Dong-Weon Lee

List of Publications by Year
in descending order

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118 papers	3,088 citations	136950 32 h-index	182427 51 g-index
118 all docs	118 docs citations	118 times ranked	3657 citing authors

#	Article	IF	Citations
1	Recovery of Nonwetting Characteristics by Surface Modification of Gallium-Based Liquid Metal Droplets Using Hydrochloric Acid Vapor. ACS Applied Materials & Interfaces, 2013, 5, 179-185.	8.0	225
2	A galinstan-based inkjet printing system for highly stretchable electronics with self-healing capability. Lab on A Chip, 2016, 16, 1366-1373.	6.0	135
3	Selectively plated stretchable liquid metal wires for transparent electronics. Sensors and Actuators B: Chemical, 2015, 221, 1114-1119.	7.8	132
4	On-vehicle triboelectric nanogenerator enabled self-powered sensor for tire pressure monitoring. Nano Energy, 2018, 49, 126-136.	16.0	94
5	Gold nanoparticles decorated rGO-ZnCo2O4 nanocomposite: A promising positive electrode for high performance hybrid supercapacitors. Chemical Engineering Journal, 2020, 379, 122211.	12.7	91
6	Hierarchical In(OH)₃ as a Precursor to Mesoporous In₂O₃ Nanocubes: A Facile Synthesis Route, Mechanism of Self-Assembly, and Enhanced Sensing Response toward Hydrogen. Journal of Physical Chemistry C, 2014, 118, 6909-6921.	3.1	89
7	Au Decorated ZnO hierarchical architectures: Facile synthesis, tunable morphology and enhanced CO detection at room temperature. Sensors and Actuators B: Chemical, 2017, 243, 990-1001.	7.8	89
8	An advanced selective liquid-metal plating technique for stretchable biosensor applications. Lab on A Chip, 2017, 17, 3415-3421.	6.0	88
9	PDMS based coplanar microfluidic channels for the surface reduction of oxidized Galinstan. Lab on A Chip, 2014, 14, 200-209.	6.0	80
10	Hierarchical SnO/SnO2 nanocomposites: Formation of in situ pâ€“n junctions and enhanced H2 sensing. Sensors and Actuators B: Chemical, 2013, 185, 265-273.	7.8	75
11	A Wireless Pressure Sensor Integrated with a Biodegradable Polymer Stent for Biomedical Applications. Sensors, 2016, 16, 809.	3.8	75
12	Graphene/polydimethylsiloxane nanocomposite strain sensor. Review of Scientific Instruments, 2013, 84, 105005.	1.3	67
13	Piezoresistive sensor-integrated PDMS cantilever: A new class of device for measuring the drug-induced changes in the mechanical activity of cardiomyocytes. Sensors and Actuators B: Chemical, 2017, 240, 566-572.	7.8	67
14	Highly durable crack sensor integrated with silicone rubber cantilever for measuring cardiac contractility. Nature Communications, 2020, 11, 535.	12.8	66
15	Scalable and ascendant synthesis of carbon cloth coated hierarchical coreâ€“shell CoMoS@Co(OH)₂ for flexible and high-performance supercapacitors. Journal of Materials Chemistry A, 2018, 6, 9592-9603.	10.3	64
16	A Super-Lyophobic 3-D PDMS Channel as a Novel Microfluidic Platform to Manipulate Oxidized Galinstan. Journal of Microelectromechanical Systems, 2013, 22, 1267-1275.	2.5	56
17	An oxidized liquid metal-based microfluidic platform for tunable electronic device applications. Lab on A Chip, 2015, 15, 766-775.	6.0	56
18	Microprobe array with electrical interconnection for thermal imaging and data storage. Journal of Microelectromechanical Systems, 2002, 11, 215-221.	2.5	54

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19	Wireless pressure sensor integrated with a 3D printed polymer stent for smart health monitoring. Sensors and Actuators B: Chemical, 2019, 280, 201-209.	7.8	50
20	Surface-patterned SU-8 cantilever arrays for preliminary screening of cardiac toxicity. Biosensors and Bioelectronics, 2016, 80, 456-462.	10.1	49
21	Integrated microcantilevers for high-resolution sensing and probing. Measurement Science and Technology, 2012, 23, 022001.	2.6	48
22	Hierarchical nanohybrids of B- and N-codoped graphene/mesoporous NiO nanodisks: an exciting new material for selective sensing of H₂S at near ambient temperature. Journal of Materials Chemistry A, 2019, 7, 9263-9278.	10.3	46
23	Realizing Synergy between In₂O₃ Nanocubes and Nitrogen-Doped Reduced Graphene Oxide: An Excellent Nanocomposite for the Selective and Sensitive Detection of CO at Ambient Temperatures. ACS Applied Materials & Interfaces, 2017, 9, 31728-31740.	8.0	44
24	ZnO/Cu2O-decorated rGO: Heterojunction photoelectrode with improved solar water splitting performance. International Journal of Hydrogen Energy, 2019, 44, 19177-19192.	7.1	44
25	Hierarchical Mesoporous In₂O₃ with Enhanced CO Sensing and Photocatalytic Performance: Distinct Morphologies of In(OH)₃ via Self Assembly Coupled in Situ Solidâ€“Solid Transformation. ACS Applied Materials & Interfaces, 2015, 7, 7679-7689.	8.0	43
26	Vertically aligned one-dimensional ZnO/V2O5 coreâ€“shell hetero-nanostructure for photoelectrochemical water splitting. Journal of Energy Chemistry, 2020, 49, 262-274.	12.9	43
27	Biodegradable polymer material based smart stent: Wireless pressure sensor and 3D printed stent. Microelectronic Engineering, 2019, 206, 1-5.	2.4	41
28	Biomechanical Characterization of Cardiomyocyte Using PDMS Pillar with Microgrooves. Sensors, 2016, 16, 1258.	3.8	40
29	Facile in-situ formation of rGO/ZnO nanocomposite: Photocatalytic remediation of organic pollutants under solar illumination. Materials Chemistry and Physics, 2018, 218, 218-228.	4.0	40
30	An electromagnetic energy harvesting device based on high efficiency windmill structure for wireless forest fire monitoring application. Sensors and Actuators A: Physical, 2014, 219, 73-79.	4.1	38
31	A piezoresistive tactile sensor based on carbon fibers and polymer substrates. Microelectronic Engineering, 2009, 86, 1250-1253.	2.4	37
32	Anion-exchange phase control of manganese sulfide for oxygen evolution reaction. Journal of Materials Chemistry A, 2020, 8, 3901-3909.	10.3	37
33	A Seesaw-Structured Energy Harvester With Superwide Bandwidth for TPMS Application. IEEE/ASME Transactions on Mechatronics, 2014, 19, 1514-1522.	5.8	34
34	Hierarchical 3D nanostructure of GdInO3 and reduced-graphene-decorated GdInO3 nanocomposite for CO sensing applications. Sensors and Actuators B: Chemical, 2016, 234, 155-166.	7.8	33
35	Hydrochloric acid-impregnated paper for gallium-based liquid metal microfluidics. Sensors and Actuators B: Chemical, 2015, 207, 199-205.	7.8	32
36	Realizing the flexible and transparent highly-hydrophobic film through siloxane functionalized polyurethane-acrylate micro-pattern. Chemical Engineering Journal, 2019, 373, 68-77.	12.7	30

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37	A novel energy conversion method based on hydrogel material for self-powered sensor system applications. Applied Energy, 2016, 173, 103-110.	10.1	29
38	Hierarchically self-assembled ZnO architectures: Establishing light trapping networks for effective photoelectrochemical water splitting. International Journal of Hydrogen Energy, 2017, 42, 15126-15139.	7.1	29
39	Fabrication of Optically Transparent PDMS Artificial Lotus Leaf Film Using Underexposed and Underbaked Photoresist Mold. Journal of Microelectromechanical Systems, 2013, 22, 1073-1080.	2.5	26
40	Vertically aligned nanostructured FeOOH@MnO2 core shell electrode with better areal capacitance. Journal of Power Sources, 2019, 436, 226826.	7.8	26
41	Toward Point-of-Care chronic disease Management: Biomarker detection in exhaled breath using an E-Nose sensor based on rGO/SnO2 superstructures. Chemical Engineering Journal, 2022, 448, 137736.	12.7	26
42	N-/S- dual doped C@ZnO: An excellent material for highly selective and responsive NO2 sensing at ambient temperatures. Chemical Engineering Journal, 2021, 421, 127740.	12.7	25
43	Exposure to nanoplastics impairs collective contractility of neonatal cardiomyocytes under electrical synchronization. Biomaterials, 2021, 278, 121175.	11.4	24
44	Design and fabrication of a non-clogging scaffold composed of semi-permeable membrane. Materials and Design, 2018, 142, 229-239.	7.0	21
45	Contractile behaviors of cardiac muscle cells on mushroom-shaped micropillar arrays. Colloids and Surfaces B: Biointerfaces, 2019, 174, 103-109.	5.0	21
46	Micro-patterned SU-8 cantilever integrated with metal electrode for enhanced electromechanical stimulation of cardiac cells. Colloids and Surfaces B: Biointerfaces, 2020, 186, 110682.	5.0	21
47	Seesaw-structured triboelectric nanogenerator for scavenging electrical energy from rotational motion of mechanical systems. Sensors and Actuators A: Physical, 2017, 263, 600-609.	4.1	20
48	Polymeric cantilever integrated with PDMS/graphene composite strain sensor. Review of Scientific Instruments, 2016, 87, 105004.	1.3	19
49	Development of a Next-Generation Biosensing Platform for Simultaneous Detection of Mechano- and Electrophysiology of the Drug-Induced Cardiomyocytes. ACS Sensors, 2019, 4, 2623-2630.	7.8	18
50	Chemo-Mechanical Joint Detection with Both Dynamic and Static Microcantilevers for Interhomologue Molecular Identification. Analytical Chemistry, 2012, 84, 6679-6685.	6.5	17
51	Surface modified nano-patternedSU-8 pillar array optically transparent super-hydrophobic thin film. Journal of Micromechanics and Microengineering, 2012, 22, 035012.	2.6	17
52	Galinstan-based flexible microfluidic device for wireless human-sensor applications. Sensors and Actuators A: Physical, 2020, 315, 112344.	4.1	17
53	Nanosilica coated polydimethylsiloxane mushroom structure: A next generation flexible, transparent, and mechanically durable superhydrophobic thin film. Applied Surface Science, 2022, 583, 152500.	6.1	17
54	Magnetic coupling between folded cantilevers for high-efficiency broadband energy harvesting. Sensors and Actuators A: Physical, 2015, 234, 17-22.	4.1	16

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55	Artificial Heart Based on Electrically Controlled Nonâ€Toxic Liquid Metal Pump. Advanced Engineering Materials, 2019, 21, 1900381.	3.5	16
56	Fully automated high-throughput cardiac toxicity screening platform using interlocking-structured 192 SU-8 cantilever arrays. Sensors and Actuators B: Chemical, 2019, 285, 129-136.	7.8	16
57	A Quasi 2D Flexible Microâ€Supercapacitor Based on MnO₂//NiCo₂O₄ as a Miniaturized Energyâ€Storage Device. Energy Technology, 2018, 6, 1380-1391.	3.8	15
58	MnS2/carbon nanotube electrode for improved supercapacitor performance. Solid State Sciences, 2021, 111, 106449.	3.2	15
59	Electrochemically controllable actuation of liquid metal droplets based on Marangoni effect. Journal of Applied Physics, 2019, 126, .	2.5	14
60	64 PI/PDMS hybrid cantilever arrays with an integrated strain sensor for a high-throughput drug toxicity screening application. Biosensors and Bioelectronics, 2021, 190, 113380.	10.1	14
61	Flexible, polymer-supported, ZnO nanorod array photoelectrodes for PEC water splitting applications. Materials Science in Semiconductor Processing, 2021, 121, 105445.	4.0	13
62	Nano-textured polyimide cantilever for enhancing the contractile behavior of cardiomyocytes and its application to cardiac toxicity screening. Sensors and Actuators B: Chemical, 2019, 301, 126995.	7.8	12
63	Polymer-Based Functional Cantilevers Integrated with Interdigitated Electrode Arraysâ€”A Novel Platform for Cardiac Sensing. Micromachines, 2020, 11, 450.	2.9	12
64	Micro/nano-heater integrated cantilevers for micro/nano-lithography applications. Microelectronic Engineering, 2007, 84, 1041-1044.	2.4	11
65	Status review on the MEMS-based flexible supercapacitors. Journal of Micromechanics and Microengineering, 2019, 29, 093001.	2.6	11
66	Transition metal sulfide-laminated copper wire for flexible hybrid supercapacitor. New Journal of Chemistry, 2020, 44, 18489-18495.	2.8	11
67	On-stage bioreactor platform integrated with nano-patterned and gold-coated PDMS diaphragm for live cell stimulation and imaging. Materials Science and Engineering C, 2021, 118, 111355.	7.3	11
68	A biomimetic micro-collector based on an ionic polymer metal composite. Microelectronic Engineering, 2009, 86, 916-919.	2.4	10
69	Flexible and tactile sensor based on a photosensitive polymer. Microelectronic Engineering, 2010, 87, 1400-1403.	2.4	10
70	Real-Time Monitoring of Changes in Cardiac Contractility Using Silicon Cantilever Arrays Integrated with Strain Sensors. ACS Sensors, 2021, 6, 3556-3563.	7.8	10
71	Supercapacitive performance of vanadium sulfide deposited on stainless steel mesh: effect of etching. Micro and Nano Systems Letters, 2020, 8, .	3.7	10
72	Stabilizing nanocrystalline Cu2O with ZnO/rGO: Engineered photoelectrodes enables efficient water splitting. Ceramics International, 2021, 47, 7558-7570.	4.8	9

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73	A smart microfour-point probe with ultrasharp in-plane tips. Review of Scientific Instruments, 2009, 80, 045107.	1.3	8
74	Fabrication of surface-functionalized PUA composites to achieve superhydrophobicity. Micro and Nano Systems Letters, 2019, 7, .	3.7	8
75	One-step fabrication of optically transparent polydimethylsiloxane artificial lotus leaf film using under-exposed under-baked photoresist mold. , 2012, , .		7
76	Selective nano-patterning of graphene using a heated atomic force microscope tip. Review of Scientific Instruments, 2014, 85, 045002.	1.3	7
77	Miniaturized piezoelectric energy harvester for batteryâ€free portable electronics. International Journal of Energy Research, 2019, 43, 2402.	4.5	6
78	Stress-assisted gold micro-wrinkles on a polymer cantilever for cardiac tissue engineering. Colloids and Surfaces B: Biointerfaces, 2022, 209, 112210.	5.0	6
79	The effect of topographical and mechanical stimulation on the structural and functional anisotropy of cardiomyocytes grown on a circular PDMS diaphragm. Biosensors and Bioelectronics, 2022, 204, 114017.	10.1	6
80	High-speed imaging by electromagnetic alloy actuated probe with dual spring. Journal of Microelectromechanical Systems, 2000, 9, 419-424.	2.5	5
81	Fabrication and evaluation of a novel protein sensor based on Lorentz force. Microelectronic Engineering, 2007, 84, 1719-1723.	2.4	5
82	Adsorption induced surface-stress sensing signal originating from both vertical interface effects and intermolecular lateral interactions. Analyst, The, 2011, 136, 5261.	3.5	5
83	Analysis on microfinger with grooved patterns and its application in electricâ€“thermal microgripper. International Journal of Advanced Manufacturing Technology, 2011, 56, 505-513.	3.0	5
84	A super-lyophobic PDMS micro-tunnel as a novel microfluidic platform for oxidized GalinstanÂ®. , 2012, , .		5
85	A microcantilever system with slider-crank actuation mechanism. Sensors and Actuators A: Physical, 2015, 226, 59-68.	4.1	5
86	Polyurethane-acrylate-based hydrophobic film: Facile fabrication, characterization, and application. Japanese Journal of Applied Physics, 2018, 57, 06HJ09.	1.5	5
87	Drug-induced changes in mechanical behavior of electrically synchronized cardiomyocytes on surface-patterned polydimethylsiloxane diaphragm. Sensors and Actuators A: Physical, 2020, 301, 111760.	4.1	5
88	Highly Flexible Superhydrophobic Poly(Urethane Acrylate) Film for Applications Requiring High Optical Transparency. Macromolecular Materials and Engineering, 2020, 305, 2000292.	3.6	5
89	Multi-layered polymer cantilever integrated with full-bridge strain sensor to enhance force sensitivity in cardiac contractility measurement. Analyst, The, 2021, 146, 7160-7167.	3.5	5
90	Integrated microactuation scanning probe microscopy system. Journal of Vacuum Science & Technology B, 2009, 27, 1408.	1.3	4

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91	A micromachined pressure sensor based on an array of microswitches. Review of Scientific Instruments, 2010, 81, 055103.	1.3	4
92	An investigation of electrical transport properties through a monolithic square-configured micro-four-point probe with ultra-sharp tips. Sensors and Actuators A: Physical, 2011, 166, 247-250.	4.1	4
93	Performance of nanocomposites stacked with carbon nanotubes and Nafion films. Sensors and Actuators A: Physical, 2011, 165, 316-320.	4.1	4
94	Enhancement of cardiac contractility using gold-coated SU-8 cantilevers and their application to drug-induced cardiac toxicity tests. Analyst, The, 2021, 146, 6768-6779.	3.5	4
95	Simultaneous measurement of contraction forces and field potentials of cardiomyocytes subjected to ion channel inhibitors. Sensors and Actuators B: Chemical, 2022, 358, 131495.	7.8	4
96	Functional Microcantilever for a Novel Scanning Force Microscope. Journal of the Korean Physical Society, 2008, 52, 1496-1500.	0.7	3
97	Design and Modeling of an Efficiency Horizontal Thermal Micro-Actuator with Integrated Piezoresistors for Precise Control. Journal of Nanoscience and Nanotechnology, 2010, 10, 3311-3315.	0.9	2
98	Monolithic micro-electro-thermal actuator integrated with a lateral displacement sensor. Journal of Micromechanics and Microengineering, 2010, 20, 085031.	2.6	2
99	Micromachined fragment capturer for biomedical applications. Review of Scientific Instruments, 2011, 82, 115004.	1.3	2
100	A study on linearity compensation of pressure-level sensor using contact-resistance change. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 1917-1922.	1.8	2
101	Pressure level sensor using a conductive diaphragm and microswitch arrays. Sensors and Actuators A: Physical, 2014, 218, 154-161.	4.1	2
102	A novel liquid metal-based inkjet nozzle for flexible electronics. , 2015, , .		2
103	Numerical investigation of perforated polymer microcantilever sensor for contractile behavior of cardiomyocytes. Japanese Journal of Applied Physics, 2017, 56, 06GM01.	1.5	2
104	Application of semi-permeable membrane for a scaffold in a nature-mimicking vascular system. Journal of Membrane Science, 2020, 611, 118384.	8.2	2
105	Nanostructured Ni-Mn double hydroxide for high capacitance supercapacitor application. Journal of Sensor Science and Technology, 2021, 30, 71-75.	0.2	2
106	A self-adjustable four-point probing system using polymeric three dimensional coils and non-toxic liquid metal. Review of Scientific Instruments, 2015, 86, 125006.	1.3	1
107	Photocurable PUA (Poly Urethaneacrylat) cantilever integrated with ultra-high sensitive crack-based sensor. , 2017, , .		1
108	Mea-On-Cantilever â€“ A Novel Multifunctional Device for Drug Toxicity Screening in Cardiomyocytes. , 2021, , .		1

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109	Magnetically actuated cantilever with small resonator for scanning probe microscopy. IEEJ Transactions on Sensors and Micromachines, 2001, 121, 113-118.	0.1	1
110	Super-hydrophobicity of nano-patterned polymer needle array. , 2011, , .		0
111	Hierarchically Self-assembled Super Structural TiO2 Microspheres: Enhanced Excitonic Efficiency as Photocatalyst and Photoanode Material. MRS Advances, 2016, 1, 3877-3882.	0.9	0
112	Simple and cost-effective method for fabrication of optically transparent superhydrophobic thin film using reusable pua mold and roll-to-roll machine. , 2017, , .		0
113	Highly efficient superhydrophobic surface-based triboelectricnanogenerator for rotational machineries. , 2017, , .		0
114	PDMS Cantilever Integrated with Metal Wrinkles to Measure Contractile Behaviours of Matured Cardiac Cells. , 2019, , .		0
115	AgNW-based functional polymer cantilever to improve maturity and contractility of cardiomyocytes. Journal of Sensor Science and Technology, 2021, 30, 185-189.	0.2	0
116	Large scale roll-to-roll production of polyurethane-acrylate-based hydrophobic film: a next-generation protection layer for solar devices. Journal of Micromechanics and Microengineering, 2020, 30, 115007.	2.6	0
117	Biosensor Platform for Simultaneous Measurement of Mechanical and Electrophysiological Properties of Drug-Induced Cardiomyocytes. , 2022, , .		0
118	Analysis of the Growth Characteristics of Cardiac Cells According to Mechanical Properties of Substrates Using the Simplified Measurement Technique of Tracker. Journal of Sensor Science and Technology, 2022, 31, 6-11.	0.2	0