Hyowon Lee

List of Publications by Year
in descending order

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107 papers	2,851 citations	159358 30 h-index	197535 49 g-index
110 all docs	110 docs citations	110 times ranked	3342 citing authors

#	Article	IF	Citations
1	Identification and quantitation of lipid C=C location isomers: A shotgun lipidomics approach enabled by photochemical reaction. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 2573-2578.	3.3	260
2	Three-dimensional gradients of voltage during development of the nervous system as invisible coordinates for the establishment of embryonic pattern. Developmental Dynamics, 1995, 202, 101-114.	0.8	143
3	Immediate recovery from spinal cord injury through molecular repair of nerve membranes with polyethylene glycol. FASEB Journal, 2000, 14, 27-35.	0.2	115
4	Acute Repair of Crushed Guinea Pig Spinal Cord by Polyethylene Glycol. Journal of Neurophysiology, 1999, 81, 2406-2414.	0.9	111
5	Pathological correlations between traumatic brain injury and chronic neurodegenerative diseases. Translational Neurodegeneration, 2017, 6, 20.	3.6	104
6	Conduction Deficits and Membrane Disruption of Spinal Cord Axons as a Function of Magnitude and Rate of Strain. Journal of Neurophysiology, 2006, 95, 3384-3390.	0.9	101
7	Acroleinâ€mediated injury in nervous system trauma and diseases. Molecular Nutrition and Food Research, 2011, 55, 1320-1331.	1.5	91
8	Glutamate Excitotoxicity Inflicts Paranodal Myelin Splitting and Retraction. PLoS ONE, 2009, 4, e6705.	1.1	86
9	Chitosan nanoparticle-based neuronal membrane sealing and neuroprotection following acrolein-induced cell injury. Journal of Biological Engineering, 2010, 4, 2.	2.0	67
10	Facile fabrication of flexible glutamate biosensor using direct writing of platinum nanoparticle-based nanocomposite ink. Biosensors and Bioelectronics, 2019, 131, 257-266.	5.3	66
11	Uncoupling histogenesis from morphogenesis in the vertebrate embryo by collapse of the transneural tube potential. Developmental Dynamics, 1995, 203, 456-467.	0.8	65
12	Polyethylene glycol repairs membrane damage and enhances functional recovery: a tissue engineering approach to spinal cord injury. Neuroscience Bulletin, 2013, 29, 460-466.	1.5	56
13	Anti-Biofouling Strategies for Long-Term Continuous Use of Implantable Biosensors. Chemosensors, 2020, 8, 66.	1.8	56
14	The Morphology of Supragranular Pyramidal Neurons in the Human Insular Cortex: A Quantitative Golgi Study. Cerebral Cortex, 2009, 19, 2131-2144.	1.6	54
15	Mitigation of sensory and motor deficits by acrolein scavenger phenelzine in a rat model of spinal cord contusive injury. Journal of Neurochemistry, 2016, 138, 328-338.	2.1	52
16	Effects of 4-Aminopyridine on Stretched Mammalian Spinal Cord: The Role of Potassium Channels in Axonal Conduction. Journal of Neurophysiology, 2003, 90, 2334-2340.	0.9	51
17	Rapid In Situ Profiling of Lipid Câ•C Location Isomers in Tissue Using Ambient Mass Spectrometry with Photochemical Reactions. Analytical Chemistry, 2018, 90, 5612-5619.	3.2	50
18	Point-of-Care Tissue Analysis Using Miniature Mass Spectrometer. Analytical Chemistry, 2019, 91, 1157-1163.	3.2	44

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19	Novel Potassium Channel Blocker, 4-AP-3-MeOH, Inhibits Fast Potassium Channels and Restores Axonal Conduction in Injured Guinea Pig Spinal Cord White Matter. Journal of Neurophysiology, 2010, 103, 469-478.	0.9	40
20	Mesenchymal Stem Cell-Derived Exosomes: Hope for Spinal Cord Injury Repair. Stem Cells and Development, 2020, 29, 1467-1478.	1.1	40
21	Endogenous ionic currents and voltages in amphibian embryos. The Journal of Experimental Zoology, 1994, 268, 307-322.	1.4	39
22	Acrolein as a novel therapeutic target for motor and sensory deficits in spinal cord injury. Neural Regeneration Research, 2014, 9, 677.	1.6	39
23	Wearable Glucose Monitoring and Implantable Drug Delivery Systems for Diabetes Management. Advanced Healthcare Materials, 2021, 10, e2100194.	3.9	38
24	Acrolein contributes to <scp>TRPA</scp>1 upâ€regulation in peripheral and central sensory hypersensitivity following spinal cord injury. Journal of Neurochemistry, 2015, 135, 987-997.	2.1	37
25	Real-Time Sample Analysis Using a Sampling Probe and Miniature Mass Spectrometer. Analytical Chemistry, 2015, 87, 8867-8873.	3.2	37
26	Structural and biochemical abnormalities in the absence of acute deficits in mild primary blast-induced head trauma. Journal of Neurosurgery, 2016, 124, 675-686.	0.9	36
27	Electrochemical Evaluations of Fractal Microelectrodes for Energy Efficient Neurostimulation. Scientific Reports, 2018, 8, 4375.	1.6	36
28	Acrolein-mediated neuronal cell death and alpha-synuclein aggregation: Implications for Parkinson's disease. Molecular and Cellular Neurosciences, 2018, 88, 70-82.	1.0	35
29	Clioquinol improves motor and non-motor deficits in MPTP-induced monkey model of Parkinsonâ€™s disease through AKT/mTOR pathway. Aging, 2020, 12, 9515-9533.	1.4	35
30	Differences in postinjury auditory system pathophysiology after mild blast and nonblast acute acoustic trauma. Journal of Neurophysiology, 2017, 118, 782-799.	0.9	34
31	Nonlinear damping for vibration isolation of microsystems using shear thickening fluid. Applied Physics Letters, 2013, 102, .	1.5	33
32	Dimercaprol is an acrolein scavenger that mitigates acroleinâ€mediated <scp>PC</scp>â€12 cells toxicity and reduces acrolein in rat following spinal cord injury. Journal of Neurochemistry, 2017, 141, 708-720.	2.1	30
33	The dynamics of axolemmal disruption in guinea pig spinal cord following compression. Journal of Neurocytology, 2004, 33, 203-211.	1.6	28
34	Potassium channel blockers as an effective treatment to restore impulse conduction in injured axons. Neuroscience Bulletin, 2011, 27, 36-44.	1.5	27
35	Printable Nonenzymatic Glucose Biosensors Using Carbon Nanotube-PtNP Nanocomposites Modified with AuRu for Improved Selectivity. ACS Biomaterials Science and Engineering, 2020, 6, 5315-5325.	2.6	27
36	In Vivo Glutamate Sensing inside the Mouse Brain with Perovskite Nickelateâ€“Nafion Heterostructures. ACS Applied Materials & Interfaces, 2020, 12, 24564-24574.	4.0	27

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37	Acrolein Contributes to the Neuropathic Pain and Neuron Damage after Ischemicâ€“Reperfusion Spinal Cord Injury. Neuroscience, 2018, 384, 120-130.	1.1	25
38	Cognition based bTBI mechanistic criteria; a tool for preventive and therapeutic innovations. Scientific Reports, 2018, 8, 10273.	1.6	25
39	Rapid custom prototyping of soft poroelastic biosensor for simultaneous epicardial recording and imaging. Nature Communications, 2021, 12, 3710.	5.8	24
40	Development of microfabricated magnetic actuators for removing cellular occlusion. Journal of Micromechanics and Microengineering, 2011, 21, 054006.	1.5	22
41	Electrical neurostimulation with imbalanced waveform mitigates dissolution of platinum electrodes. Journal of Neural Engineering, 2016, 13, 054001.	1.8	22
42	Simple minimally-invasive automatic antidote delivery device (A2D2) towards closed-loop reversal of opioid overdose. Journal of Controlled Release, 2019, 306, 130-137.	4.8	22
43	Acrolein-mediated alpha-synuclein pathology involvement in the early post-injury pathogenesis of mild blast-induced Parkinsonian neurodegeneration. Molecular and Cellular Neurosciences, 2019, 98, 140-154.	1.0	21
44	Towards smart self-clearing glaucoma drainage device. Microsystems and Nanoengineering, 2018, 4, 35.	3.4	19
45	Systemic Acrolein Elevations in Mice With Experimental Autoimmune Encephalomyelitis and Patients With Multiple Sclerosis. Frontiers in Neurology, 2018, 9, 420.	1.1	19
46	Unilateral microinjection of acrolein into thoracic spinal cord produces acute and chronic injury and functional deficits. Neuroscience, 2016, 326, 84-94.	1.1	18
47	Exogenous Acrolein intensifies sensory hypersensitivity after spinal cord injury in rat. Journal of the Neurological Sciences, 2017, 379, 29-35.	0.3	18
48	Public Regulatory Databases as a Source of Insight for Neuromodulation Devices Stimulation Parameters. Neuromodulation, 2018, 21, 117-125.	0.4	17
49	Zwitterionic Porous Conjugated Polymers as a Versatile Platform for Antibiofouling Implantable Bioelectronics. ACS Applied Polymer Materials, 2020, 2, 528-536.	2.0	17
50	Synergistic bactericidal activity between hyperosmotic stress and membrane-disrupting nanoemulsions. Journal of Medical Microbiology, 2013, 62, 69-77.	0.7	16
51	The Association of Iron and the Pathologies of Parkinsonâ€™s Diseases in MPTP/MPP+-Induced Neuronal Degeneration in Non-human Primates and in Cell Culture. Frontiers in Aging Neuroscience, 2019, 11, 215.	1.7	16
52	Acrolein scavenger dimercaprol offers neuroprotection in an animal model of Parkinsonâ€™s disease: implication of acrolein and TRPA1. Translational Neurodegeneration, 2021, 10, 13.	3.6	16
53	Nanomedicine strategies for treatment of secondary spinal cord injury. International Journal of Nanomedicine, 2015, 10, 923.	3.3	15
54	Anti-biofouling implantable catheter using thin-film magnetic microactuators. Sensors and Actuators B: Chemical, 2018, 273, 1694-1704.	4.0	15

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55	Iron overload resulting from the chronic oral administration of ferric citrate induces parkinsonism phenotypes in middle-aged mice. Aging, 2019, 11, 9846-9861.	1.4	15
56	Neuroprotective mechanisms of red clover and soy isoflavones in Parkinson's disease models. Food and Function, 2021, 12, 11987-12007.	2.1	14
57	One-Step Large-Scale Nanotexturing of Nonplanar PTFE Surfaces to Induce Bactericidal and Anti-inflammatory Properties. ACS Applied Materials & Interfaces, 2020, 12, 26893-26904.	4.0	14
58	Deficiency of autism-related Scn2a gene in mice disrupts sleep patterns and circadian rhythms. Neurobiology of Disease, 2022, 168, 105690.	2.1	14
59	Evaluation of magnetic resonance imaging issues for implantable microfabricated magnetic actuators. Biomedical Microdevices, 2014, 16, 153-161.	1.4	12
60	Acrolein-mediated conduction loss is partially restored by K⁺ channel blockers. Journal of Neurophysiology, 2016, 115, 701-710.	0.9	12
61	Mapping lipid C=C location isomers in organ tissues by coupling photochemical derivatization and rapid extractive mass spectrometry. International Journal of Mass Spectrometry, 2019, 445, 116206.	0.7	12
62	Coupling the PaternÃ²-BÃ¼chi (PB) Reaction With Mass Spectrometry to Study Unsaturated Fatty Acids in Mouse Model of Multiple Sclerosis. Frontiers in Chemistry, 2019, 7, 807.	1.8	12
63	Structural disruption of the bloodâ€“brain barrier in repetitive primary blast injury. Fluids and Barriers of the CNS, 2021, 18, 2.	2.4	12
64	Peripheral Neuropathy and Hindlimb Paralysis in a Mouse Model of Adipocyte-Specific Knockout of Lkb1. EBioMedicine, 2017, 24, 127-136.	2.7	11
65	Simple Fabrication of Flexible Biosensor Arrays Using Direct Writing for Multianalyte Measurement from Human Astrocytes. SLAS Technology, 2020, 25, 33-46.	1.0	11
66	Targeted delivery of acrolein scavenger hydralazine in spinal cord injury using folate-linker-drug conjugation. Free Radical Biology and Medicine, 2022, 184, 66-73.	1.3	11
67	Shape Memory Polymer-Based Endovascular Devices: Design Criteria and Future Perspective. Polymers, 2022, 14, 2526.	2.0	11
68	Toward an implantable functional electrical stimulation device to correct strabismus. Journal of AAPOS, 2009, 13, 229-235.e1.	0.2	10
69	Mechanical Evaluation of Unobstructing Magnetic Microactuators for Implantable Ventricular Catheters. Journal of Microelectromechanical Systems, 2014, 23, 795-802.	1.7	10
70	Graphene prevents neurostimulation-induced platinum dissolution in fractal microelectrodes. 2D Materials, 2019, 6, 035037.	2.0	10
71	Parallel Evaluation of Two Potassium Channel Blockers in Restoring Conduction in Mechanical Spinal Cord Injury in Rat. Journal of Neurotrauma, 2018, 35, 1057-1068.	1.7	9
72	Effects of Carbon Nanotube Infiltration on a Shape Memory Polymerâ€Based Device for Brain Aneurysm Therapeutics: Design and Characterization of a Jouleâ€Heating Triggering Mechanism. Advanced Engineering Materials, 2021, 23, 2100322.	1.6	9

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73	Acute systemic accumulation of acrolein in mice by inhalation at a concentration similar to that in cigarette smoke. Neuroscience Bulletin, 2014, 30, 1017-1024.	1.5	7
74	A model of acute compressive spinal cord injury with a minimally invasive balloon in goats. Journal of the Neurological Sciences, 2014, 337, 97-103.	0.3	7
75	Fabrication and ex vivo evaluation of activated carbonâ€“Pt microparticle based glutamate biosensor. Journal of Electroanalytical Chemistry, 2020, 866, 114136.	1.9	7
76	Longitudinal auditory pathophysiology following mild blast-induced trauma. Journal of Neurophysiology, 2021, 126, 1172-1189.	0.9	7
77	Current advances in neurotrauma research: diagnosis, neuroprotection, and neurorepair. Neural Regeneration Research, 2014, 9, 1093.	1.6	7
78	Piezoresistor-Embedded Multifunctional Magnetic Microactuators for Implantable Self-Clearing Catheter. IEEE Sensors Journal, 2019, 19, 1373-1378.	2.4	6
79	Critical role of mitochondrial aldehyde dehydrogenase 2 in acrolein sequestering in rat spinal cord injury. Neural Regeneration Research, 2022, 17, 1505.	1.6	6
80	Highâ€Throughput Magnetic Actuation Platform for Evaluating the Effect of Mechanical Force on 3D Tumor Microenvironment. Advanced Functional Materials, 2021, 31, .	7.8	5
81	Zwitterionic liquid crystalline polythiophene as an antibiofouling biomaterial. Journal of Materials Chemistry B, 2021, 9, 349-356.	2.9	5
82	Psychosocial impairment following mild blast-induced traumatic brain injury in rats. Behavioural Brain Research, 2021, 412, 113405.	1.2	5
83	Nondermal irritating hyperosmotic nanoemulsions reduce treatment times in a contamination model of wound healing. Wound Repair and Regeneration, 2016, 24, 669-678.	1.5	4
84	Whole body measurements using near-infrared spectroscopy in a rat spinal cord contusion injury model. Journal of Spinal Cord Medicine, 2021, , 1-13.	0.7	4
85	Development of an InÂVitro Hemorrhagic Hydrocephalus Model for Functional Evaluation of Magnetic Microactuators Against Shunt Obstructions. World Neurosurgery, 2021, 155, e294-e300.	0.7	4
86	In Vitro Magnetic Techniques for Investigating Cancer Progression. Cancers, 2021, 13, 4440.	1.7	4
87	Potassium channel blockers restore axonal conduction in CNS trauma and disease. Neural Regeneration Research, 2016, 11, 1226.	1.6	4
88	Evidence of acrolein in synovial fluid of dogs with osteoarthritis as a potential inflammatory biomarker. BMC Musculoskeletal Disorders, 2021, 22, 894.	0.8	4
89	Application of magnetically actuated self-clearing catheter for rapid in situ blood clot clearance in hemorrhagic stroke treatment. Nature Communications, 2022, 13, 520.	5.8	4
90	Polyimide-based magnetic microactuators for biofouling removal. , 2016, 2016, 5757-5760.		3

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91	Unobstructing magnetic microactuators for implantable catheters. , 2009, , .		2
92	Low-cost rapid prototyping of liquid crystal polymer based magnetic microactuators for glaucoma drainage devices. , 2016, 2016, 4212-4215.		2
93	Elevated axonal membrane permeability and its correlation with motor deficits in an animal model of multiple sclerosis. Translational Neurodegeneration, 2017, 6, 5.	3.6	2
94	A Photo-Crosslinkable Chitosan Hydrogel for Peripheral Nerve Anastomosis. , 2009, , .		1
95	Contribution of Cytoskeletal Elements to the Mechanical Property of Axons. , 2010, , .		1
96	Ex vivo electrochemical measurement of glutamate release during spinal cord injury. MethodsX, 2019, 6, 1894-1900.	0.7	1
97	Molecular Imaging of Central Nervous System with Multi-modal Nonlinear Optical Microscopy. , 2007, , .		0
98	Modeling Primary Blast Injury in Isolated Spinal Cord White Matter. , 2009, , .		0
99	Tensile Physiology: Measuring Force and Conduction in Peripheral Nerves Undergoing Controlled Stretch. , 2009, , .		0
100	BIOMIMETIC MATERIALS FOR ENGINEERING OF NEURAL TISSUES: CONTROL OF CELL ADHESION AND GUIDING NEURAL CELL OUTGROWTH WITH PEPTIDE-CONJUGATED POLYMER STRUCTURES. , 2010, , 347-372.		0
101	MRI compatibility of microfabricated magnetic actuators for implantable catheters: Mechanical evaluations. , 2010, 2010, 907-10.		0
102	Designing a nerve tissue scaffold of tunable stiffness from natural biomaterials. , 2011, , .		0
103	Determination of Acrolein-Associated T1 and T2 Relaxation Times and Noninvasive Detection Using Nuclear Magnetic Resonance and Magnetic Resonance Spectroscopy. Applied Magnetic Resonance, 2019, 50, 1291-1303.	0.6	0
104	In Vivo Evaluation of Fractal Microelectrodes Towards a More Targeted and Energyâ€Efficient Vagus Nerve Stimulation. FASEB Journal, 2021, 35, .	0.2	0
105	Effects of Carbon Nanotube Infiltration on a Shape Memory Polymerâ€Based Device for Brain Aneurysm Therapeutics: Design and Characterization of a Jouleâ€Heating Triggering Mechanism. Advanced Engineering Materials, 2021, 23, 2170022.	1.6	0
106	Cytocompatibility and Material Properties of Poly-carbonate Urethane/Carbon Nanofiber Composites for Neural Applications. Materials Research Society Symposia Proceedings, 2003, 774, 7301.	0.1	0
107	Cytocompatibility of Carbon Nanofiber Materials for Neural Applications. Materials Research Society Symposia Proceedings, 2003, 774, 7351.	0.1	0