Michelle C Laplaca

List of Publications by Year
in descending order

63	3,628	94433 37	138484 58
papers	citations	h-index	g-index

63	63	63	4332
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Laminin and fibronectin scaffolds enhance neural stem cell transplantation into the injured brain. Journal of Tissue Engineering and Regenerative Medicine, 2009, 3, 208-217.	2.7	193
2	High rate shear strain of three-dimensional neural cell cultures: a new in vitro traumatic brain injury model. Journal of Biomechanics, 2005, 38, 1093-1105.	2.1	192
3	Mechanical Stretch to Neurons Results in a Strain Rate and Magnitude-Dependent Increase in Plasma Membrane Permeability. Journal of Neurotrauma, 2003, 20, 1039-1049.	3.4	185
4	Neural progenitor cell transplants promote long-term functional recovery after traumatic brain injury. Brain Research, 2004, 1026, 11-22.	2.2	156
5	Strain rate-dependent induction of reactive astrogliosis and cell death in three-dimensional neuronalâ€“astrocytic co-cultures. Brain Research, 2007, 1158, 103-115.	2.2	145
6	An In Vitro Model of Traumatic Neuronal Injury: Loading Rate-Dependent Changes in Acute Cytosolic Calcium and Lactate Dehydrogenase Release. Journal of Neurotrauma, 1997, 14, 355-368.	3.4	138
7	Pharmacologic Inhibition of Poly(ADP-Ribose) Polymerase Is Neuroprotective Following Traumatic Brain Injury in Rats. Journal of Neurotrauma, 2001, 18, 369-376.	3.4	136
8	Fibronectin Promotes Survival and Migration of Primary Neural Stem Cells Transplanted into the Traumatically Injured Mouse Brain. Cell Transplantation, 2002, 11, 283-295.	2.5	130
9	Role of plasma fibronectin in the foreign body response to biomaterials. Biomaterials, 2007, 28, 3626-3631.	11.4	109
10	Three-dimensional neural constructs: a novel platform for neurophysiological investigation. Journal of Neural Engineering, 2008, 5, 333-341.	3.5	108
11	Anin vitro traumatic injury model to examine the response of neurons to a hydrodynamically-induced deformation. Annals of Biomedical Engineering, 1997, 25, 665-677.	2.5	102
12	Specific Î²1 integrins mediate adhesion, migration, and differentiation of neural progenitors derived from the embryonic striatum. Molecular and Cellular Neurosciences, 2004, 27, 22-31.	2.2	100
13	Trauma-Induced Plasmalemma Disruptions in Three-Dimensional Neural Cultures Are Dependent on Strain Modality and Rate. Journal of Neurotrauma, 2011, 28, 2219-2233.	3.4	97
14	Temporal Patterns of Poly(ADP-Ribose) Polymerase Activation in the Cortex Following Experimental Brain Injury in the Rat. Journal of Neurochemistry, 2002, 73, 205-213.	3.9	91
15	Neuronal Response to High Rate Shear Deformation Depends on Heterogeneity of the Local Strain Field. Journal of Neurotrauma, 2006, 23, 1304-1319.	3.4	87
16	Pre-Clinical Traumatic Brain Injury Common Data Elements: Toward a Common Language Across Laboratories. Journal of Neurotrauma, 2015, 32, 1725-1735.	3.4	86
17	Synapse-to-neuron ratio is inversely related to neuronal density in mature neuronal cultures. Brain Research, 2010, 1359, 44-55.	2.2	74
18	Collagen-Dependent Neurite Outgrowth and Response to Dynamic Deformation in Three-Dimensional Neuronal Cultures. Annals of Biomedical Engineering, 2007, 35, 835-846.	2.5	71

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19	Shearâ€induced intracellular loading of cells with molecules by controlled microfluidics. Biotechnology and Bioengineering, 2008, 99, 846-854.	3.3	69
20	Pre-Clinical Testing of Therapies for Traumatic Brain Injury. Journal of Neurotrauma, 2018, 35, 2737-2754.	3.4	68
21	Biomimetic Microenvironment Modulates Neural Stem Cell Survival, Migration, and Differentiation. Tissue Engineering - Part A, 2010, 16, 3747-3758.	3.1	67
22	Neural mechanobiology and neuronal vulnerability to traumatic loading. Journal of Biomechanics, 2010, 43, 71-78.	2.1	66
23	Dynamic mechanical deformation of neurons triggers an acute calcium response and cell injury involving theN-methyl-D-aspartate glutamate receptor. Journal of Neuroscience Research, 1998, 52, 220-229.	2.9	65
24	Three dimensional MEMS microfluidic perfusion system for thick brain slice cultures. Biomedical Microdevices, 2007, 9, 7-13.	2.8	59
25	Highly-compliant, microcable neuroelectrodes fabricated from thin-film gold and PDMS. Biomedical Microdevices, 2011, 13, 361-373.	2.8	59
26	Protease-degradable PEG-maleimide coating with on-demand release of IL-1Ra to improve tissue response to neural electrodes. Biomaterials, 2015, 44, 55-70.	11.4	55
27	Fibronectin and Laminin Increase in the Mouse Brain after Controlled Cortical Impact Injury. Journal of Neurotrauma, 2007, 24, 226-230.	3.4	52
28	Mechanical trauma induces immediate changes in neuronal network activity. Journal of Neural Engineering, 2005, 2, 148-158.	3.5	50
29	Microfluidic engineered high cell density three-dimensional neural cultures. Journal of Neural Engineering, 2007, 4, 159-172.	3.5	49
30	In vitro neural injury model for optimization of tissueâ€engineered constructs. Journal of Neuroscience Research, 2007, 85, 3642-3651.	2.9	49
31	Host response to microgel coatings on neural electrodes implanted in the brain. Journal of Biomedical Materials Research - Part A, 2014, 102, 1486-1499.	4.0	46
32	Discovery of Lipidome Alterations Following Traumatic Brain Injury via High-Resolution Metabolomics. Journal of Proteome Research, 2018, 17, 2131-2143.	3.7	44
33	Variations in rigidity and ligand density influence neuronal response in methylcelluloseâ€“laminin hydrogels. Acta Biomaterialia, 2011, 7, 4102-4108.	8.3	43
34	Fibronectin promotes survival and migration of primary neural stem cells transplanted into the traumatically injured mouse brain. Cell Transplantation, 2002, 11, 283-95.	2.5	43
35	The effect of conditional inactivation of beta 1 integrins using twist 2 Cre, Osterix Cre and osteocalcin Cre lines on skeletal phenotype. Bone, 2014, 68, 131-141.	2.9	40
36	Spinal Cord Contusion Causes Acute Plasma Membrane Damage. Journal of Neurotrauma, 2009, 26, 563-574.	3.4	38

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37	Regional and Temporal Alterations in DNA Fragmentation Factor (DFF)-Like Proteins Following Experimental Brain Trauma in the Rat. Journal of Neurochemistry, 2002, 73, 1650-1659.	3.9	37
38	A microperfused incubator for tissue mimetic 3D cultures. Biomedical Microdevices, 2009, 11, 1155-1165.	2.8	37
39	Stem cell survival and functional outcome after traumatic brain injury is dependent on transplant timing and location. Restorative Neurology and Neuroscience, 2011, 29, 215-225.	0.7	37
40	Immuno-suppressive hydrogels enhance allogeneic MSC survival after transplantation in the injured brain. Biomaterials, 2021, 266, 120419.	11.4	34
41	Metal-Transfer-Micromolded Three-Dimensional Microelectrode Arrays for in-vitro Brain-Slice Recordings. Journal of Microelectromechanical Systems, 2011, 20, 396-409.	2.5	32
42	Mechanoporation is a potential indicator of tissue strain and subsequent degeneration following experimental traumatic brain injury. Clinical Biomechanics, 2019, 64, 2-13.	1.2	31
43	Plasma membrane damage as a marker of neuronal injury. , 2009, 2009, 1113-6.		29
44	SUâ€8 2000 rendered cytocompatible for neuronal bioMEMS applications. Journal of Biomedical Materials Research - Part A, 2009, 89A, 138-151.	4.0	23
45	Pre-Clinical Common Data Elements for Traumatic Brain Injury Research: Progress and Use Cases. Journal of Neurotrauma, 2021, 38, 1399-1410.	3.4	22
46	Effects of freezing profile parameters on the survival of cryopreserved rat embryonic neural cells. Journal of Neuroscience Methods, 2011, 201, 9-16.	2.5	20
47	Development and characterization of a packaged mechanically actuated microtweezer system. Sensors and Actuators A: Physical, 2011, 167, 502-511.	4.1	18
48	Bilateral gene interaction hierarchy analysis of the cell death gene response emphasizes the significance of cell cycle genes following unilateral traumatic brain injury. BMC Genomics, 2016, 17, 130.	2.8	18
49	High Rate Shear Insult Delivered to Cortical Neurons Produces Heterogeneous Membrane Permeability Alterations. , 2006, 2006, 2384-7.		17
50	Norepinephrine-stimulated phosphatidylinositol metabolism in genetically epilepsy-prone and kindled rats. Brain Research, 1991, 551, 315-318.	2.2	16
51	A Comparison of Student and Parent Knowledge and Perceived Confidence About Brain Injury and Concussion. Topics in Language Disorders, 2019, 39, 313-334.	1.0	13
52	Ambient Nanoelectrospray Ionization with In-Line Microdialysis for Spatially Resolved Transient Biochemical Monitoring within Cell Culture Environments. Analytical Chemistry, 2012, 84, 2072-2075.	6.5	12
53	Dynamic mechanical deformation of neurons triggers an acute calcium response and cell injury involving the Nâ€methylâ€Dâ€aspartate glutamate receptor. Journal of Neuroscience Research, 1998, 52, 220-229.	2.9	10
54	Spun-cast micromolding for etchless micropatterning of electrically functional PDMS structures. Journal of Micromechanics and Microengineering, 2009, 19, 107002.	2.6	9

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55	Randomized, Placebo-Controlled, Double-Blind Pilot Study of D-Cycloserine in Chronic Stroke. Rehabilitation Research and Practice, 2015, 2015, 1-14.	0.6	8
56	Molecular dynamics simulations showing 1-palmitoyl-2-oleoyl-phosphatidylcholine (POPC) membrane mechanoporation damage under different strain paths. Journal of Biomolecular Structure and Dynamics, 2019, 37, 1346-1359.	3.5	8
57	A three-dimensional image processing program for accurate, rapid, and semi-automated segmentation of neuronal somata with dense neurite outgrowth. Frontiers in Neuroanatomy, 2015, 9, 87.	1.7	7
58	Neuronal Plasma Membrane Integrity is Transiently Disturbed by Traumatic Loading. Neuroscience Insights, 2020, 15, 263310552094609.	1.6	7
59	Lipidome Alterations following Mild Traumatic Brain Injury in the Rat. Metabolites, 2022, 12, 150.	2.9	7
60	3-D multi-electrode arrays detect early spontaneous electrophysiological activity in 3-D neuronal-astrocytic co-cultures. Biomedical Engineering Letters, 2020, 10, 579-591.	4.1	6
61	A Novel Neuropsychological Tool for Immersive Assessment of Concussion and Correlation with Subclinical Head Impacts. Neurotrauma Reports, 2021, 2, 232-244.	1.4	4
62	Perspectives on the Role of Bioengineering in Neurotrauma Research. Journal of Neurotrauma, 2011, 28, 2201-2202.	3.4	3
63	Dynamic mechanical deformation of neurons triggers an acute calcium response and cell injury involving the N-methyl-D-aspartate glutamate receptor. , 1998, 52, 220.		1