Hyun-Taek Lee

List of Publications by Year
in descending order

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Version: 2024-02-01

93 papers	6,353 citations	66234 42 h-index	66788 78 g-index
95 all docs	95 docs citations	95 times ranked	7403 citing authors

#	Article	IF	Citations
1	A flexible and highly sensitive strain-gauge sensor using reversible interlocking of nanofibres. Nature Materials, 2012, 11, 795-801.	13.3	1,453
2	Review of biomimetic underwater robots using smart actuators. International Journal of Precision Engineering and Manufacturing, 2012, 13, 1281-1292.	1.1	291
3	A comparison of energy consumption in bulk forming, subtractive, and additive processes: Review and case study. International Journal of Precision Engineering and Manufacturing - Green Technology, 2014, 1, 261-279.	2.7	255
4	Shape Memory Alloy-Based Soft Gripper with Variable Stiffness for Compliant and Effective Grasping. Soft Robotics, 2017, 4, 379-389.	4.6	247
5	Review of manufacturing processes for soft biomimetic robots. International Journal of Precision Engineering and Manufacturing, 2009, 10, 171-181.	1.1	236
6	An Overview of Shape Memory Alloy-Coupled Actuators and Robots. Soft Robotics, 2017, 4, 3-15.	4.6	189
7	Locomotion of inchworm-inspired robot made of smart soft composite (SSC). Bioinspiration and Biomimetics, 2014, 9, 046006.	1.5	181
8	Review: Developments in micro/nanoscale fabrication by focused ion beams. Vacuum, 2012, 86, 1014-1035.	1.6	161
9	Hybrid manufacturing in micro/nano scale: A Review. International Journal of Precision Engineering and Manufacturing - Green Technology, 2014, 1, 75-92.	2.7	141
10	Deposition mechanism of dry sprayed ceramic particles at room temperature using a nano-particle deposition system. Acta Materialia, 2011, 59, 2693-2703.	3.8	139
11	Soft Tendril-Inspired Grippers: Shape Morphing of Programmable Polymerâ€“Paper Bilayer Composites. ACS Applied Materials & Interfaces, 2018, 10, 10419-10427.	4.0	118
12	A turtle-like swimming robot using a smart soft composite (SSC) structure. Smart Materials and Structures, 2013, 22, 014007.	1.8	112
13	Curved shape memory alloy-based soft actuators and application to soft gripper. Composite Structures, 2017, 176, 398-406.	3.1	109
14	A review of electrically-assisted manufacturing. International Journal of Precision Engineering and Manufacturing - Green Technology, 2015, 2, 365-376.	2.7	108
15	Soft morphing hand driven by SMA tendon wire. Composites Part B: Engineering, 2016, 105, 138-148.	5.9	106
16	Smart soft composite: An integrated 3D soft morphing structure using bend-twist coupling of anisotropic materials. International Journal of Precision Engineering and Manufacturing, 2012, 13, 631-634.	1.1	103
17	Direct printing of highly sensitive, stretchable, and durable strain sensor based on silver nanoparticles/multi-walled carbon nanotubes composites. Composites Part B: Engineering, 2019, 161, 395-401.	5.9	99
18	35â€‰Hz shape memory alloy actuator with bending-twisting mode. Scientific Reports, 2016, 6, 21118.	1.6	92

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19	Empirical power-consumption model for material removal in three-axis milling. Journal of Cleaner Production, 2014, 78, 54-62.	4.6	90
20	Soft composite hinge actuator and application to compliant robotic gripper. Composites Part B: Engineering, 2016, 98, 397-405.	5.9	84
21	Shape Memory Alloy-Based Soft Finger with Changeable Bending Length Using Targeted Variable Stiffness. Soft Robotics, 2020, 7, 283-291.	4.6	79
22	Smart soft composite actuator with shape retention capability using embedded fusible alloy structures. Composites Part B: Engineering, 2015, 78, 507-514.	5.9	74
23	Blooming Knit Flowers: Loopâ€Linked Soft Morphing Structures for Soft Robotics. Advanced Materials, 2017, 29, 1606580.	11.1	72
24	A review on fabrication processes for electrochromic devices. International Journal of Precision Engineering and Manufacturing - Green Technology, 2016, 3, 397-421.	2.7	70
25	Stretchable Biaxial and Shear Strain Sensors Using Diffractive Structural Colors. ACS Nano, 2020, 14, 5392-5399.	7.3	68
26	An overview on the cellulose based conducting composites. Composites Part B: Engineering, 2012, 43, 2822-2826.	5.9	65
27	Control of machining parameters for energy and cost savings in micro-scale drilling of PCBs. Journal of Cleaner Production, 2013, 54, 41-48.	4.6	65
28	Deployable Soft Composite Structures. Scientific Reports, 2016, 6, 20869.	1.6	63
29	From 3D to 4D printing â€“ design, material and fabrication for multi-functional multi-materials. International Journal of Precision Engineering and Manufacturing - Green Technology, 2017, 4, 291-299.	2.7	62
30	SMA-based smart soft composite structure capable of multiple modes of actuation. Composites Part B: Engineering, 2015, 82, 152-158.	5.9	61
31	Shape memory alloy/glass fiber woven composite for soft morphing winglets of unmanned aerial vehicles. Composite Structures, 2016, 140, 202-212.	3.1	61
32	Geometric optimization of micro drills using Taguchi methods and response surface methodology. International Journal of Precision Engineering and Manufacturing, 2011, 12, 871-875.	1.1	59
33	Fabrication of wrist-like SMA-based actuator by double smart soft composite casting. Smart Materials and Structures, 2015, 24, 125003.	1.8	59
34	From design for manufacturing (DFM) to manufacturing for design (MFD) via hybrid manufacturing and smart factory: A review and perspective of paradigm shift. International Journal of Precision Engineering and Manufacturing - Green Technology, 2016, 3, 209-222.	2.7	59
35	Fabrication of transparent superhydrophobic surface on thermoplastic polymer using laser beam machining and compression molding for mass production. CIRP Annals - Manufacturing Technology, 2014, 63, 525-528.	1.7	57
36	Effect of stand-off distance for cold gas spraying of fine ceramic particles (<5Î¼m) under low vacuum and room temperature using nano-particle deposition system (NPDS). Surface and Coatings Technology, 2012, 206, 2125-2132.	2.2	56

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37	Woven type smart soft composite for soft morphing car spoiler. Composites Part B: Engineering, 2016, 86, 285-298.	5.9	56
38	An evaluation of green manufacturing technologies based on research databases. International Journal of Precision Engineering and Manufacturing - Green Technology, 2014, 1, 5-9.	2.7	53
39	Design and Fabrication of Soft Morphing Ray Propulsor: Undulator and Oscillator. Soft Robotics, 2017, 4, 49-60.	4.6	52
40	A smart soft actuator using a single shape memory alloy for twisting actuation. Smart Materials and Structures, 2015, 24, 125033.	1.8	51
41	Cross-shaped twisting structure using SMA-based smart soft composite. International Journal of Precision Engineering and Manufacturing - Green Technology, 2014, 1, 153-156.	2.7	46
42	Shape Memory Alloy (SMA)â€Based Microscale Actuators with 60% Deformation Rate and 1.6 kHz Actuation Speed. Small, 2018, 14, e1801023.	5.2	46
43	Nano-particle deposition system (NPDS): Low energy solvent-free dry spray process for direct patterning of metals and ceramics at room temperature. International Journal of Precision Engineering and Manufacturing, 2012, 13, 1107-1112.	1.1	40
44	Shape memory textile composites with multi-mode actuations for soft morphing skins. Composites Part B: Engineering, 2020, 198, 108170.	5.9	39
45	Low-cost fabrication of WO3 films using a room temperature and low-vacuum air-spray based deposition system for inorganic electrochromic device applications. Thin Solid Films, 2015, 589, 412-418.	0.8	33
46	Direct Printing of Strain Sensors via Nanoparticle Printer for the Applications to Composite Structural Health Monitoring. Procedia CIRP, 2017, 66, 238-242.	1.0	32
47	Aerodynamically Focused Nanoparticle (AFN) Printing: Novel Direct Printing Technique of Solvent-Free and Inorganic Nanoparticles. ACS Applied Materials & Interfaces, 2014, 6, 16466-16471.	4.0	27
48	Microtentacle Actuators Based on Shape Memory Alloy Smart Soft Composite. Advanced Functional Materials, 2020, 30, 2002510.	7.8	27
49	Design and analysis of a smart soft composite structure for various modes of actuation. Composites Part B: Engineering, 2016, 95, 155-165.	5.9	26
50	Comparison of mold designs for SMA-based twisting soft actuator. Sensors and Actuators A: Physical, 2016, 237, 96-106.	2.0	26
51	Room temperature deposition of TiO2 using nano particle deposition system (NPDS): Application to dye-sensitized solar cell (DSSC). International Journal of Precision Engineering and Manufacturing, 2011, 12, 749-752.	1.1	23
52	Novel fabrication of an electrochromic antimony-doped tin oxide film using a nanoparticle deposition system. Applied Surface Science, 2016, 377, 370-375.	3.1	22
53	Laser Controlled 65 Micrometer Long Microrobot Made of Niâ€Ti Shape Memory Alloy. Advanced Materials Technologies, 2019, 4, 1900583.	3.0	22
54	Fabrication and reliable implementation of an ionic polymerâ€“metal composite (IPMC) biaxial bending actuator. Smart Materials and Structures, 2011, 20, 105026.	1.8	21

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55	Woven type smart soft composite beam with in-plane shape retention. Smart Materials and Structures, 2013, 22, 125007.	1.8	21
56	Highly Sensitive Solvent-free Silver Nanoparticle Strain Sensors with Tunable Sensitivity Created Using an Aerodynamically Focused Nanoparticle Printer. ACS Applied Materials & Interfaces, 2019, 11, 26421-26432.	4.0	20
57	Nanoscale 3D printing process using aerodynamically focused nanoparticle (AFN) printing, micro-machining, and focused ion beam (FIB). CIRP Annals - Manufacturing Technology, 2015, 64, 523-526.	1.7	19
58	Flexible ceramic-elastomer composite piezoelectric energy harvester fabricated by additive manufacturing. Journal of Composite Materials, 2016, 50, 1573-1579.	1.2	19
59	Laser-assisted nano particle deposition system and its application for dye sensitized solar cell fabrication. CIRP Annals - Manufacturing Technology, 2012, 61, 575-578.	1.7	18
60	Colour-tunable 50% strain sensor using surface-nanopatterning of soft materials via nanoimprinting with focused ion beam milling process. CIRP Annals - Manufacturing Technology, 2019, 68, 595-598.	1.7	18
61	Hybrid composite actuator with shape retention capability for morphing flap of unmanned aerial vehicle (UAV). Composite Structures, 2020, 243, 112227.	3.1	18
62	Effect of backstitch tool path on micro-drilling of printed circuit board. Precision Engineering, 2014, 38, 691-696.	1.8	15
63	Direct printing of anisotropic wetting patterns using aerodynamically focused nanoparticle (AFN) printing. Applied Surface Science, 2017, 396, 1450-1457.	3.1	14
64	Resistive pressure sensor based on cylindrical micro structures in periodically ordered electrospun elastic fibers. Smart Materials and Structures, 2018, 27, 11LT01.	1.8	14
65	Crack-free fabrication of Prussian blue-based blending film for the dramatic enhancement of dual electrochromic device. Ceramics International, 2020, 46, 21008-21013.	2.3	14
66	Advanced scanning paths for focused ion beam milling. Vacuum, 2017, 143, 40-49.	1.6	12
67	Pulse width modulation as energy-saving strategy of shape memory alloy based smart soft composite actuator. International Journal of Precision Engineering and Manufacturing, 2017, 18, 895-901.	1.1	12
68	Direct printing of performance tunable strain sensor via nanoparticle laser patterning process. Virtual and Physical Prototyping, 2020, 15, 265-277.	5.3	12
69	Precise glass microstructuring with laser induced backside wet etching using error-compensating scan path. Journal of Materials Processing Technology, 2021, 291, 117046.	3.1	12
70	Shape memory alloy-driven undulatory locomotion of a soft biomimetic ray robot. Bioinspiration and Biomimetics, 2021, 16, 066006.	1.5	12
71	Design and development of bio-mimetic soft robotic hand with shape memory alloy. , 2015, , .		10
72	Shape memory alloy (SMA)-based head and neck immobilizer for radiotherapy. Journal of Computational Design and Engineering, 2015, 2, 176-182.	1.5	9

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73	Site-specific characterization of beetle horn shell with micromechanical bending test in focused ion beam system. Acta Biomaterialia, 2017, 57, 395-403.	4.1	9
74	Microstructural Control of the Electrochromic and Ion Storage Layers on the Performance of an Electrochromic Device Fabricated by the Kinetic Spray Technique. International Journal of Precision Engineering and Manufacturing - Green Technology, 2018, 5, 231-238.	2.7	9
75	Simulation of electrical conductivity for nanoparticles and nanotubes composite sensor according to geometrical properties of nanomaterials. Composites Part B: Engineering, 2019, 174, 107003.	5.9	9
76	Deposition of TiO2 layers for dye-sensitized solar cells using nano-particle deposition system. Current Applied Physics, 2011, 11, S122-S126.	1.1	8
77	Design and evaluation of micro-cutting tools for local planarization. International Journal of Precision Engineering and Manufacturing, 2016, 17, 1267-1273.	1.1	8
78	Shape Memory Alloy-Based Microscale Bending Actuator Fabricated by a Focused Ion Beam Chemical Vapor Deposition (FIB-CVD) Gap-Filling Process. International Journal of Precision Engineering and Manufacturing, 2020, 21, 491-498.	1.1	8
79	Room-Temperature Fabrication of a Flexible Thermoelectric Generator Using a Dry-Spray Deposition System. Journal of Electronic Materials, 2016, 45, 2286-2290.	1.0	6
80	Effect of laser-excited ceramic nanoparticles on hardness and porosity of dry-sprayed coating. CIRP Annals - Manufacturing Technology, 2017, 66, 519-522.	1.7	6
81	Low-voltage modulated inorganic smart windows using solid polymer electrolyte. Solar Energy Materials and Solar Cells, 2019, 200, 109966.	3.0	6
82	CAD/CAM for scalable nanomanufacturing: A network-based system for hybrid 3D printing. Microsystems and Nanoengineering, 2017, 3, 17072.	3.4	5
83	Directly Printed Low-Cost Nanoparticle Sensor for Vibration Measurement during Milling Process. Materials, 2020, 13, 2920.	1.3	5
84	Cellulose nanofiber assisted deposition of titanium dioxide on fluorine-doped tin oxide glass. RSC Advances, 2014, 4, 987-991.	1.7	4
85	Superhydrophobicity and corrosion resistance of AISI 4140 mold made through nanosecond laser texturing. International Journal of Advanced Manufacturing Technology, 2022, 119, 5119-5130.	1.5	4
86	Microtentacle Actuators: Microtentacle Actuators Based on Shape Memory Alloy Smart Soft Composite (Adv. Funct. Mater. 34/2020). Advanced Functional Materials, 2020, 30, 2070231.	7.8	3
87	Alignment Algorithm for Nano-scale Three-dimensional Printing System. Journal of the Korean Society for Precision Engineering, 2014, 31, 1101-1106.	0.1	2
88	Bio-inspired deposition of silver nano-particles (AgNPs) on silicon substrate. Materials Letters, 2014, 116, 175-177.	1.3	1
89	Simulation of dynamic growth rate of focused ion beam-induced deposition using Hausdorff distance. Sensors and Actuators A: Physical, 2019, 286, 169-177.	2.0	1
90	50Ânm Scale Alignment Method for Hybrid Manufacturing Processes for Full 3D Structuring. International Journal of Precision Engineering and Manufacturing, 2020, 21, 2407-2417.	1.1	1

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91	A Multiscale Adhesion Model for Deposition Prediction in Laser Enhanced Nanoparticle Deposition Process. Acta Materialia, 2021, 208, 116740.	3.8	1
92	In-Situ Characterization of Nano-Structures Fabricated by Focused Ion Beam (FIB) and Nano Particle Deposition System (NPDS). , 2014, , .		0
93	A Multiscale Adhesion Model for Deposition Prediction in Laser Enhanced Nanoparticle Deposition Process. SSRN Electronic Journal, 0, , .	0.4	0