

Soonjae Pyo

List of Publications by Year in descending order

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Version: 2024-02-01

100
papers

2,594
citations

218677

26
h-index

197818

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. | 4.9 | 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. | 5.8 | 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, . | 3.7 | 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, . | 3.7 | 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. | 3.6 | 8 |
| 8 | Large-Area, Crosstalk-Free, Flexible Tactile Sensor Matrix Pixelated by Mesh Layers. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 12259-12267. | 8.0 | 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 & Interfaces</i> , 2021, 13, 16959-16967. | 8.0 | 5 |
| 10 | Recent Progress in Flexible Tactile Sensors for Human-Interactive Systems: From Sensors to Advanced Applications. <i>Advanced Materials</i> , 2021, 33, e2005902. | 21.0 | 216 |
| 11 | Location-specific fabrication of suspended nanowires using electrospun fibers on designed microstructure. <i>Nanotechnology</i> , 2021, 32, 355602. | 2.6 | 0 |
| 12 | Engineered neural circuits for modeling brain physiology and neuropathology. <i>Acta Biomaterialia</i> , 2021, 132, 379-400. | 8.3 | 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. | 10.0 | 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, . | 21.0 | 8 |
| 15 | Patterned Carbon Nanotube Bundles as Stretchable Strain Sensors for Human Motion Detection. <i>ACS Applied Nano Materials</i> , 2020, 3, 11408-11415. | 5.0 | 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 ₃ Nanostructure Based on CNT Sacrificial Template and its Application to Highly Sensitive NO ₂ Sensor. <i>IEEE Sensors Journal</i> , 2020, 20, 5705-5711. | 4.7 | 6 |

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|----|--|------|-----------|
| 19 | Highly Sensitive Detection of Benzene, Toluene, and Xylene Based on CoPP-Functionalized TiO ₂ Nanoparticles with Low Power Consumption. ACS Sensors, 2020, 5, 754-763. | 7.8 | 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. | 3.5 | 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. | 4.9 | 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 ₂ 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. | 14.9 | 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. | 8.0 | 3 |
| 31 | Light-assisted recovery of reacted MoS ₂ for reversible NO ₂ sensing at room temperature. Nanotechnology, 2019, 30, 355504. | 2.6 | 48 |
| 32 | Integration of a Carbon Nanotube Network on a Microelectromechanical Switch for Ultralong Contact Lifetime. ACS Applied Materials & Interfaces, 2019, 11, 18617-18625. | 8.0 | 11 |
| 33 | Improved photo- and chemical-responses of graphene via porphyrin-functionalization for flexible, transparent, and sensitive sensors. Nanotechnology, 2019, 30, 215501. | 2.6 | 17 |
| 34 | Humidity-resistant triboelectric energy harvester using electrospun PVDF/PU nanofibers for flexibility and air permeability. Nanotechnology, 2019, 30, 275401. | 2.6 | 21 |
| 35 | Sensitivity enhancement in photoionization detector using microelectrodes with integrated 1D nanostructures. Sensors and Actuators B: Chemical, 2019, 288, 618-624. | 7.8 | 20 |
| 36 | Ultrasensitive Strain Sensor Based on Separation of Overlapped Carbon Nanotubes. Small, 2019, 15, e1805120. | 10.0 | 144 |

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 37 | Detection of Mixed BTEX With Suppressed Reaction Specificity Using Tin Oxide Nanoparticles Functionalized by Multi-Metalloporphyrins. IEEE Sensors Journal, 2019, 19, 11791-11796. | 4.7 | 11 |
| 38 | Fabrication of suspended nanowires for highly sensitive gas sensing. Sensors and Actuators B: Chemical, 2019, 284, 362-368. | 7.8 | 14 |
| 39 | A Fully Transparent, Flexible, Sensitive, and Visible-Blind Ultraviolet Sensor Based on Carbon Nanotube-Graphene Hybrid. Advanced Electronic Materials, 2019, 5, 1800737. | 5.1 | 44 |
| 40 | Flexible and multi-directional piezoelectric energy harvester for self-powered human motion sensor. Smart Materials and Structures, 2018, 27, 035001. | 3.5 | 55 |
| 41 | Simple fabrication method of silicon/tungsten oxide nanowires heterojunction for NO ₂ gas sensors. Sensors and Actuators B: Chemical, 2018, 265, 522-528. | 7.8 | 18 |
| 42 | Suspended CoPP-ZnO nanorods integrated with micro-heaters for highly sensitive VOC detection. Sensors and Actuators B: Chemical, 2018, 264, 249-254. | 7.8 | 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. | 5.1 | 100 |
| 44 | Multidirectional flexible force sensors based on confined, self-adjusting carbon nanotube arrays. Nanotechnology, 2018, 29, 055501. | 2.6 | 17 |
| 45 | Improvement of photoresponse in MoS ₂ BY SnO ₂ -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. | 5.8 | 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 ₂ gas sensor functionalized by Pd for the detection of hydrogen. Sensors and Actuators B: Chemical, 2017, 250, 686-691. | 7.8 | 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. | 10.0 | 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 ₂ sensor using functionalized MoS ₂ with light-enhanced response. , 2017, , . | | 3 |
| 59 | Micromachined Resonant Frequency Tuning Unit for Torsional Resonator. <i>Micromachines</i> , 2017, 8, 342. | 2.9 | 4 |
| 60 | Development of MEMS Multi-Mode Electrostatic Energy Harvester Based on the SOI Process. <i>Micromachines</i> , 2017, 8, 51. | 2.9 | 18 |
| 61 | A highly sensitive flexible strain sensor based on the contact resistance change of carbon nanotube bundles. <i>Nanotechnology</i> , 2016, 27, 205502. | 2.6 | 22 |
| 62 | Low-Temperature Selective Growth of Tungsten Oxide Nanowires by Controlled Nanoscale Stress Induction. <i>Scientific Reports</i> , 2015, 5, 18265. | 3.3 | 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. | 2.6 | 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 & Interfaces</i> , 2015, 7, 3554-3561. | 8.0 | 184 |
| 65 | Molecularly Engineered Surface Triboelectric Nanogenerator by Self-Assembled Monolayers (METS). <i>Chemistry of Materials</i> , 2015, 27, 4749-4755. | 6.7 | 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. | 7.9 | 45 |
| 67 | A high power density miniaturized microbial fuel cell having carbon nanotube anodes. <i>Journal of Power Sources</i> , 2015, 273, 823-830. | 7.8 | 112 |
| 68 | A flexible hybrid strain energy harvester using piezoelectric and electrostatic conversion. <i>Smart Materials and Structures</i> , 2014, 23, 045040. | 3.5 | 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. | 2.6 | 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. | 7.8 | 11 |
| 71 | Piezoelectric energy harvester converting strain energy into kinetic energy for extremely low frequency operation. <i>Applied Physics Letters</i> , 2014, 104, . | 3.3 | 33 |
| 72 | Acid-sensitive pH sensor using electrolysis and a microfluidic channel for read-out amplification. <i>RSC Advances</i> , 2014, 4, 39634. | 3.6 | 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. | 8.0 | 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. | 7.8 | 5 |
| 75 | Using Confined Self-Adjusting Carbon Nanotube Arrays as High-Sensitivity Displacement Sensing Element. ACS Applied Materials & Interfaces, 2014, 6, 10181-10187. | 8.0 | 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. | 10.3 | 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. | 3.5 | 26 |
| 80 | Deformable Carbon Nanotube-Contact Pads for Inertial Microswitch to Extend Contact Time. IEEE Transactions on Industrial Electronics, 2012, 59, 4914-4920. | 7.9 | 43 |
| 81 | Vertically aligned carbon nanotube arrays as vertical comb structures for electrostatic torsional actuator. Microelectronic Engineering, 2012, 98, 405-408. | 2.4 | 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. | 21.0 | 59 |
| 89 | Integrated Carbon Nanotube Array as Dry Adhesive for High-Temperature Silicon Processing. Advanced Materials, 2011, 23, 4285-4289. | 21.0 | 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. | 21.0 | 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. | 2.6 | 23 |
| 93 | Highly sensitive hydrogen sensor based on suspended, functionalized single tungsten nanowire bridge. Sensors and Actuators B: Chemical, 2009, 136, 92-98. | 7.8 | 56 |
| 94 | Frequency Tuning of Nanowire Resonator Using Electrostatic Spring Effect. IEEE Transactions on Magnetics, 2009, 45, 2332-2335. | 2.1 | 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. | 1.6 | 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. | 2.5 | 43 |
| 100 | Monolithic 2-D scanning mirror using self-aligned angular vertical comb drives. IEEE Photonics Technology Letters, 2005, 17, 2307-2309. | 2.5 | 25 |