426130.	5.7	10
9	The coupled effects of an electron blocking layer beneath tribomaterials for boosted triboelectric nanogenerators. Functional Composites and Structures, 2021, 3, 025004.	3.4	13
10	Designable Skin-like Triboelectric Nanogenerators Using Layer-by-Layer Self-Assembled Polymeric Nanocomposites. ACS Energy Letters, 2021, 6, 2451-2459.	17.4	31
11	Dynamic balanced hybridization of TENG and EMG via Tesla turbine for effectively harvesting broadband mechanical pressure. Nano Energy, 2021, 85, 105983.	16.0	25
12	Toward Enhanced Humidity Stability of Triboelectric Mechanical Sensors via Atomic Layer Deposition. Nanomaterials, 2021, 11, 1795.	4.1	6
13	Carbohydrate-protein interactions studied by solid-liquid contact electrification and its use for label-free bacterial detection. Nano Energy, 2021, 85, 106008.	16.0	20
14	Dynamics of Electrically Driven Cholesteric Liquid Crystals by Triboelectrification and Their Application in Self-Powered Information Securing and Vision Correcting. ACS Energy Letters, 2021, 6, 3185-3194.	17.4	11
15	Automatically switchable mechanical frequency regulator for continuous mechanical energy harvesting via a triboelectric nanogenerator. Nano Energy, 2021, 89, 106350.	16.0	17
16	Band well structure with localized states for enhanced charge accumulation on Triboelectrification. Nano Energy, 2021, 90, 106647.	16.0	17
17	Allâ€Printed Electronic Skin Based on Deformable and Ionic Mechanotransducer Array. Macromolecular Bioscience, 2020, 20, e2000147.	4.1	15
18	Recent advancements in solidâ€“liquid triboelectric nanogenerators for energy harvesting and self-powered applications. Nanoscale, 2020, 12, 17663-17697.	5.6	57

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19	Structural color and near-infrared tunability of ruthenium-coated anodic aluminum oxide by atomic layer deposition. Scripta Materialia, 2020, 187, 125-129.	5.2	12
20	Enhanced sensing performance of triboelectric nanosensors by solid-liquid contact electrification. Nano Energy, 2020, 77, 105093.	16.0	36
21	Wire-based triboelectric resonator for a self-powered crack monitoring system. Nano Energy, 2020, 71, 104615.	16.0	6
22	Universal biomechanical energy harvesting from joint movements using a direction-switchable triboelectric nanogenerator. Nano Energy, 2020, 71, 104584.	16.0	72
23	Fabrication and optical characterization of silver-coated gradient-grown anodic aluminum oxide. Functional Composites and Structures, 2020, 2, 035004.	3.4	1
24	A Highly Sensitive Mercury Ion Sensor Based on Solid-Liquid Contact Electrification. ECS Journal of Solid State Science and Technology, 2020, 9, 115029.	1.8	11
25	A Triboelectric Nanogenerator Design for the Utilization of Multi-Axial Mechanical Energies in Human Motions. Journal of Sensor Science and Technology, 2020, 29, 312-322.	0.2	3
26	Ionâ€Enhanced Field Emission Triboelectric Nanogenerator. Advanced Energy Materials, 2019, 9, 1901731.	19.5	44
27	Grain Boundary Healing of Organicâ€“Inorganic Halide Perovskites for Moisture Stability. Nano Letters, 2019, 19, 6498-6505.	9.1	24
28	Double impact triboelectric nanogenerators for harvesting broadband vibrations from vehicles. Functional Composites and Structures, 2019, 1, 035003.	3.4	24
29	Cost-Effective and High-Throughput Plasmonic Interference Coupled Nanostructures by Using Quasi-Uniform Anodic Aluminum Oxide. Coatings, 2019, 9, 420.	2.6	1
30	Comb-structured triboelectric nanogenerators for multi-directional energy scavenging from human movements. Science and Technology of Advanced Materials, 2019, 20, 725-732.	6.1	28
31	Dynamics of bias instability in the tungsten-indium-zinc oxide thin film transistor. Journal of Materials Chemistry C, 2019, 7, 1006-1013.	5.5	10
32	Continuous scavenging of broadband vibrations via omnipotent tandem triboelectric nanogenerators with cascade impact structure. Scientific Reports, 2019, 9, 8223.	3.3	47
33	Triboelectric Nanogenerators: An Ultraâ€Mechanosensitive Viscoâ€Poroelastic Polymer Ion Pump for Continuous Selfâ€Powering Kinematic Triboelectric Nanogenerators (Adv. Energy Mater. 17/2019). Advanced Energy Materials, 2019, 9, 1970059.	19.5	1
34	An Ultraâ€Mechanosensitive Viscoâ€Poroelastic Polymer Ion Pump for Continuous Selfâ€Powering Kinematic Triboelectric Nanogenerators. Advanced Energy Materials, 2019, 9, 1803786.	19.5	63
35	Editorial for the Special Issue on Nanogenerators in Korea. Micromachines, 2019, 10, 97.	2.9	0
36	Highly Bendable and Rotational Textile Structure with Prestrained Conductive Sewing Pattern for Human Joint Monitoring. Advanced Functional Materials, 2019, 29, 1808369.	14.9	47

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37	Surface modification of triboelectric materials by neutral beams. Journal of Materials Chemistry A, 2019, 7, 25066-25077.	10.3	40
38	Mechanical energy conversion systems for triboelectric nanogenerators: Kinematic and vibrational designs. Nano Energy, 2019, 56, 307-321.	16.0	79
39	Boosting the energy conversion efficiency of a combined triboelectric nanogenerator-capacitor. Nano Energy, 2019, 56, 571-580.	16.0	20
40	Energy-loss return gate via liquid dielectric polarization. Nature Communications, 2018, 9, 1437.	12.8	19
41	Solar Cells: Oriented Grains with Preferred Lowâ€Angle Grain Boundaries in Halide Perovskite Films by Pressureâ€Induced Crystallization (Adv. Energy Mater. 10/2018). Advanced Energy Materials, 2018, 8, 1870045.	19.5	6
42	Layer-by-layer assembled graphene multilayers on multidimensional surfaces for highly durable, scalable, and wearable triboelectric nanogenerators. Journal of Materials Chemistry A, 2018, 6, 3108-3115.	10.3	51
43	Capacitorâ€Integrated Triboelectric Nanogenerator Based on Metalâ€“Metal Contact for Current Amplification. Advanced Energy Materials, 2018, 8, 1703024.	19.5	37
44	Design of Mechanical Frequency Regulator for Predictable Uniform Power from Triboelectric Nanogenerators. Advanced Energy Materials, 2018, 8, 1702667.	19.5	42
45	Oriented Grains with Preferred Lowâ€Angle Grain Boundaries in Halide Perovskite Films by Pressureâ€Induced Crystallization. Advanced Energy Materials, 2018, 8, 1702369.	19.5	74
46	Transparent and attachable ionic communicators based on self-cleanable triboelectric nanogenerators. Nature Communications, 2018, 9, 1804.	12.8	221
47	Enhancing the performance of tungsten doped InZnO thin film transistors via sequential ambient annealing. Applied Physics Letters, 2018, 112, .	3.3	10
48	Mesoporous Highly-Deformable Composite Polymer for a Gapless Triboelectric Nanogenerator via a One-Step Metal Oxidation Process. Micromachines, 2018, 9, 656.	2.9	25
49	Effects of Embedded TiO2â^'x Nanoparticles on Triboelectric Nanogenerator Performance. Micromachines, 2018, 9, 407.	2.9	43
50	Ultrasensitive, Low-Power Oxide Transistor-Based Mechanotransducer with Microstructured, Deformable Ionic Dielectrics. ACS Applied Materials & Interfaces, 2018, 10, 31472-31479.	8.0	34
51	Superhydrophobic plasmonic nanoarchitectures based on aluminum hydroxide nanotemplates. Nanoscale, 2018, 10, 17125-17130.	5.6	6
52	Triboelectric Nanogenerators: Capacitor-Integrated Triboelectric Nanogenerator Based on Metal-Metal Contact for Current Amplification (Adv. Energy Mater. 15/2018). Advanced Energy Materials, 2018, 8, 1870070.	19.5	1
53	A self-powered triboelectric microfluidic system for liquid sensing. Journal of Materials Chemistry A, 2018, 6, 14069-14076.	10.3	45
54	Halide Perovskite Nanopillar Photodetector. ACS Nano, 2018, 12, 8564-8571.	14.6	70

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55	Electron blocking layer-based interfacial design for highly-enhanced triboelectric nanogenerators. Nano Energy, 2018, 50, 9-15.	16.0	105
56	Laser-irradiated inclined metal nanocolumns for selective, scalable, and room-temperature synthesis of plasmonic isotropic nanospheres. Journal of Materials Chemistry C, 2018, 6, 6038-6045.	5.5	37
57	Energy Harvesting: Design of Mechanical Frequency Regulator for Predictable Uniform Power from Triboelectric Nanogenerators (Adv. Energy Mater. 15/2018). Advanced Energy Materials, 2018, 8, 1870072.	19.5	2
58	Tandem triboelectric nanogenerators for optimally scavenging mechanical energy with broadband vibration frequencies. Nano Energy, 2017, 33, 515-521.	16.0	82
59	An Ultrasensitive, Viscoâ€Poroelastic Artificial Mechanotransducer Skin Inspired by Piezo2 Protein in Mammalian Merkel Cells. Advanced Materials, 2017, 29, 1605973.	21.0	147
60	Absorption mechanism and performance characterization of CuO nanostructured absorbers. Solar Energy Materials and Solar Cells, 2017, 169, 270-279.	6.2	42
61	Cam-based sustainable triboelectric nanogenerators with a resolution-free 3D-printed system. Nano Energy, 2017, 38, 326-334.	16.0	50
62	Artificial Skin: An Ultrasensitive, Viscoâ€Poroelastic Artificial Mechanotransducer Skin Inspired by Piezo2 Protein in Mammalian Merkel Cells (Adv. Mater. 13/2017). Advanced Materials, 2017, 29, .	21.0	1
63	Periodic nanostructural materials for nanoplasmonics. , 2017, , .		1
64	Effect of Active Layer Thickness on Device Performance of Tungsten-Doped InZnO Thin-Film Transistor. IEEE Transactions on Electron Devices, 2017, 64, 159-163.	3.0	41
65	Nanopillar-array architectured PDMS-based triboelectric nanogenerator integrated with a windmill model for effective wind energy harvesting. Nano Energy, 2017, 42, 269-281.	16.0	136
66	Plasmonicâ€“Photonic Interference Coupling in Submicrometer Amorphous TiO₂â€“Ag Nanoarchitectures. Langmuir, 2017, 33, 12398-12403.	3.5	12
67	A comparative study of mechanical properties of Ni <001> nanowires from atomistic calculations. Journal of Mechanical Science and Technology, 2017, 31, 4887-4893.	1.5	3
68	Enhancement of the Device Performance and the Stability with a Homojunction-structured Tungsten Indium Zinc Oxide Thin Film Transistor. Scientific Reports, 2017, 7, 11634.	3.3	23
69	Scalable superhydrophobic flexible plasmonic poly(tetrafluoroethylene-co-perfluorovinyl ether) films via ion-beam irradiation and metal deposition. Materials Express, 2017, 7, 319-323.	0.5	1
70	Wettability conversion of an aluminum-hydroxide nanostructure by ion implantation. Journal of the Korean Physical Society, 2016, 68, 1024-1028.	0.7	4
71	Conformable superoleophobic surfaces with multi-scale structures on polymer substrates. Journal of Materials Chemistry A, 2016, 4, 8272-8282.	10.3	22
72	Omnidirectionally Stretchable and Transparent Graphene Electrodes. ACS Nano, 2016, 10, 9446-9455.	14.6	94

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73	Highly reliable wind-rolling triboelectric nanogenerator operating in a wide wind speed range. Scientific Reports, 2016, 6, 33977.	3.3	84
74	Modulation of electrical mobility in Au ion irradiated titanium oxide with crystal field splitting. Japanese Journal of Applied Physics, 2016, 55, 115701.	1.5	2
75	Boosted output performance of triboelectric nanogenerator via electric double layer effect. Nature Communications, 2016, 7, 12985.	12.8	336
76	Role of the electric field in selective ion filtration in nanostructures. Analyst, The, 2016, 141, 1294-1300.	3.5	3
77	Kinematic design for high performance triboelectric nanogenerators with enhanced working frequency. Nano Energy, 2016, 21, 19-25.	16.0	40
78	Self-packaging elastic bellows-type triboelectric nanogenerator. Nano Energy, 2016, 20, 84-93.	16.0	37
79	Controlled transparency and wettability of large-area nanoporous anodized alumina on glass. Scripta Materialia, 2015, 104, 29-32.	5.2	16
80	Effects of mechanical deformation on energy conversion efficiency of piezoelectric nanogenerators. Nanotechnology, 2015, 26, 275402.	2.6	10
81	Long-term investigation of erosion behaviors on metal surfaces by impingement of liquid droplet with high-speed. Journal of Mechanical Science and Technology, 2015, 29, 1085-1091.	1.5	3
82	Highly anisotropic power generation in piezoelectric hemispheres composed stretchable composite film for self-powered motion sensor. Nano Energy, 2015, 11, 1-10.	16.0	121
83	Nanoindentation of annealed Nafion/sulfonated graphene oxide nanocomposite membranes for the measurement of mechanical properties. Journal of Membrane Science, 2014, 451, 40-45.	8.2	23
84	Self-Assembled Plasmonic Nanoparticles on Vertically Aligned Carbon Nanotube Electrodes via Thermal Evaporation. ACS Applied Materials & Interfaces, 2014, 6, 20423-20429.	8.0	10
85	Asymmetrically Coupled Plasmonic Core and Nanotriplet Satellites. Journal of Physical Chemistry C, 2014, 118, 18659-18667.	3.1	11
86	Stitchable organic photovoltaic cells with textile electrodes. Nano Energy, 2014, 9, 88-93.	16.0	82
87	Experimental study on physical properties of nanoporous anodic aluminum oxide by proton implantation. Journal of Mechanical Science and Technology, 2014, 28, 3219-3222.	1.5	5
88	Plasmonic Optical Interference. Nano Letters, 2014, 14, 3374-3381.	9.1	37
89	Dewetted gold nanoparticles on ZnO nanorods for three-dimensionally distributed plasmonic hot spots. Scripta Materialia, 2013, 69, 654-657.	5.2	14
90	Control of density and LSPR of Au nanoparticles on graphene. Nanotechnology, 2013, 24, 275702.	2.6	36

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91	Cost-effective, large-area, reusable nanoimprint molds for polymer nanostructures. Journal of the Korean Physical Society, 2013, 62, 373-376.	0.7	5
92	Plasmonic Coupling in Three-Dimensional Au Nanoparticle Assemblies Fabricated by Anodic Aluminum Oxide Templates. Journal of Nanomaterials, 2013, 2013, 1-6.	2.7	2
93	Graphene surface induced specific self-assembly of poly(3-hexylthiophene) for nanohybrid optoelectronics: from first-principles calculation to experimental characterizations. Soft Matter, 2013, 9, 5355.	2.7	50
94	Effects of titanium foil thickness on TiO2 nanostructures synthesized by anodization. RSC Advances, 2013, 3, 7057.	3.6	20
95	Mechanical characterizations of high-quality quantum dot arrays via transfer printing. Nanotechnology, 2013, 24, 025702.	2.6	12
96	Self-Assembled Three-Dimensional Nanocrown Array. ACS Nano, 2012, 6, 5803-5808.	14.6	47
97	P-Type Polymer-Hybridized High-Performance Piezoelectric Nanogenerators. Nano Letters, 2012, 12, 1959-1964.	9.1	196
98	Bendability optimization of flexible optical nanoelectronics via neutral axis engineering. Nanoscale Research Letters, 2012, 7, 256.	5.7	31
99	Control of naturally coupled piezoelectric and photovoltaic properties for multi-type energy scavengers. Energy and Environmental Science, 2011, 4, 4607.	30.8	51
100	Thermoelectric properties of chlorine doped compounds of In4Se2.7Clx. Journal of Applied Physics, 2011, 110, 083706.	2.5	14
101	Chargeâ€Generating Mode Control in Highâ€Performance Transparent Flexible Piezoelectric Nanogenerators. Advanced Functional Materials, 2011, 21, 1187-1193.	14.9	84
102	Flexible nanogenerators for self-powered touch and light sensor applications. , 2011, , .		0
103	Selective growth of ZnO nanorods on SiO2/Si substrates using a graphene buffer layer. Nano Research, 2011, 4, 440-447.	10.4	63
104	ITO-free inverted polymer solar cells using a GZO cathode modified by ZnO. Solar Energy Materials and Solar Cells, 2011, 95, 1610-1614.	6.2	52
105	Homogeneous Al2O3 multilayer structures with reinforced mechanical stability for high-performance and high-throughput thin-film encapsulation. Scripta Materialia, 2010, 62, 447-450.	5.2	8
106	Enhanced Performance in Polymer Solar Cells by Surface Energy Control. Advanced Functional Materials, 2010, 20, 4381-4387.	14.9	250
107	Metalâ€“Insulatorâ€“Metal Optical Nanoantenna with Equivalentâ€Circuit Analysis. Advanced Materials, 2010, 22, 1754-1758.	21.0	23
108	Fully Rollable Transparent Nanogenerators Based on Graphene Electrodes. Advanced Materials, 2010, 22, 2187-2192.	21.0	290

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109	Selfâ€Organized Hexagonalâ€Nanopore SERS Array. Small, 2010, 6, 1741-1744.	10.0	125
110	Enhanced Power Conversion Efficiency of Inverted Organic Solar Cells with a Ga-Doped ZnO Nanostructured Thin Film Prepared Using Aqueous Solution. Journal of Physical Chemistry C, 2010, 114, 15782-15785.	3.1	71
111	Density Control of ZnO Nanorod Arrays on Mixed Self-Assembled Monolayers. Crystal Growth and Design, 2010, 10, 4697-4700.	3.0	6
112	Nanoscale Networked Single-Walled Carbon-Nanotube Electrodes for Transparent Flexible Nanogenerators. Journal of Physical Chemistry C, 2010, 114, 1379-1384.	3.1	56
113	Control of Electronic Structure of Graphene by Various Dopants and Their Effects on a Nanogenerator. Journal of the American Chemical Society, 2010, 132, 15603-15609.	13.7	247
114	Piezoelectric touch-sensitive flexible hybrid energy harvesting nanoarchitectures. Nanotechnology, 2010, 21, 405503.	2.6	40
115	Mechanically Powered Transparent Flexible Chargeâ€Generating Nanodevices with Piezoelectric ZnO Nanorods. Advanced Materials, 2009, 21, 2185-2189.	21.0	411
116	Additional amplifications of SERSvia an optofluidic CD-based platform. Lab on A Chip, 2009, 9, 239-243.	6.0	72
117	Microcantilevers with Nanochannels. Advanced Materials, 2008, 20, 1732-1737.	21.0	50
118	Dependence of adhesion and friction on porosity in porous anodic alumina films. Scripta Materialia, 2008, 58, 870-873.	5.2	27
119	Structure-dependent adhesion and friction on highly ordered metallic nanopore membranes. Nanotechnology, 2008, 19, 145708.	2.6	19
120	Fabrication of Metal Nanohoneycomb Structures and Their Tribological Behavior. Advanced Composite Materials, 2008, 17, 101-110.	1.9	9
121	Dependence of the mechanical properties of nanohoneycomb structures on porosity. Journal of Micromechanics and Microengineering, 2007, 17, 501-508.	2.6	27
122	Improved lateral force calibration based on the angle conversion factor in atomic force microscopy. Journal of Microscopy, 2007, 228, 190-199.	1.8	21
123	Toward Optimizing Resonance for Enhanced Triboelectrification of Oscillating Triboelectric Nanogenerators. International Journal of Precision Engineering and Manufacturing - Green Technology, 0, , .	4.9	6