

# Tae Hyun Sung

## List of Publications by Year in descending order

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Version: 2024-02-01

81  
papers

1,510  
citations

331670

21  
h-index

361022

35  
g-index

82  
all docs

82  
docs citations

82  
times ranked

1164  
citing authors

#	ARTICLE	IF	CITATIONS
1	Road energy harvester designed as a macro-power source using the piezoelectric effect. International Journal of Hydrogen Energy, 2016, 41, 12563-12568.	7.1	104
2	Design and optimization of piezoelectric impact-based micro wind energy harvester for wireless sensor network. Sensors and Actuators A: Physical, 2015, 222, 314-321.	4.1	78
3	A piezoelectric impact-induced vibration cantilever energy harvester from speed bump with a low-power power management circuit. Sensors and Actuators A: Physical, 2017, 254, 134-144.	4.1	74
4	Optimized composite piezoelectric energy harvesting floor tile for smart home energy management. Energy Conversion and Management, 2018, 171, 31-37.	9.2	71
5	Designing and manufacturing a piezoelectric tile for harvesting energy from footsteps. Current Applied Physics, 2015, 15, 669-674.	2.4	65
6	Design of piezoelectric ocean-wave energy harvester using sway movement. Sensors and Actuators A: Physical, 2017, 260, 191-197.	4.1	65
7	Performance of a speed bump piezoelectric energy harvester for an automatic cellphone charging system. Applied Energy, 2019, 247, 221-227.	10.1	59
8	Watts-level road-compatible piezoelectric energy harvester for a self-powered temperature monitoring system on an actual roadway. Applied Energy, 2019, 243, 313-320.	10.1	58
9	A multifunctional road-compatible piezoelectric energy harvester for autonomous driver-assist LED indicators with a self-monitoring system. Applied Energy, 2019, 242, 294-301.	10.1	56
10	Piezoelectric energy harvesting system with magnetic pendulum movement for self-powered safety sensor of trains. Sensors and Actuators A: Physical, 2016, 250, 210-218.	4.1	51
11	Feasibility study of impact-based piezoelectric road energy harvester for wireless sensor networks in smart highways. Sensors and Actuators A: Physical, 2017, 261, 317-324.	4.1	48
12	Piezoelectric device operating as sensor and harvester to drive switching circuit in LED shoes. Energy, 2019, 177, 87-93.	8.8	47
13	Low-temperature Sintering and Piezoelectric Properties of $0.65\text{Pb}(\text{Zr}_{1-x}\text{Ti}_x)_3\text{O}_{3-\delta}0.35\text{Pb}(\text{Ni}_{0.33}\text{Nb}_{0.67})\text{O}_{3-\delta}$ Ceramics. Journal of the American Ceramic Society, 2011, 94, 3442-3448.	10.1	45
14	Development of a pavement block piezoelectric energy harvester for self-powered walkway applications. Applied Energy, 2019, 256, 113916.	10.1	42
15	Study on increasing output current of piezoelectric energy harvester by fabrication of multilayer thick film. Sensors and Actuators A: Physical, 2018, 269, 524-534.	4.1	29
16	Carbon nanotube-reduced graphene oxide fiber with high torsional strength from rheological hierarchy control. Nature Communications, 2021, 12, 396.	12.8	29
17	Synthesis and characterization of nanofiber-type hydrophobic organic materials as electrodes for improved performance of PVDF-based piezoelectric nanogenerators. Nano Energy, 2019, 58, 11-22.	16.0	28
18	Photon energy transfer by quantum dots in organic-inorganic hybrid solar cells through FRET. Journal of Materials Chemistry A, 2016, 4, 10444-10453.	10.3	24

#	ARTICLE	IF	CITATIONS
19	Enhanced energy-generation performance of a landfilled road-capable piezoelectric harvester to scavenge energy from passing vehicles. <i>Energy Conversion and Management</i> , 2020, 215, 112900.	9.2	24
20	A lever-type piezoelectric energy harvester with deformation-guiding mechanism for electric vehicle charging station on smart road. <i>Energy</i> , 2021, 218, 119540.	8.8	22
21	Design of hydro electromagnetic and piezoelectric energy harvesters for a smart water meter system. <i>Sensors and Actuators A: Physical</i> , 2017, 261, 261-267.	4.1	21
22	A Bending-Type Piezoelectric Energy Harvester with a Displacement-Amplifying Mechanism for Smart Highways. <i>Journal of the Korean Physical Society</i> , 2018, 73, 330-337.	0.7	21
23	A High Efficient Piezoelectric Windmill using Magnetic Force for Low Wind Speed in Wireless Sensor Networks. <i>Journal of the Korean Physical Society</i> , 2018, 73, 1889-1894.	0.7	19
24	Propeller-based Underwater Piezoelectric Energy Harvesting System for an Autonomous IoT Sensor System. <i>Journal of the Korean Physical Society</i> , 2020, 76, 251-256.	0.7	19
25	Development of a hybrid type smart pen piezoelectric energy harvester for an IoT platform. <i>Energy</i> , 2021, 222, 119845.	8.8	19
26	Study on Application of Piezoelectricity to Korea Train eXpress (KTX). <i>Ferroelectrics</i> , 2013, 449, 11-23.	0.6	17
27	Significant power enhancement method of magneto-piezoelectric energy harvester through directional optimization of magnetization for autonomous IoT platform. <i>Applied Energy</i> , 2019, 254, 113710.	10.1	16
28	Study on the Strain Effect of a Piezoelectric Energy Harvesting Module. <i>Ferroelectrics</i> , 2013, 449, 33-41.	0.6	15
29	Optimal design and application of a piezoelectric energy harvesting system using multiple piezoelectric modules. <i>Journal of Electroceramics</i> , 2014, 32, 396-403.	2.0	15
30	Nonlinear Piezoelectric Energy Harvester with Ball Tip Mass. <i>Sensors and Actuators A: Physical</i> , 2018, 277, 124-133.	4.1	15
31	Piezoelectric energy harvesting system for the vertical vibration of superconducting Maglev train. <i>Journal of Electroceramics</i> , 2013, 31, 35-41.	2.0	14
32	PVDF based flexible piezoelectric nanogenerators using conjugated polymer:PCBM blend systems. <i>Sensors and Actuators A: Physical</i> , 2017, 259, 112-120.	4.1	14
33	Design of optimized cantilever form of a piezoelectric energy harvesting system for a wireless remote switch. <i>Sensors and Actuators A: Physical</i> , 2018, 280, 340-349.	4.1	14
34	Designing a piezoelectric energy harvesting system for the superconductor Maglev. <i>Journal of Electroceramics</i> , 2013, 31, 1-7.	2.0	13
35	Restoration and Reinforcement Method for Damaged Piezoelectric Materials. <i>Ferroelectrics</i> , 2013, 449, 52-61.	0.6	13
36	Design Optimization of PZT-Based Piezoelectric Cantilever Beam by Using Computational Experiments. <i>Journal of Electronic Materials</i> , 2016, 45, 3848-3858.	2.2	13

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37	Sustainable micro-power circuit for piezoelectric energy harvesting tile. <i>Integrated Ferroelectrics</i> , 2017, 183, 193-209.	0.7	13
38	Uniform stress distribution road piezoelectric generator with free-fixed-end type central strike mechanism. <i>Energy</i> , 2022, 239, 121812.	8.8	13
39	Design of a New Piezoelectric Energy Harvester Based on Secondary Impact. <i>Ferroelectrics</i> , 2013, 449, 83-93.	0.6	12
40	Hybrid-type (d33 and d31) impact-based piezoelectric hydroelectric energy harvester for watt-level electrical devices. <i>Sensors and Actuators A: Physical</i> , 2016, 245, 40-48.	4.1	12
41	Robust design optimization of fixed-fixed beam piezoelectric energy harvester considering manufacturing uncertainties. <i>Sensors and Actuators A: Physical</i> , 2017, 260, 236-246.	4.1	12
42	Design of a multi-array piezoelectric energy harvester for a wireless switch. <i>International Journal of Hydrogen Energy</i> , 2016, 41, 12696-12703.	7.1	11
43	A Flexible Piezoelectric Energy Harvester-Based Single-Layer WS <sub>2</sub> Nanometer 2D Material for Self-Powered Sensors. <i>Energies</i> , 2021, 14, 2097.	3.1	11
44	Enhanced surface composite coating on Ti811 alloy by laser cladding towards improved nano-hardness. <i>Ceramics International</i> , 2022, 48, 18773-18783.	4.8	11
45	Excellent carrier transport materials produced by controlled molecular stacking and their application in flexible organic electronic devices. <i>Journal of Materials Chemistry A</i> , 2019, 7, 14790-14805.	10.3	10
46	Graphene Foam Cantilever Produced via Simultaneous Foaming and Doping Effect of an Organic Coagulant. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 10763-10771.	8.0	9
47	Wearable Shoe-Mounted Piezoelectric Energy Harvester for a Self-Powered Wireless Communication System. <i>Energies</i> , 2022, 15, 237.	3.1	8
48	Feasibility study on application of piezoelectricity to convert vibrations of Korea Train eXpress. , 2012, , .		6
49	Effective Piezoelectric Area for Hitting-Type Piezoelectric Energy Harvesting System. <i>Japanese Journal of Applied Physics</i> , 2013, 52, 10MB03.	1.5	6
50	In situ TiC/Ti <sub>2</sub> Ni reinforced CrTi <sub>4</sub> -based composites during laser cladding. <i>Journal of Alloys and Compounds</i> , 2022, 892, 162086.	5.5	6
51	Design of Piezoelectric Energy Harvesting System by Magnetic Forceâ€‘Controlled Resonance Frequency. <i>Ferroelectrics</i> , 2013, 449, 24-32.	0.6	5
52	Development of impact-based piezoelectric road energy harvester for practical application. , 2016, , .		5
53	Self-Powered Operational Amplifying System with a Bipolar Voltage Generator Using a Piezoelectric Energy Harvester. <i>Electronics (Switzerland)</i> , 2020, 9, 41.	3.1	5
54	The effectiveness of different width piezoelectric energy harvester in the pedestrian floor tile energy harvesting system for internet of things sensors. <i>Journal of the Korean Physical Society</i> , 2021, 78, 81-88.	0.7	5

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55	Wearable Piezoelectric Yarns with Inner Electrodes for Energy Harvesting and Signal Sensing. <i>Advanced Materials Technologies</i> , 2022, 7, .	5.8	5
56	Solidification of $\text{YBa}_2\text{Cu}_3\text{O}_{6+\delta}$ : Part I. Morphology. <i>Journal of Materials Research</i> , 1998, 13, 565-573.	2.6	4
57	Design of vibration exciter by using permanent magnets for application to piezoelectric energy harvesting. , 2012, , .		4
58	Study of Charging Efficiency of a Piezoelectric Energy Harvesting System Using Rectifier and Array Configuration. <i>Ferroelectrics</i> , 2013, 449, 42-51.	0.6	4
59	Stress Distribution Design of Additional Substrate for Piezoelectricity. <i>Ferroelectrics</i> , 2013, 449, 72-82.	0.6	4
60	Energy harvesting characteristics of unimorph cantilever generator using sintering conditions. <i>Journal of Electroceramics</i> , 2015, 34, 109-113.	2.0	4
61	Mobility of Air-Stable p-type Polythiophene Field-Effect Transistors Fabricated Using Oxidative Chemical Vapor Deposition. <i>Journal of Electronic Materials</i> , 2020, 49, 3465-3471.	2.2	4
62	Increase of Current Limiting Capacity of SFCLs by Using Matrix-Type SFCL Module. <i>IEEE Transactions on Applied Superconductivity</i> , 2011, 21, 1280-1283.	1.7	3
63	Establishment of the evaluation standard and the analysis technique for the tip mass method in piezoelectric energy - harvesting systems. <i>Journal of the Korean Physical Society</i> , 2014, 65, 1943-1950.	0.7	3
64	Design of an impact-type piezoelectric energy harvesting system for increasing power and durability of piezoelectric ceramics. <i>Japanese Journal of Applied Physics</i> , 2014, 53, 08NB03.	1.5	3
65	Increasing the Durability of Piezoelectric Impact-based Micro Wind Generator in Real Application. <i>Procedia Engineering</i> , 2014, 87, 1210-1213.	1.2	3
66	Designing a piezoelectric energy harvester using clicking mechanism. , 2016, , .		3
67	Increasing Energy-harvesting ability of piezoelectric unimorph cantilevers using Spring Supports. <i>Journal of the Korean Physical Society</i> , 2016, 68, 1262-1266.	0.7	3
68	Enhancing the dielectric property of 0.69PZT-0.31PZNN thick films by optimizing the poling condition. <i>Journal of the Korean Physical Society</i> , 2015, 66, 1549-1553.	0.7	2
69	Study on improving current generating time of piezoelectric energy harvesting system. <i>Journal of Electroceramics</i> , 2015, 34, 207-215.	2.0	2
70	Non-resonant piezoelectric transformer based power converter for ultra-low-power electronic devices. <i>Sensors and Actuators A: Physical</i> , 2016, 244, 86-94.	4.1	2
71	An Assessment of the Optimal Capacity and an Economic Evaluation of a Sustainable Photovoltaic Energy System in Korea. <i>Sustainability</i> , 2021, 13, 12264.	3.2	2
72	Design of supplemental plate for piezoelectric system to distribute impact force. , 2012, , .		1

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73	Study on reinforcement and repair of cracked piezoelectric materials. , 2012, , .		1
74	Optimization of a 0.69PZT-0.31PZNN thick film by controlling slurry viscosity and tape-casting blade height. Journal of the Korean Physical Society, 2014, 65, 2090-2094.	0.7	1
75	Designing a road energy harvester with multiple piezoelectric cantilever beams and a single tip mass. , 2016, , .		1
76	Self-Start Piezoelectric Energy Harvesting Circuit With Adjustable UVLO Converter for Wireless Sensor Network. , 2017, , .		1
77	Rectifier and structural design for efficient energy harvesting system from impact-based piezoelectric array. , 2012, , .		0
78	Strain control for optimization of piezoelectric energy harvesting. , 2012, , .		0
79	Effect of ball size and ball milling time on piezoelectric properties of 0.69PZT-0.31PZNN. , 2014, , .		0
80	Optimization of the Energy Conversion Efficiency by Bending Deflection Piezoelectric Cantilever Beams. Journal of the Korean Physical Society, 2020, 76, 948-953.	0.7	0
81	Effect of ball size and ball milling time on piezoelectric properties of 0.69PZT-0.31PZNN. , 2014, , .		0