

# Hyun-Taek Lee

## List of Publications by Year in descending order

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Version: 2024-02-01

93  
papers

6,353  
citations

66343

42  
h-index

66911

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. <i>Nature Materials</i> , 2012, 11, 795-801.	27.5	1,453
2	Review of biomimetic underwater robots using smart actuators. <i>International Journal of Precision Engineering and Manufacturing</i> , 2012, 13, 1281-1292.	2.2	291
3	A comparison of energy consumption in bulk forming, subtractive, and additive processes: Review and case study. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2014, 1, 261-279.	4.9	255
4	Shape Memory Alloy-Based Soft Gripper with Variable Stiffness for Compliant and Effective Grasping. <i>Soft Robotics</i> , 2017, 4, 379-389.	8.0	247
5	Review of manufacturing processes for soft biomimetic robots. <i>International Journal of Precision Engineering and Manufacturing</i> , 2009, 10, 171-181.	2.2	236
6	An Overview of Shape Memory Alloy-Coupled Actuators and Robots. <i>Soft Robotics</i> , 2017, 4, 3-15.	8.0	189
7	Locomotion of inchworm-inspired robot made of smart soft composite (SSC). <i>Bioinspiration and Biomimetics</i> , 2014, 9, 046006.	2.9	181
8	Review: Developments in micro/nanoscale fabrication by focused ion beams. <i>Vacuum</i> , 2012, 86, 1014-1035.	3.5	161
9	Hybrid manufacturing in micro/nano scale: A Review. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2014, 1, 75-92.	4.9	141
10	Deposition mechanism of dry sprayed ceramic particles at room temperature using a nano-particle deposition system. <i>Acta Materialia</i> , 2011, 59, 2693-2703.	7.9	139
11	Soft Tendril-Inspired Grippers: Shape Morphing of Programmable Polymer-Paper Bilayer Composites. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 10419-10427.	8.0	118
12	A turtle-like swimming robot using a smart soft composite (SSC) structure. <i>Smart Materials and Structures</i> , 2013, 22, 014007.	3.5	112
13	Curved shape memory alloy-based soft actuators and application to soft gripper. <i>Composite Structures</i> , 2017, 176, 398-406.	5.8	109
14	A review of electrically-assisted manufacturing. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2015, 2, 365-376.	4.9	108
15	Soft morphing hand driven by SMA tendon wire. <i>Composites Part B: Engineering</i> , 2016, 105, 138-148.	12.0	106
16	Smart soft composite: An integrated 3D soft morphing structure using bend-twist coupling of anisotropic materials. <i>International Journal of Precision Engineering and Manufacturing</i> , 2012, 13, 631-634.	2.2	103
17	Direct printing of highly sensitive, stretchable, and durable strain sensor based on silver nanoparticles/multi-walled carbon nanotubes composites. <i>Composites Part B: Engineering</i> , 2019, 161, 395-401.	12.0	99
18	35%Hz shape memory alloy actuator with bending-twisting mode. <i>Scientific Reports</i> , 2016, 6, 21118.	3.3	92

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19	Empirical power-consumption model for material removal in three-axis milling. <i>Journal of Cleaner Production</i> , 2014, 78, 54-62.	9.3	90
20	Soft composite hinge actuator and application to compliant robotic gripper. <i>Composites Part B: Engineering</i> , 2016, 98, 397-405.	12.0	84
21	Shape Memory Alloy-Based Soft Finger with Changeable Bending Length Using Targeted Variable Stiffness. <i>Soft Robotics</i> , 2020, 7, 283-291.	8.0	79
22	Smart soft composite actuator with shape retention capability using embedded fusible alloy structures. <i>Composites Part B: Engineering</i> , 2015, 78, 507-514.	12.0	74
23	Blooming Knit Flowers: Loop-Linked Soft Morphing Structures for Soft Robotics. <i>Advanced Materials</i> , 2017, 29, 1606580.	21.0	72
24	A review on fabrication processes for electrochromic devices. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2016, 3, 397-421.	4.9	70
25	Stretchable Biaxial and Shear Strain Sensors Using Diffractive Structural Colors. <i>ACS Nano</i> , 2020, 14, 5392-5399.	14.6	68
26	An overview on the cellulose based conducting composites. <i>Composites Part B: Engineering</i> , 2012, 43, 2822-2826.	12.0	65
27	Control of machining parameters for energy and cost savings in micro-scale drilling of PCBs. <i>Journal of Cleaner Production</i> , 2013, 54, 41-48.	9.3	65
28	Deployable Soft Composite Structures. <i>Scientific Reports</i> , 2016, 6, 20869.	3.3	63
29	From 3D to 4D printing – design, material and fabrication for multi-functional multi-materials. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2017, 4, 291-299.	4.9	62
30	SMA-based smart soft composite structure capable of multiple modes of actuation. <i>Composites Part B: Engineering</i> , 2015, 82, 152-158.	12.0	61
31	Shape memory alloy/glass fiber woven composite for soft morphing winglets of unmanned aerial vehicles. <i>Composite Structures</i> , 2016, 140, 202-212.	5.8	61
32	Geometric optimization of micro drills using Taguchi methods and response surface methodology. <i>International Journal of Precision Engineering and Manufacturing</i> , 2011, 12, 871-875.	2.2	59
33	Fabrication of wrist-like SMA-based actuator by double smart soft composite casting. <i>Smart Materials and Structures</i> , 2015, 24, 125003.	3.5	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. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2016, 3, 209-222.	4.9	59
35	Fabrication of transparent superhydrophobic surface on thermoplastic polymer using laser beam machining and compression molding for mass production. <i>CIRP Annals - Manufacturing Technology</i> , 2014, 63, 525-528.	3.6	57
36	Effect of stand-off distance for cold gas spraying of fine ceramic particles (<math>5\frac{1}{4}\mu\text{m}</math>) under low vacuum and room temperature using nano-particle deposition system (NPDS). <i>Surface and Coatings Technology</i> , 2012, 206, 2125-2132.	4.8	56

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37	Woven type smart soft composite for soft morphing car spoiler. <i>Composites Part B: Engineering</i> , 2016, 86, 285-298.	12.0	56
38	An evaluation of green manufacturing technologies based on research databases. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2014, 1, 5-9.	4.9	53
39	Design and Fabrication of Soft Morphing Ray Propulsor: Undulator and Oscillator. <i>Soft Robotics</i> , 2017, 4, 49-60.	8.0	52
40	A smart soft actuator using a single shape memory alloy for twisting actuation. <i>Smart Materials and Structures</i> , 2015, 24, 125033.	3.5	51
41	Cross-shaped twisting structure using SMA-based smart soft composite. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2014, 1, 153-156.	4.9	46
42	Shape Memory Alloy (SMA)-Based Microscale Actuators with 60% Deformation Rate and 1.6 kHz Actuation Speed. <i>Small</i> , 2018, 14, e1801023.	10.0	46
43	Nano-particle deposition system (NPDS): Low energy solvent-free dry spray process for direct patterning of metals and ceramics at room temperature. <i>International Journal of Precision Engineering and Manufacturing</i> , 2012, 13, 1107-1112.	2.2	40
44	Shape memory textile composites with multi-mode actuations for soft morphing skins. <i>Composites Part B: Engineering</i> , 2020, 198, 108170.	12.0	39
45	Low-cost fabrication of WO <sub>3</sub> films using a room temperature and low-vacuum air-spray based deposition system for inorganic electrochromic device applications. <i>Thin Solid Films</i> , 2015, 589, 412-418.	1.8	33
46	Direct Printing of Strain Sensors via Nanoparticle Printer for the Applications to Composite Structural Health Monitoring. <i>Procedia CIRP</i> , 2017, 66, 238-242.	1.9	32
47	Aerodynamically Focused Nanoparticle (AFN) Printing: Novel Direct Printing Technique of Solvent-Free and Inorganic Nanoparticles. <i>ACS Applied Materials &amp; Interfaces</i> , 2014, 6, 16466-16471.	8.0	27
48	Microtentacle Actuators Based on Shape Memory Alloy Smart Soft Composite. <i>Advanced Functional Materials</i> , 2020, 30, 2002510.	14.9	27
49	Design and analysis of a smart soft composite structure for various modes of actuation. <i>Composites Part B: Engineering</i> , 2016, 95, 155-165.	12.0	26
50	Comparison of mold designs for SMA-based twisting soft actuator. <i>Sensors and Actuators A: Physical</i> , 2016, 237, 96-106.	4.1	26
51	Room temperature deposition of TiO <sub>2</sub> using nano particle deposition system (NPDS): Application to dye-sensitized solar cell (DSSC). <i>International Journal of Precision Engineering and Manufacturing</i> , 2011, 12, 749-752.	2.2	23
52	Novel fabrication of an electrochromic antimony-doped tin oxide film using a nanoparticle deposition system. <i>Applied Surface Science</i> , 2016, 377, 370-375.	6.1	22
53	Laser Controlled 65 Micrometer Long Microrobot Made of Ni-Ti Shape Memory Alloy. <i>Advanced Materials Technologies</i> , 2019, 4, 1900583.	5.8	22
54	Fabrication and reliable implementation of an ionic polymer-metal composite (IPMC) biaxial bending actuator. <i>Smart Materials and Structures</i> , 2011, 20, 105026.	3.5	21

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55	Woven type smart soft composite beam with in-plane shape retention. <i>Smart Materials and Structures</i> , 2013, 22, 125007.	3.5	21
56	Highly Sensitive Solvent-free Silver Nanoparticle Strain Sensors with Tunable Sensitivity Created Using an Aerodynamically Focused Nanoparticle Printer. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 26421-26432.	8.0	20
57	Nanoscale 3D printing process using aerodynamically focused nanoparticle (AFN) printing, micro-machining, and focused ion beam (FIB). <i>CIRP Annals - Manufacturing Technology</i> , 2015, 64, 523-526.	3.6	19
58	Flexible ceramic-elastomer composite piezoelectric energy harvester fabricated by additive manufacturing. <i>Journal of Composite Materials</i> , 2016, 50, 1573-1579.	2.4	19
59	Laser-assisted nano particle deposition system and its application for dye sensitized solar cell fabrication. <i>CIRP Annals - Manufacturing Technology</i> , 2012, 61, 575-578.	3.6	18
60	Colour-tunable 50% strain sensor using surface-nanopatterning of soft materials via nanoimprinting with focused ion beam milling process. <i>CIRP Annals - Manufacturing Technology</i> , 2019, 68, 595-598.	3.6	18
61	Hybrid composite actuator with shape retention capability for morphing flap of unmanned aerial vehicle (UAV). <i>Composite Structures</i> , 2020, 243, 112227.	5.8	18
62	Effect of backstitch tool path on micro-drilling of printed circuit board. <i>Precision Engineering</i> , 2014, 38, 691-696.	3.4	15
63	Direct printing of anisotropic wetting patterns using aerodynamically focused nanoparticle (AFN) printing. <i>Applied Surface Science</i> , 2017, 396, 1450-1457.	6.1	14
64	Resistive pressure sensor based on cylindrical micro structures in periodically ordered electrospun elastic fibers. <i>Smart Materials and Structures</i> , 2018, 27, 11LT01.	3.5	14
65	Crack-free fabrication of Prussian blue-based blending film for the dramatic enhancement of dual electrochromic device. <i>Ceramics International</i> , 2020, 46, 21008-21013.	4.8	14
66	Advanced scanning paths for focused ion beam milling. <i>Vacuum</i> , 2017, 143, 40-49.	3.5	12
67	Pulse width modulation as energy-saving strategy of shape memory alloy based smart soft composite actuator. <i>International Journal of Precision Engineering and Manufacturing</i> , 2017, 18, 895-901.	2.2	12
68	Direct printing of performance tunable strain sensor via nanoparticle laser patterning process. <i>Virtual and Physical Prototyping</i> , 2020, 15, 265-277.	10.4	12
69	Precise glass microstructuring with laser induced backside wet etching using error-compensating scan path. <i>Journal of Materials Processing Technology</i> , 2021, 291, 117046.	6.3	12
70	Shape memory alloy-driven undulatory locomotion of a soft biomimetic ray robot. <i>Bioinspiration and Biomimetics</i> , 2021, 16, 066006.	2.9	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. <i>Journal of Computational Design and Engineering</i> , 2015, 2, 176-182.	3.1	9

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73	Site-specific characterization of beetle horn shell with micromechanical bending test in focused ion beam system. <i>Acta Biomaterialia</i> , 2017, 57, 395-403.	8.3	9
74	Microstructural Control of the Electrochromic and Ion Storage Layers on the Performance of an Electrochromic Device Fabricated by the Kinetic Spray Technique. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2018, 5, 231-238.	4.9	9
75	Simulation of electrical conductivity for nanoparticles and nanotubes composite sensor according to geometrical properties of nanomaterials. <i>Composites Part B: Engineering</i> , 2019, 174, 107003.	12.0	9
76	Deposition of TiO <sub>2</sub> layers for dye-sensitized solar cells using nano-particle deposition system. <i>Current Applied Physics</i> , 2011, 11, S122-S126.	2.4	8
77	Design and evaluation of micro-cutting tools for local planarization. <i>International Journal of Precision Engineering and Manufacturing</i> , 2016, 17, 1267-1273.	2.2	8
78	Shape Memory Alloy-Based Microscale Bending Actuator Fabricated by a Focused Ion Beam Chemical Vapor Deposition (FIB-CVD) Gap-Filling Process. <i>International Journal of Precision Engineering and Manufacturing</i> , 2020, 21, 491-498.	2.2	8
79	Room-Temperature Fabrication of a Flexible Thermoelectric Generator Using a Dry-Spray Deposition System. <i>Journal of Electronic Materials</i> , 2016, 45, 2286-2290.	2.2	6
80	Effect of laser-excited ceramic nanoparticles on hardness and porosity of dry-sprayed coating. <i>CIRP Annals - Manufacturing Technology</i> , 2017, 66, 519-522.	3.6	6
81	Low-voltage modulated inorganic smart windows using solid polymer electrolyte. <i>Solar Energy Materials and Solar Cells</i> , 2019, 200, 109966.	6.2	6
82	CAD/CAM for scalable nanomanufacturing: A network-based system for hybrid 3D printing. <i>Microsystems and Nanoengineering</i> , 2017, 3, 17072.	7.0	5
83	Directly Printed Low-Cost Nanoparticle Sensor for Vibration Measurement during Milling Process. <i>Materials</i> , 2020, 13, 2920.	2.9	5
84	Cellulose nanofiber assisted deposition of titanium dioxide on fluorine-doped tin oxide glass. <i>RSC Advances</i> , 2014, 4, 987-991.	3.6	4
85	Superhydrophobicity and corrosion resistance of AISI 4140 mold made through nanosecond laser texturing. <i>International Journal of Advanced Manufacturing Technology</i> , 2022, 119, 5119-5130.	3.0	4
86	Microtentacle Actuators: Microtentacle Actuators Based on Shape Memory Alloy Smart Soft Composite ( <i>Adv. Funct. Mater.</i> 34/2020). <i>Advanced Functional Materials</i> , 2020, 30, 2070231.	14.9	3
87	Alignment Algorithm for Nano-scale Three-dimensional Printing System. <i>Journal of the Korean Society for Precision Engineering</i> , 2014, 31, 1101-1106.	0.2	2
88	Bio-inspired deposition of silver nano-particles (AgNPs) on silicon substrate. <i>Materials Letters</i> , 2014, 116, 175-177.	2.6	1
89	Simulation of dynamic growth rate of focused ion beam-induced deposition using Hausdorff distance. <i>Sensors and Actuators A: Physical</i> , 2019, 286, 169-177.	4.1	1
90	50Ånm Scale Alignment Method for Hybrid Manufacturing Processes for Full 3D Structuring. <i>International Journal of Precision Engineering and Manufacturing</i> , 2020, 21, 2407-2417.	2.2	1

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91	A Multiscale Adhesion Model for Deposition Prediction in Laser Enhanced Nanoparticle Deposition Process. Acta Materialia, 2021, 208, 116740.	7.9	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