

# Soonjae Pyo

## List of Publications by Year in descending order

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Version: 2024-02-01

100  
papers

2,594  
citations

218381

26  
h-index

197535

49  
g-index

104  
all docs

104  
docs citations

104  
times ranked

3356  
citing authors

#	ARTICLE	IF	CITATIONS
1	Frequency Up-Conversion Hybrid Energy Harvester Combining Piezoelectric and Electromagnetic Transduction Mechanisms. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2022, 9, 241-251.	2.7	20
2	All Paper-Based, Multilayered, Inkjet-Printed Tactile Sensor in Wide Pressure Detection Range with High Sensitivity. <i>Advanced Materials Technologies</i> , 2022, 7, 2100428.	3.0	21
3	Washable, Inkjet-Printed Flexible Tactile Sensor on Fabric with Temperature Tolerance. , 2022, , .		1
4	Vertically-Aligned Carbon Nanotubes-Embedded PDMS Microstructures For Flexible Tactile Sensor Array with High Sensitivity and Durability. , 2022, , .		0
5	Toluene sensing characteristics of tin oxide-based gas sensor deposited with various amounts of metalloporphyrin. <i>Micro and Nano Systems Letters</i> , 2022, 10, .	1.7	2
6	Ethanol-sensing properties of cobalt porphyrin-functionalized titanium dioxide nanoparticles as chemiresistive materials that are integrated into a low power microheater. <i>Micro and Nano Systems Letters</i> , 2022, 10, .	1.7	4
7	Fabrication of fine-pored polydimethylsiloxane using an isopropyl alcohol and water mixture for adjustable mechanical, optical, and thermal properties. <i>RSC Advances</i> , 2021, 11, 18061-18067.	1.7	8
8	Large-Area, Crosstalk-Free, Flexible Tactile Sensor Matrix Pixelated by Mesh Layers. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 12259-12267.	4.0	41
9	Integration of Gold Nanoparticle-Carbon Nanotube Composite for Enhanced Contact Lifetime of Microelectromechanical Switches with Very Low Contact Resistance. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 16959-16967.	4.0	5
10	Recent Progress in Flexible Tactile Sensors for Human-Interactive Systems: From Sensors to Advanced Applications. <i>Advanced Materials</i> , 2021, 33, e2005902.	11.1	216
11	Location-specific fabrication of suspended nanowires using electrospun fibers on designed microstructure. <i>Nanotechnology</i> , 2021, 32, 355602.	1.3	0
12	Engineered neural circuits for modeling brain physiology and neuropathology. <i>Acta Biomaterialia</i> , 2021, 132, 379-400.	4.1	25
13	Highly Sensitive Flexible Tactile Sensors in Wide Sensing Range Enabled by Hierarchical Topography of Biaxially Strained and Capillary-Densified Carbon Nanotube Bundles. <i>Small</i> , 2021, 17, e2105334.	5.2	16
14	Recent Progress in Flexible Tactile Sensors for Human-Interactive Systems: From Sensors to Advanced Applications (Adv. Mater. 47/2021). <i>Advanced Materials</i> , 2021, 33, .	11.1	8
15	Patterned Carbon Nanotube Bundles as Stretchable Strain Sensors for Human Motion Detection. <i>ACS Applied Nano Materials</i> , 2020, 3, 11408-11415.	2.4	13
16	Highly Transparent Porous Polydimethylsiloxane with Micro-Size Pores Using Water and Isopropanol Mixture. , 2020, , .		0
17	Self-Powered Wind Sensor Based on Triboelectric Generator with Curved Flap Array for Multi-Directional Wind Speed Detection. , 2020, , .		4
18	Carbon-Doped WO <sub>3</sub> Nanostructure Based on CNT Sacrificial Template and its Application to Highly Sensitive NO <sub>2</sub> Sensor. <i>IEEE Sensors Journal</i> , 2020, 20, 5705-5711.	2.4	6

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19	Highly Sensitive Detection of Benzene, Toluene, and Xylene Based on CoPP-Functionalized TiO <sub>2</sub> Nanoparticles with Low Power Consumption. ACS Sensors, 2020, 5, 754-763.	4.0	48
20	Suspended Alumina Membrane for GA2O3 Gas Sensor with Enhanced Lifetime at High-Temperature. , 2020, , .		1
21	Crosstalk-Free Mesh-Embedded Tactile Sensor Array with Electrically Isolated Sensing Cells. , 2020, , .		2
22	Microelectromechanical Switch with Carbon Nanotube Arrays for High-Temperature Operation. , 2020, , .		1
23	All-textile wearable triboelectric nanogenerator using pile-embroidered fibers for enhancing output power. Smart Materials and Structures, 2020, 29, 055026.	1.8	30
24	Flexible Energy Harvester with Piezoelectric and Thermoelectric Hybrid Mechanisms for Sustainable Harvesting. International Journal of Precision Engineering and Manufacturing - Green Technology, 2019, 6, 691-698.	2.7	45
25	Development of a Highly Stretchable Strain Sensor Based on Patterned and Rolled Carbon Nanotubes. , 2019, , .		2
26	A Textile-Based Resistive Tactile Sensor with High Sensitivity in a Wide Pressure Range. , 2019, , .		2
27	Gold-Decorated Carbon Nanotube Network as Contact Surface of MEM Switch for Extended Lifetime. , 2019, , .		0
28	CoPP-Functionalized TiO <sub>2</sub> Nanoparticles for Highly Sensitive and Reliable VOC Detection. , 2019, , .		2
29	Multi-layered, Hierarchical Fabric-based Tactile Sensors with High Sensitivity and Linearity in Ultrawide Pressure Range. Advanced Functional Materials, 2019, 29, 1902484.	7.8	130
30	Impact Ionization Induced by Accelerated Photoelectrons for Wide-Range and Highly Sensitive Detection of Volatile Organic Compounds at Room Temperature. ACS Applied Materials & Interfaces, 2019, 11, 20491-20499.	4.0	3
31	Light-assisted recovery of reacted MoS <sub>2</sub> for reversible NO <sub>2</sub> sensing at room temperature. Nanotechnology, 2019, 30, 355504.	1.3	48
32	Integration of a Carbon Nanotube Network on a Microelectromechanical Switch for Ultralong Contact Lifetime. ACS Applied Materials & Interfaces, 2019, 11, 18617-18625.	4.0	11
33	Improved photo- and chemical-responses of graphene via porphyrin-functionalization for flexible, transparent, and sensitive sensors. Nanotechnology, 2019, 30, 215501.	1.3	17
34	Humidity-resistant triboelectric energy harvester using electrospun PVDF/PU nanofibers for flexibility and air permeability. Nanotechnology, 2019, 30, 275401.	1.3	21
35	Sensitivity enhancement in photoionization detector using microelectrodes with integrated 1D nanostructures. Sensors and Actuators B: Chemical, 2019, 288, 618-624.	4.0	20
36	Ultrasensitive Strain Sensor Based on Separation of Overlapped Carbon Nanotubes. Small, 2019, 15, e1805120.	5.2	144

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37	Detection of Mixed BTEX With Suppressed Reaction Specificity Using Tin Oxide Nanoparticles Functionalized by Multi-Metalloporphyrins. IEEE Sensors Journal, 2019, 19, 11791-11796.	2.4	11
38	Fabrication of suspended nanowires for highly sensitive gas sensing. Sensors and Actuators B: Chemical, 2019, 284, 362-368.	4.0	14
39	A Fully Transparent, Flexible, Sensitive, and Visible-Blind Ultraviolet Sensor Based on Carbon Nanotube-Graphene Hybrid. Advanced Electronic Materials, 2019, 5, 1800737.	2.6	44
40	Flexible and multi-directional piezoelectric energy harvester for self-powered human motion sensor. Smart Materials and Structures, 2018, 27, 035001.	1.8	55
41	Simple fabrication method of silicon/tungsten oxide nanowires heterojunction for NO <sub>2</sub> gas sensors. Sensors and Actuators B: Chemical, 2018, 265, 522-528.	4.0	18
42	Suspended CoPP-ZnO nanorods integrated with micro-heaters for highly sensitive VOC detection. Sensors and Actuators B: Chemical, 2018, 264, 249-254.	4.0	21
43	Flexible, Transparent, Sensitive, and Crosstalk-Free Capacitive Tactile Sensor Array Based on Graphene Electrodes and Air Dielectric. Advanced Electronic Materials, 2018, 4, 1700427.	2.6	100
44	Multidirectional flexible force sensors based on confined, self-adjusting carbon nanotube arrays. Nanotechnology, 2018, 29, 055501.	1.3	17
45	Improvement of photoresponse in MoS <sub>2</sub> BY SnO <sub>2</sub> -functionalization and its application to flexible and transparent photodetector. , 2018, , .		1
46	Humidity-Resistant, Fabric-Based, Wearable Triboelectric Energy Harvester by Treatment of Hydrophobic Self-Assembled Monolayers. Advanced Materials Technologies, 2018, 3, 1800048.	3.0	26
47	Carbon nanotubes network contact lubrication for highly reliable MEMS switch. , 2017, , .		4
48	Flexible piezoelectric strain energy harvester responsive to multi-directional input forces and its application to self-powered motion sensor. , 2017, , .		5
49	Piezoelectric and electromagnetic hybrid energy harvester using two cantilevers for frequency up-conversion. , 2017, , .		11
50	Highly sensitive detection of VOC using impact ionization induced by photoelectron. , 2017, , .		4
51	Low-voltage and low-power field-ionization gas sensor based on micro-gap between suspended silver nanowires electrodes for toluene detection. , 2017, , .		2
52	Fabrication of suspended nanowires using suspended carbon nanotubes as template for gas sensing. , 2017, , .		0
53	Triboelectric energy harvester using frequency up-conversion to generate from extremely low frequency strain inputs. , 2017, , .		1
54	MoS <sub>2</sub> gas sensor functionalized by Pd for the detection of hydrogen. Sensors and Actuators B: Chemical, 2017, 250, 686-691.	4.0	161

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55	Heterogeneous Integration of Carbon-Nanotube-Graphene for High-Performance, Flexible, and Transparent Photodetectors. <i>Small</i> , 2017, 13, 1700918.	5.2	47
56	Fabrication of carbon nanotube-coated fabric for highly sensitive pressure sensor. , 2017, , .		6
57	Wind-powered triboelectric energy harvester using curved flapping film array. , 2017, , .		2
58	Flexible and transparent NO <sub>2</sub> sensor using functionalized MoS <sub>2</sub> with light-enhanced response. , 2017, , .		3
59	Micromachined Resonant Frequency Tuning Unit for Torsional Resonator. <i>Micromachines</i> , 2017, 8, 342.	1.4	4
60	Development of MEMS Multi-Mode Electrostatic Energy Harvester Based on the SOI Process. <i>Micromachines</i> , 2017, 8, 51.	1.4	18
61	A highly sensitive flexible strain sensor based on the contact resistance change of carbon nanotube bundles. <i>Nanotechnology</i> , 2016, 27, 205502.	1.3	22
62	Low-Temperature Selective Growth of Tungsten Oxide Nanowires by Controlled Nanoscale Stress Induction. <i>Scientific Reports</i> , 2015, 5, 18265.	1.6	8
63	Defective carbon nanotube-silicon heterojunctions for photodetector and chemical sensor with improved responses. <i>Journal of Micromechanics and Microengineering</i> , 2015, 25, 115004.	1.5	4
64	A Highly Sensitive Hydrogen Sensor with Gas Selectivity Using a PMMA Membrane-Coated Pd Nanoparticle/Single-Layer Graphene Hybrid. <i>ACS Applied Materials &amp; Interfaces</i> , 2015, 7, 3554-3561.	4.0	184
65	Molecularly Engineered Surface Triboelectric Nanogenerator by Self-Assembled Monolayers (METS). <i>Chemistry of Materials</i> , 2015, 27, 4749-4755.	3.2	111
66	A High-Efficiency DC-DC Boost Converter for a Miniaturized Microbial Fuel Cell. <i>IEEE Transactions on Power Electronics</i> , 2015, 30, 2041-2049.	5.4	45
67	A high power density miniaturized microbial fuel cell having carbon nanotube anodes. <i>Journal of Power Sources</i> , 2015, 273, 823-830.	4.0	112
68	A flexible hybrid strain energy harvester using piezoelectric and electrostatic conversion. <i>Smart Materials and Structures</i> , 2014, 23, 045040.	1.8	51
69	Development of a flexible three-axis tactile sensor based on screen-printed carbon nanotube-polymer composite. <i>Journal of Micromechanics and Microengineering</i> , 2014, 24, 075012.	1.5	78
70	Humidity sensing characteristics of focused ion beam-induced suspended single tungsten nanowire. <i>Sensors and Actuators B: Chemical</i> , 2014, 194, 38-44.	4.0	11
71	Piezoelectric energy harvester converting strain energy into kinetic energy for extremely low frequency operation. <i>Applied Physics Letters</i> , 2014, 104, .	1.5	33
72	Acid-sensitive pH sensor using electrolysis and a microfluidic channel for read-out amplification. <i>RSC Advances</i> , 2014, 4, 39634.	1.7	3

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73	Investigation of Interfacial Adhesion between the Top Ends of Carbon Nanotubes. ACS Applied Materials & Interfaces, 2014, 6, 6598-6605.	4.0	12
74	Highly sensitive cantilever type chemo-mechanical hydrogen sensor based on contact resistance of self-adjusted carbon nanotube arrays. Sensors and Actuators B: Chemical, 2014, 197, 414-421.	4.0	5
75	Using Confined Self-Adjusting Carbon Nanotube Arrays as High-Sensitivity Displacement Sensing Element. ACS Applied Materials & Interfaces, 2014, 6, 10181-10187.	4.0	13
76	Variable capacitor with switching mechanism for wide tuning range. , 2014, , .		0
77	Thickness-, alignment- and defect-tunable growth of carbon nanotube arrays using designed mechanical loads. Carbon, 2014, 66, 126-133.	5.4	19
78	Transparent and flexible toluene sensor with enhanced sensitivity using adsorption catalyst-functionalized graphene. , 2013, , .		1
79	Suspended GaN nanowires as NO2 sensor for high temperature applications. Analyst, The, 2013, 138, 2432.	1.7	26
80	Deformable Carbon Nanotube-Contact Pads for Inertial Microswitch to Extend Contact Time. IEEE Transactions on Industrial Electronics, 2012, 59, 4914-4920.	5.2	43
81	Vertically aligned carbon nanotube arrays as vertical comb structures for electrostatic torsional actuator. Microelectronic Engineering, 2012, 98, 405-408.	1.1	12
82	Continuously latchable shuttle using carbon nanotubes on sidewall surfaces. , 2012, , .		0
83	Length controlled in-plane synthesis of aligned carbon nanotube array by micromechanical spring. , 2012, , .		2
84	Integrated carbon nanotube arrays for reliable contact in electromechanical memory device. , 2012, , .		0
85	Carbon nanotube based anodes in a miniaturized microbial fuel cell (MFC) towards high power density and efficiency. , 2012, , .		0
86	Microswitch with self-assembled carbon nanotube arrays for high current density and reliable contact. , 2011, , .		4
87	A novel accelerometer based on contact resistance of integrated carbon nanotubes. , 2011, , .		3
88	Aligned Carbon Nanotube Arrays for Degradation-Resistant, Intimate Contact in Micromechanical Devices. Advanced Materials, 2011, 23, 2231-2236.	11.1	59
89	Integrated Carbon Nanotube Array as Dry Adhesive for High-Temperature Silicon Processing. Advanced Materials, 2011, 23, 4285-4289.	11.1	25
90	Carbon Nanotubes: Integrated Carbon Nanotube Array as Dry Adhesive for High-Temperature Silicon Processing (Adv. Mater. 37/2011). Advanced Materials, 2011, 23, 4208-4208.	11.1	0

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91	An electrodynamic preconcentrator-integrated thermoelectric biosensor chip for continuous monitoring. , 2011, , .		0
92	Batch-processed carbon nanotube wall as pressure and flow sensor. Nanotechnology, 2010, 21, 105502.	1.3	23
93	Highly sensitive hydrogen sensor based on suspended, functionalized single tungsten nanowire bridge. Sensors and Actuators B: Chemical, 2009, 136, 92-98.	4.0	56
94	Frequency Tuning of Nanowire Resonator Using Electrostatic Spring Effect. IEEE Transactions on Magnetics, 2009, 45, 2332-2335.	1.2	7
95	Bidirectional Electrothermal Electromagnetic Torsional Microactuators. , 2009, , .		3
96	Resonant Frequency Tuning of Torsional Microscanner by Mechanical Restriction using MEMS Actuator. , 2009, , .		5
97	Ultrasonic Bonding for MEMS Sealing and Packaging. IEEE Transactions on Advanced Packaging, 2009, 32, 461-467.	1.7	49
98	Thermally Driven Bimorph Nano Actuators Fabricated using Focused Ion Beam Chemical Vapor Deposition. , 2007, , .		0
99	Microfabricated Torsional Actuators Using Self-Aligned Plastic Deformation of Silicon. Journal of Microelectromechanical Systems, 2006, 15, 553-562.	1.7	43
100	Monolithic 2-D scanning mirror using self-aligned angular vertical comb drives. IEEE Photonics Technology Letters, 2005, 17, 2307-2309.	1.3	25