

# Hyowon Lee

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

100  
papers

2,045  
citations

24  
h-index

42  
g-index

110  
ext. papers

2,424  
ext. citations

5.1  
avg, IF

5.25  
L-index

#	Paper	IF	Citations
100	Application of magnetically actuated self-clearing catheter for rapid in situ blood clot clearance in hemorrhagic stroke treatment.. <i>Nature Communications</i> , <b>2022</b> , 13, 520	17.4	2
99	Critical role of mitochondrial aldehyde dehydrogenase 2 in acrolein sequestering in rat spinal cord injury.. <i>Neural Regeneration Research</i> , <b>2022</b> , 17, 1505-1511	4.5	1
98	Targeted delivery of acrolein scavenger hydralazine in spinal cord injury using folate-linker-drug conjugation.. <i>Free Radical Biology and Medicine</i> , <b>2022</b> , 184, 66-73	7.8	1
97	Deficiency of autism-related Scn2a gene in mice disrupts sleep patterns and circadian rhythms.. <i>Neurobiology of Disease</i> , <b>2022</b> , 105690	7.5	0
96	Evidence of acrolein in synovial fluid of dogs with osteoarthritis as a potential inflammatory biomarker. <i>BMC Musculoskeletal Disorders</i> , <b>2021</b> , 22, 894	2.8	2
95	Wearable Glucose Monitoring and Implantable Drug Delivery Systems for Diabetes Management. <i>Advanced Healthcare Materials</i> , <b>2021</b> , 10, e2100194	10.1	7
94	Acrolein scavenger dimercaprol offers neuroprotection in an animal model of Parkinson's disease: implication of acrolein and TRPA1. <i>Translational Neurodegeneration</i> , <b>2021</b> , 10, 13	10.3	2
93	Whole body measurements using near-infrared spectroscopy in a rat spinal cord contusion injury model. <i>Journal of Spinal Cord Medicine</i> , <b>2021</b> , 1-13	1.9	2
92	Effects of Carbon Nanotube Infiltration on a Shape Memory Polymer-Based Device for Brain Aneurysm Therapeutics: Design and Characterization of a Joule-Heating Triggering Mechanism. <i>Advanced Engineering Materials</i> , <b>2021</b> , 23, 2100322	3.5	2
91	Effects of Carbon Nanotube Infiltration on a Shape Memory Polymer-Based Device for Brain Aneurysm Therapeutics: Design and Characterization of a Joule-Heating Triggering Mechanism. <i>Advanced Engineering Materials</i> , <b>2021</b> , 23, 2170022	3.5	
90	Rapid custom prototyping of soft poroelastic biosensor for simultaneous epicardial recording and imaging. <i>Nature Communications</i> , <b>2021</b> , 12, 3710	17.4	9
89	High-Throughput Magnetic Actuation Platform for Evaluating the Effect of Mechanical Force on 3D Tumor Microenvironment. <i>Advanced Functional Materials</i> , <b>2021</b> , 31,	15.6	4
88	Zwitterionic liquid crystalline polythiophene as an antibiofouling biomaterial. <i>Journal of Materials Chemistry B</i> , <b>2021</b> , 9, 349-356	7.3	2
87	Structural disruption of the blood-brain barrier in repetitive primary blast injury. <i>Fluids and Barriers of the CNS</i> , <b>2021</b> , 18, 2	7	5
86	Development of an In Vitro Hemorrhagic Hydrocephalus Model for Functional Evaluation of Magnetic Microactuators Against Shunt Obstructions. <i>World Neurosurgery</i> , <b>2021</b> , 155, e294-e300	2.1	1
85	Psychosocial impairment following mild blast-induced traumatic brain injury in rats. <i>Behavioural Brain Research</i> , <b>2021</b> , 412, 113405	3.4	1
84	In Vitro Magnetic Techniques for Investigating Cancer Progression. <i>Cancers</i> , <b>2021</b> , 13,	6.6	2

83	Longitudinal auditory pathophysiology following mild blast-induced trauma. <i>Journal of Neurophysiology</i> , <b>2021</b> , 126, 1172-1189	3.2	1
82	Neuroprotective mechanisms of red clover and soy isoflavones in Parkinson's disease models. <i>Food and Function</i> , <b>2021</b> , 12, 11987-12007	6.1	0
81	Fabrication and evaluation of activated carbon-Pt microparticle based glutamate biosensor. <i>Journal of Electroanalytical Chemistry</i> , <b>2020</b> , 866,	4.1	4
80	Glutamate Sensing inside the Mouse Brain with Perovskite Nickelate-Nafion Heterostructures. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 24564-24574	9.5	10
79	Clioquinol improves motor and non-motor deficits in MPTP-induced monkey model of Parkinson's disease through AKT/mTOR pathway. <i>Aging</i> , <b>2020</b> , 12, 9515-9533	5.6	15
78	One-Step Large-Scale Nanotexturing of Nonplanar PTFE Surfaces to Induce Bactericidal and Anti-inflammatory Properties. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 26893-26904	9.5	7
77	Zwitterionic Porous Conjugated Polymers as a Versatile Platform for Antibiofouling Implantable Bioelectronics. <i>ACS Applied Polymer Materials</i> , <b>2020</b> , 2, 528-536	4.3	13
76	Simple Fabrication of Flexible Biosensor Arrays Using Direct Writing for Multianalyte Measurement from Human Astrocytes. <i>SLAS Technology</i> , <b>2020</b> , 25, 33-46	3	6
75	Mesenchymal Stem Cell-Derived Exosomes: Hope for Spinal Cord Injury Repair. <i>Stem Cells and Development</i> , <b>2020</b> , 29, 1467-1478	4.4	12
74	Printable Nonenzymatic Glucose Biosensors Using Carbon Nanotube-PtNP Nanocomposites Modified with AuRu for Improved Selectivity. <i>ACS Biomaterials Science and Engineering</i> , <b>2020</b> , 6, 5315-5325	5.5	15
73	Anti-Biofouling Strategies for Long-Term Continuous Use of Implantable Biosensors. <i>Chemosensors</i> , <b>2020</b> , 8, 66	4	24
72	Determination of acrolein-associated T <sub>1</sub> and T <sub>2</sub> relaxation times and noninvasive detection using nuclear magnetic resonance and magnetic resonance spectroscopy. <i>Applied Magnetic Resonance</i> , <b>2019</b> , 50, 1291-1303	0.8	
71	Ex vivo electrochemical measurement of glutamate release during spinal cord injury. <i>MethodsX</i> , <b>2019</b> , 6, 1894-1900	1.9	0
70	The Association of Iron and the Pathologies of Parkinson's Diseases in MPTP/MPP-Induced Neuronal Degeneration in Non-human Primates and in Cell Culture. <i>Frontiers in Aging Neuroscience</i> , <b>2019</b> , 11, 215	5.3	8
69	Facile fabrication of flexible glutamate biosensor using direct writing of platinum nanoparticle-based nanocomposite ink. <i>Biosensors and Bioelectronics</i> , <b>2019</b> , 131, 257-266	11.8	41
68	Piezoresistor-Embedded Multifunctional Magnetic Microactuators for Implantable Self-Clearing Catheter. <i>IEEE Sensors Journal</i> , <b>2019</b> , 19, 1373-1378	4	6
67	Acrolein-mediated alpha-synuclein pathology involvement in the early post-injury pathogenesis of mild blast-induced Parkinsonian neurodegeneration. <i>Molecular and Cellular Neurosciences</i> , <b>2019</b> , 98, 140-154	4.8	11
66	Graphene prevents neurostimulation-induced platinum dissolution in fractal microelectrodes. <i>2D Materials</i> , <b>2019</b> , 6, 035037	5.9	4

65	Simple minimally-invasive automatic antidote delivery device (A2D2) towards closed-loop reversal of opioid overdose. <i>Journal of Controlled Release</i> , <b>2019</b> , 306, 130-137	11.7	12
64	Mapping Lipid C=C Location Isomers in Organ Tissues by Coupling Photochemical Derivatization and Rapid Extractive Mass Spectrometry. <i>International Journal of Mass Spectrometry</i> , <b>2019</b> , 445, 116206-116206	11.6	6
63	Iron overload resulting from the chronic oral administration of ferric citrate induces parkinsonism phenotypes in middle-aged mice. <i>Aging</i> , <b>2019</b> , 11, 9846-9861	5.6	6
62	Coupling the Paterni-Bi (PB) Reaction With Mass Spectrometry to Study Unsaturated Fatty Acids in Mouse Model of Multiple Sclerosis. <i>Frontiers in Chemistry</i> , <b>2019</b> , 7, 807	5	5
61	Point-of-Care Tissue Analysis Using Miniature Mass Spectrometer. <i>Analytical Chemistry</i> , <b>2019</b> , 91, 1157-1163	4.8	29
60	Rapid In Situ Profiling of Lipid C=C Location Isomers in Tissue Using Ambient Mass Spectrometry with Photochemical Reactions. <i>Analytical Chemistry</i> , <b>2018</b> , 90, 5612-5619	7.8	39
59	Acrolein-mediated neuronal cell death and alpha-synuclein aggregation: Implications for Parkinson's disease. <i>Molecular and Cellular Neurosciences</i> , <b>2018</b> , 88, 70-82	4.8	20
58	Electrochemical Evaluations of Fractal Microelectrodes for Energy Efficient Neurostimulation. <i>Scientific Reports</i> , <b>2018</b> , 8, 4375	4.9	21
57	Anti-biofouling implantable catheter using thin-film magnetic microactuators. <i>Sensors and Actuators B: Chemical</i> , <b>2018</b> , 273, 1694-1704	8.5	11
56	Systemic Acrolein Elevations in Mice With Experimental Autoimmune Encephalomyelitis and Patients With Multiple Sclerosis. <i>Frontiers in Neurology</i> , <b>2018</b> , 9, 420	4.1	11
55	Cognition based bTBI mechanistic criteria; a tool for preventive and therapeutic innovations. <i>Scientific Reports</i> , <b>2018</b> , 8, 10273	4.9	21
54	Parallel Evaluation of Two Potassium Channel Blockers in Restoring Conduction in Mechanical Spinal Cord Injury in Rat. <i>Journal of Neurotrauma</i> , <b>2018</b> , 35, 1057-1068	5.4	7
53	Public Regulatory Databases as a Source of Insight for Neuromodulation Devices Stimulation Parameters. <i>Neuromodulation</i> , <b>2018</b> , 21, 117-125	3.1	13
52	Towards smart self-clearing glaucoma drainage device. <i>Microsystems and Nanoengineering</i> , <b>2018</b> , 4, 35	7.7	13
51	Acrolein Contributes to the Neuropathic Pain and Neuron Damage after Ischemic-Reperfusion Spinal Cord Injury. <i>Neuroscience</i> , <b>2018</b> , 384, 120-130	3.9	17
50	Differences in postinjury auditory system pathophysiology after mild blast and nonblast acute acoustic trauma. <i>Journal of Neurophysiology</i> , <b>2017</b> , 118, 782-799	3.2	22
49	Exogenous Acrolein intensifies sensory hypersensitivity after spinal cord injury in rat. <i>Journal of the Neurological Sciences</i> , <b>2017</b> , 379, 29-35	3.2	13
48	Dimercaprol is an acrolein scavenger that mitigates acrolein-mediated PC-12 cells toxicity and reduces acrolein in rat following spinal cord injury. <i>Journal of Neurochemistry</i> , <b>2017</b> , 141, 708-720	6	18

47	Elevated axonal membrane permeability and its correlation with motor deficits in an animal model of multiple sclerosis. <i>Translational Neurodegeneration</i> , <b>2017</b> , 6, 5	10.3	1
46	Peripheral Neuropathy and Hindlimb Paralysis in a Mouse Model of Adipocyte-Specific Knockout of Lkb1. <i>EBioMedicine</i> , <b>2017</b> , 24, 127-136	8.8	8
45	Pathological correlations between traumatic brain injury and chronic neurodegenerative diseases. <i>Translational Neurodegeneration</i> , <b>2017</b> , 6, 20	10.3	64
44	Structural and biochemical abnormalities in the absence of acute deficits in mild primary blast-induced head trauma. <i>Journal of Neurosurgery</i> , <b>2016</b> , 124, 675-86	3.2	28
43	Identification and quantitation of lipid C=C location isomers: A shotgun lipidomics approach enabled by photochemical reaction. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, 2573-8	11.5	201
42	Potassium channel blockers restore axonal conduction in CNS trauma and diseases. <i>Neural Regeneration Research</i> , <b>2016</b> , 11, 1226-7	4.5	4
41	Mitigation of sensory and motor deficits by acrolein scavenger phenelzine in a rat model of spinal cord contusive injury. <i>Journal of Neurochemistry</i> , <b>2016</b> , 138, 328-38	6	39
40	Nondermal irritating hyperosmotic nanoemulsions reduce treatment times in a contamination model of wound healing. <i>Wound Repair and Regeneration</i> , <b>2016</b> , 24, 669-78	3.6	3
39	Acrolein-mediated conduction loss is partially restored by K <sup>+</sup> channel blockers. <i>Journal of Neurophysiology</i> , <b>2016</b> , 115, 701-10	3.2	10
38	Low-cost rapid prototyping of liquid crystal polymer based magnetic microactuators for glaucoma drainage devices. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , <b>2016</b> , 2016, 1313-1315	0.9	2
37	Polyimide-based magnetic microactuators for biofouling removal. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , <b>2016</b> , 2016, 5757-5760	0.9	3
36	Unilateral microinjection of acrolein into thoracic spinal cord produces acute and chronic injury and functional deficits. <i>Neuroscience</i> , <b>2016</b> , 326, 84-94	3.9	14
35	Electrical neurostimulation with imbalanced waveform mitigates dissolution of platinum electrodes. <i>Journal of Neural Engineering</i> , <b>2016</b> , 13, 054001	5	15
34	Real-time sample analysis using a sampling probe and miniature mass spectrometer. <i>Analytical Chemistry</i> , <b>2015</b> , 87, 8867-73	7.8	35
33	Acrolein contributes to TRPA1 up-regulation in peripheral and central sensory hypersensitivity following spinal cord injury. <i>Journal of Neurochemistry</i> , <b>2015</b> , 135, 987-97	6	30
32	Nanomedicine strategies for treatment of secondary spinal cord injury. <i>International Journal of Nanomedicine</i> , <b>2015</b> , 10, 923-38	7.3	12
31	Evaluation of magnetic resonance imaging issues for implantable microfabricated magnetic actuators. <i>Biomedical Microdevices</i> , <b>2014</b> , 16, 153-61	3.7	10
30	Mechanical Evaluation of Unobstructing Magnetic Microactuators for Implantable Ventricular Catheters. <i>Journal of Microelectromechanical Systems</i> , <b>2014</b> , 23, 795-802	2.5	9

29	A model of acute compressive spinal cord injury with a minimally invasive balloon in goats. <i>Journal of the Neurological Sciences</i> , <b>2014</b> , 337, 97-103	3.2	5
28	Acute systemic accumulation of acrolein in mice by inhalation at a concentration similar to that in cigarette smoke. <i>Neuroscience Bulletin</i> , <b>2014</b> , 30, 1017-1024	4.3	6
27	Acrolein as a novel therapeutic target for motor and sensory deficits in spinal cord injury. <i>Neural Regeneration Research</i> , <b>2014</b> , 9, 677-83	4.5	28
26	Current advances in neurotrauma research: diagnosis, neuroprotection, and neurorepair. <i>Neural Regeneration Research</i> , <b>2014</b> , 9, 1093-5	4.5	6
25	Polyethylene glycol repairs membrane damage and enhances functional recovery: a tissue engineering approach to spinal cord injury. <i>Neuroscience Bulletin</i> , <b>2013</b> , 29, 460-6	4.3	37
24	Nonlinear damping for vibration isolation of microsystems using shear thickening fluid. <i>Applied Physics Letters</i> , <b>2013</b> , 102, 251902	3.4	23
23	Synergistic bactericidal activity between hyperosmotic stress and membrane-disrupting nanoemulsions. <i>Journal of Medical Microbiology</i> , <b>2013</b> , 62, 69-77	3.2	12
22	Potassium channel blockers as an effective treatment to restore impulse conduction in injured axons. <i>Neuroscience Bulletin</i> , <b>2011</b> , 27, 36-44	4.3	25
21	Acrolein-mediated injury in nervous system trauma and diseases. <i>Molecular Nutrition and Food Research</i> , <b>2011</b> , 55, 1320-31	5.9	78
20	Development of Microfabricated Magnetic Actuators for Removing Cellular Occlusion. <i>Journal of Micromechanics and Microengineering</i> , <b>2011</b> , 21, 54006	2	21
19	MRI compatibility of microfabricated magnetic actuators for implantable catheters: Mechanical evaluations. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , <b>2010</b> , 2010, 907-10	0.9	
18	Novel potassium channel blocker, 4-AP-3-MeOH, inhibits fast potassium channels and restores axonal conduction in injured guinea pig spinal cord white matter. <i>Journal of Neurophysiology</i> , <b>2010</b> , 103, 469-78	3.2	38
17	BIOMIMETIC MATERIALS FOR ENGINEERING OF NEURAL TISSUES: CONTROL OF CELL ADHESION AND GUIDING NEURAL CELL OUTGROWTH WITH PEPTIDE-CONJUGATED POLYMER STRUCTURES <b>2010</b> , 347-372		
16	Chitosan nanoparticle-based neuronal membrane sealing and neuroprotection following acrolein-induced cell injury. <i>Journal of Biological Engineering</i> , <b>2010</b> , 4, 2	6.3	59
15	Glutamate excitotoxicity inflicts paranodal myelin splitting and retraction. <i>PLoS ONE</i> , <b>2009</b> , 4, e6705	3.7	77
14	Toward an implantable functional electrical stimulation device to correct strabismus. <i>Journal of AAPOS</i> , <b>2009</b> , 13, 229-35.e1	1.3	8
13	Unobstructing magnetic microactuators for implantable catheters <b>2009</b> ,		2
12	The morphology of supragranular pyramidal neurons in the human insular cortex: a quantitative Golgi study. <i>Cerebral Cortex</i> , <b>2009</b> , 19, 2131-44	5.1	41

11	A Photo-Crosslinkable Chitosan Hydrogel for Peripheral Nerve Anastomosis <b>2009</b> ,		1
10	Conduction deficits and membrane disruption of spinal cord axons as a function of magnitude and rate of strain. <i>Journal of Neurophysiology</i> , <b>2006</b> , 95, 3384-90	3.2	86
9	The dynamics of axolemmal disruption in guinea pig spinal cord following compression. <i>Journal of Neurocytology</i> , <b>2004</b> , 33, 203-11		23
8	Effects of 4-aminopyridine on stretched mammalian spinal cord: the role of potassium channels in axonal conduction. <i>Journal of Neurophysiology</i> , <b>2003</b> , 90, 2334-40	3.2	46
7	Cytocompatibility and Material Properties of Poly-carbonate Urethane/Carbon Nanofiber Composites for Neural Applications. <i>Materials Research Society Symposia Proceedings</i> , <b>2003</b> , 774, 7301		
6	Cytocompatibility of Carbon Nanofiber Materials for Neural Applications. <i>Materials Research Society Symposia Proceedings</i> , <b>2003</b> , 774, 7351		
5	Immediate recovery from spinal cord injury through molecular repair of nerve membranes with polyethylene glycol. <i>FASEB Journal</i> , <b>2000</b> , 14, 27-35	0.9	109
4	Acute repair of crushed guinea pig spinal cord by polyethylene glycol. <i>Journal of Neurophysiology</i> , <b>1999</b> , 81, 2406-14	3.2	103
3	Three-dimensional gradients of voltage during development of the nervous system as invisible coordinates for the establishment of embryonic pattern. <i>Developmental Dynamics</i> , <b>1995</b> , 202, 101-14	2.9	125
2	Uncoupling histogenesis from morphogenesis in the vertebrate embryo by collapse of the transneural tube potential. <i>Developmental Dynamics</i> , <b>1995</b> , 203, 456-67	2.9	59
1	Endogenous ionic currents and voltages in amphibian embryos. <i>The Journal of Experimental Zoology</i> , <b>1994</b> , 268, 307-322		33