

# Barclay Morrison

## List of Publications by Year in descending order

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101  
papers

13,742  
citations

94269

37  
h-index

49773

87  
g-index

103  
all docs

103  
docs citations

103  
times ranked

16318  
citing authors

#	ARTICLE	IF	CITATIONS
1	Region-Dependent Viscoelastic Properties of Human Brain Tissue Under Large Deformations. <i>Annals of Biomedical Engineering</i> , 2022, 50, 1452-1460.	1.3	5
2	Recent advancements in in vitro models of traumatic brain injury. <i>Current Opinion in Biomedical Engineering</i> , 2022, 23, 100396.	1.8	3
3	Viscoelastic characterization of porcine brain tissue mechanical properties under indentation loading. <i>Brain Multiphysics</i> , 2021, 2, 100041.	0.8	7
4	Hyaluronidase reduced edema after experimental traumatic brain injury. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2020, 40, 2026-2037.	2.4	6
5	Direct Observation of Low Strain, High Rate Deformation of Cultured Brain Tissue During Primary Blast. <i>Annals of Biomedical Engineering</i> , 2020, 48, 1196-1206.	1.3	13
6	Prediction of probability of fatality due to brain injury in traffic accidents. <i>Traffic Injury Prevention</i> , 2019, 20, S27-S31.	0.6	5
7	Simulating cerebral edema and delayed fatality after traumatic brain injury using triphasic swelling biomechanics. <i>Traffic Injury Prevention</i> , 2019, 20, 820-825.	0.6	7
8	Mechanical Stretch of High Magnitude Provokes Axonal Injury, Elongation of Paranodal Junctions, and Signaling Alterations in Oligodendrocytes. <i>Molecular Neurobiology</i> , 2019, 56, 4231-4248.	1.9	14
9	Forward/editorial to accompany CNS injury special issue. <i>Clinical Biomechanics</i> , 2019, 64, 1.	0.5	0
10	Acute vitreoretinal trauma and inflammation after traumatic brain injury in mice. <i>Annals of Clinical and Translational Neurology</i> , 2018, 5, 240-251.	1.7	19
11	Cypin: A novel target for traumatic brain injury. <i>Neurobiology of Disease</i> , 2018, 119, 13-25.	2.1	11
12	Strong Correlation of Genome-Wide Expression after Traumatic Brain Injury In Vitro and In Vivo Implicates a Role for SORLA. <i>Journal of Neurotrauma</i> , 2017, 34, 97-108.	1.7	15
13	Electrophysiological and Pathological Characterization of the Period of Heightened Vulnerability to Repetitive Injury in an in Vitro Stretch Model. <i>Journal of Neurotrauma</i> , 2017, 34, 914-924.	1.7	18
14	Phosphodiesterase-4 inhibition restored hippocampal long term potentiation after primary blast. <i>Experimental Neurology</i> , 2017, 293, 91-100.	2.0	15
15	Regional mechanical properties of human brain tissue for computational models of traumatic brain injury. <i>Acta Biomaterialia</i> , 2017, 55, 333-339.	4.1	70
16	Memantine Reduced Cell Death, Astrogliosis, and Functional Deficits in an in vitro Model of Repetitive Mild Traumatic Brain Injury. <i>Journal of Neurotrauma</i> , 2017, 34, 934-942.	1.7	22
17	Primary Blast Injury Depressed Hippocampal Long-Term Potentiation through Disruption of Synaptic Proteins. <i>Journal of Neurotrauma</i> , 2017, 34, 1063-1073.	1.7	28
18	Intracerebroventricular administration of chondroitinase ABC reduces acute edema after traumatic brain injury in mice. <i>BMC Research Notes</i> , 2016, 9, 160.	0.6	12

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19	Bioorthogonal chemical imaging of metabolic activities in live mammalian hippocampal tissues with stimulated Raman scattering. <i>Scientific Reports</i> , 2016, 6, 39660.	1.6	60
20	Primary blast injury causes cognitive impairments and hippocampal circuit alterations. <i>Experimental Neurology</i> , 2016, 283, 16-28.	2.0	29
21	Isolated Primary Blast Inhibits Long-Term Potentiation in Organotypic Hippocampal Slice Cultures. <i>Journal of Neurotrauma</i> , 2016, 33, 652-661.	1.7	29
22	Primary Blast Exposure Increases Hippocampal Vulnerability to Subsequent Exposure: Reducing Long-Term Potentiation. <i>Journal of Neurotrauma</i> , 2016, 33, 1901-1912.	1.7	29
23	Alterations in Hippocampal Network Activity after <i>In Vitro</i> Traumatic Brain Injury. <i>Journal of Neurotrauma</i> , 2015, 32, 1011-1019.	1.7	32
24	Predicting changes in cortical electrophysiological function after in vitro traumatic brain injury. <i>Biomechanics and Modeling in Mechanobiology</i> , 2015, 14, 1033-1044.	1.4	9
25	Dexamethasone Potentiates in <i>In Vitro</i> Blood-Brain Barrier Recovery after Primary Blast Injury by Glucocorticoid Receptor-Mediated Upregulation of ZO-1 Tight Junction Protein. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2015, 35, 1191-1198.	2.4	73
26	A Combination Therapy of 17 $\beta$ -Estradiol and Memantine Is More Neuroprotective Than Monotherapies in an Organotypic Brain Slice Culture Model of Traumatic Brain Injury. <i>Journal of Neurotrauma</i> , 2015, 32, 1361-1368.	1.7	16
27	Functional tolerance to mechanical deformation developed from organotypic hippocampal slice cultures. <i>Biomechanics and Modeling in Mechanobiology</i> , 2015, 14, 561-575.	1.4	22
28	An open-source toolbox for automated phenotyping of mice in behavioral tasks. <i>Frontiers in Behavioral Neuroscience</i> , 2014, 8, 349.	1.0	92
29	Brain-on-a-chip microsystem for investigating traumatic brain injury: Axon diameter and mitochondrial membrane changes play a significant role in axonal response to strain injuries. <i>Technology</i> , 2014, 02, 106-117.	1.4	32
30	The Mechanics of Traumatic Brain Injury: A Review of What We Know and What We Need to Know for Reducing Its Societal Burden. <i>Journal of Biomechanical Engineering</i> , 2014, 136, 021008.	0.6	179
31	Significant Head Accelerations Can Influence Immediate Neurological Impairments in a Murine Model of Blast-Induced Traumatic Brain Injury. <i>Journal of Biomechanical Engineering</i> , 2014, 136, 091004.	0.6	49
32	Isolated Primary Blast Alters Neuronal Function with Minimal Cell Death in Organotypic Hippocampal Slice Cultures. <i>Journal of Neurotrauma</i> , 2014, 31, 1202-1210.	1.7	43
33	Repeated Primary Blast Injury Causes Delayed Recovery, but not Additive Disruption, in an <i>In Vitro</i> Blood-Brain Barrier Model. <i>Journal of Neurotrauma</i> , 2014, 31, 951-960.	1.7	28
34	GPR30 activation is neither necessary nor sufficient for acute neuroprotection by 17 $\beta$ -estradiol after an ischemic injury in organotypic hippocampal slice cultures. <i>Brain Research</i> , 2014, 1563, 131-137.	1.1	19
35	Neuroprotection by genipin against reactive oxygen and reactive nitrogen species-mediated injury in organotypic hippocampal slice cultures. <i>Brain Research</i> , 2014, 1543, 308-314.	1.1	38
36	Non-ideal effects in indentation testing of soft tissues. <i>Biomechanics and Modeling in Mechanobiology</i> , 2014, 13, 573-584.	1.4	30

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37	Why Is CA3 More Vulnerable Than CA1 in Experimental Models of Controlled Cortical Impact-Induced Brain Injury?. <i>Journal of Neurotrauma</i> , 2013, 30, 1521-1530.	1.7	41
38	An organotypic uniaxial strain model using microfluidics. <i>Lab on A Chip</i> , 2013, 13, 432-442.	3.1	44
39	An experimental study on the stiffness of size-isolated microbubbles using atomic force microscopy. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2013, 60, 524-534.	1.7	31
40	Antagonism of purinergic signalling improves recovery from traumatic brain injury. <i>Brain</i> , 2013, 136, 65-80.	3.7	73
41	Viscoelastic Properties of the P17 and Adult Rat Brain From Indentation in the Coronal Plane. <i>Journal of Biomechanical Engineering</i> , 2013, 135, 114507.	0.6	37
42	Blood-Brain Barrier Dysfunction after Primary Blast Injury <i>in vitro</i> . <i>Journal of Neurotrauma</i> , 2013, 30, 1652-1663.	1.7	54
43	An experimental study on the apparent stiffness of size-isolated microbubbles used for blood-brain barrier opening applications. , 2012, , .		0
44	Activation of signaling pathways following localized delivery of systemically administered neurotrophic factors across the blood-brain barrier using focused ultrasound and microbubbles. <i>Physics in Medicine and Biology</i> , 2012, 57, N65-N81.	1.6	102
45	Interleukin-1beta does not affect the energy metabolism of rat organotypic hippocampal-slice cultures. <i>Neuroscience Letters</i> , 2012, 508, 114-118.	1.0	1
46	Ferroptosis: An Iron-Dependent Form of Nonapoptotic Cell Death. <i>Cell</i> , 2012, 149, 1060-1072.	13.5	9,007
47	A Multiscale Approach to Blast Neurotrauma Modeling: Part II: Methodology for Inducing Blast Injury to <i>in vitro</i> Models. <i>Frontiers in Neurology</i> , 2012, 3, 23.	1.1	59
48	A Multiscale Approach to Blast Neurotrauma Modeling: Part I - Development of Novel Test Devices for <i>in vivo</i> and <i>in vitro</i> Blast Injury Models. <i>Frontiers in Neurology</i> , 2012, 3, 46.	1.1	49
49	Mechanics of cell growth. <i>Mechanics Research Communications</i> , 2012, 42, 118-125.	1.0	23
50	Vertically aligned carbon nanofiber as nano-neuron interface for monitoring neural function. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , 2012, 8, 419-423.	1.7	22
51	Encapsulating Elastically Stretchable Neural Interfaces: Yield, Resolution, and Recording/Stimulation of Neural Activity. <i>Advanced Functional Materials</i> , 2012, 22, 640-651.	7.8	45
52	Viscoelastic Properties of the Rat Brain in the Sagittal Plane: Effects of Anatomical Structure and Age. <i>Annals of Biomedical Engineering</i> , 2012, 40, 70-78.	1.3	61
53	An Unusual Cell Penetrating Peptide Identified Using a Plasmid Display-Based Functional Selection Platform. <i>ACS Chemical Biology</i> , 2011, 6, 484-491.	1.6	36
54	Chondroitinase ABC Reduces Brain Tissue Swelling <i>In Vitro</i> . <i>Journal of Neurotrauma</i> , 2011, 28, 2277-2285.	1.7	11

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55	In Vitro Models for Biomechanical Studies of Neural Tissues. <i>Studies in Mechanobiology, Tissue Engineering and Biomaterials</i> , 2011, , 247-285.	0.7	16
56	In Vitro Models of Traumatic Brain Injury. <i>Annual Review of Biomedical Engineering</i> , 2011, 13, 91-126.	5.7	220
57	TAT Is Not Capable of Transcellular Delivery Across an Intact Endothelial Monolayer In Vitro. <i>Annals of Biomedical Engineering</i> , 2011, 39, 394-401.	1.3	29
58	Attenuation of Astrocyte Activation by TAT-Mediated Delivery of a Peptide JNK Inhibitor. <i>Journal of Neurotrauma</i> , 2011, 28, 1219-1228.	1.7	8
59	A Detailed Viscoelastic Characterization of the P17 and Adult Rat Brain. <i>Journal of Neurotrauma</i> , 2011, 28, 2235-2244.	1.7	80
60	Dynamic, Regional Mechanical Properties of the Porcine Brain: Indentation in the Coronal Plane. <i>Journal of Biomechanical Engineering</i> , 2011, 133, 071009.	0.6	69
61	Permeability of Endothelial and Astrocyte Cocultures: In Vitro Blood-Brain Barrier Models for Drug Delivery Studies. <i>Annals of Biomedical Engineering</i> , 2010, 38, 2499-2511.	1.3	201
62	Modeling of Active Transmembrane Transport in a Mixture Theory Framework. <i>Annals of Biomedical Engineering</i> , 2010, 38, 1801-1814.	1.3	9
63	Flexible and stretchable micro-electrodes for in vitro and in vivo neural interfaces. <i>Medical and Biological Engineering and Computing</i> , 2010, 48, 945-954.	1.6	226
64	A plasmid display platform for the selection of peptides exhibiting a functional cell-penetrating phenotype. <i>Biotechnology Progress</i> , 2010, 26, 1796-1800.	1.3	5
65	Molecules of Various Pharmacologically-Relevant Sizes Can Cross the Ultrasound-Induced Blood-Brain Barrier Opening in vivo. <i>Ultrasound in Medicine and Biology</i> , 2010, 36, 58-67.	0.7	170
66	Experimental Mild Traumatic Brain Injury Induces Functional Alteration of the Developing Hippocampus. <i>Journal of Neurophysiology</i> , 2010, 103, 499-510.	0.9	42
67	Fixed negative charge and the Donnan effect: a description of the driving forces associated with brain tissue swelling and oedema. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2010, 368, 585-603.	1.6	44
68	Age-Dependent Regional Mechanical Properties of the Rat Hippocampus and Cortex. <i>Journal of Biomechanical Engineering</i> , 2010, 132, 011010.	0.6	124
69	8.12: Presentation session: Brain injuries and neuro-regeneration panel: Basic research to reduce the socioeconomic costs of traumatic brain injury;., 2010, , .		0
70	Activated astrocytes and TAT transduction after in vitro traumatic mechanical injury. , 2010, , .		0
71	Increased delivery of TAT across an endothelial monolayer following ischemic injury. <i>Neuroscience Letters</i> , 2010, 486, 1-4.	1.0	20
72	Permeability of in vitro blood-brain barrier models. , 2010, , .		0

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73	Vertically aligned carbon nanofiber neural chip for interfacing with neurological system. , 2010, , .		0
74	Neural sensing of electrical activity with stretchable microelectrode arrays. , 2009, 2009, 4210-3.		4
75	Modeling traumatic brain injury in vitro: Functional changes in the absence of cell death. , 2009, , .		4
76	Continuum Modeling of Biological Tissue Growth by Cell Division, and Alteration of Intracellular Osmolytes and Extracellular Fixed Charge Density. Journal of Biomechanical Engineering, 2009, 131, 101001.	0.6	35
77	Monitoring Hippocampus Electrical Activity <i>In Vitro</i> on an Elastically Deformable Microelectrode Array. Journal of Neurotrauma, 2009, 26, 1135-1145.	1.7	61
78	Bioeffective Ultrasound at Very Low Doses: Reversible Manipulation of Neuronal Cell Morphology and Function in Vitro. , 2009, , .		18
79	TAT-mediated intracellular protein delivery to primary brain cells is dependent on glycosaminoglycan expression. Biotechnology and Bioengineering, 2009, 104, 10-19.	1.7	25
80	Bifunctional chimeric fusion proteins engineered for DNA delivery: Optimization of the protein to DNA ratio. Biochimica Et Biophysica Acta - General Subjects, 2009, 1790, 198-207.	1.1	15
81	Bioeffects of low dose ultrasound on neuronal cell function. , 2009, , .		5
82	Quantification of functional alterations after in vitro traumatic brain injury. , 2009, 2009, 1135-8.		8
83	Delivery of fluorescent dextrans through the ultrasound-induced blood-brain barrier opening in mice. , 2008, , .		0
84	Mechanical Heterogeneity of the Rat Hippocampus Measured by Atomic Force Microscope Indentation. Journal of Neurotrauma, 2007, 24, 812-822.	1.7	280
85	Advances in Encapsulating Elastically Stretchable Microelectrode Arrays. Materials Research Society Symposia Proceedings, 2007, 1009, 1.	0.1	1
86	Vertically Aligned Carbon Nanofiber Arrays Record Electrophysiological Signals from Hippocampal Slices. Nano Letters, 2007, 7, 2188-2195.	4.5	123
87	Stretch-induced injury in organotypic hippocampal slice cultures reproduces in vivo post-traumatic neurodegeneration: role of glutamate receptors and voltage-dependent calcium channels. Journal of Neurochemistry, 2007, 101, 434-447.	2.1	48
88	Region-specific tolerance criteria for the living brain. Stapp Car Crash Journal, 2007, 51, 127-38.	1.1	89
89	Stretchable microelectrode arrays a tool for discovering mechanisms of functional deficits underlying traumatic brain injury and interfacing neurons with neuroprosthetics. , 2006, Suppl, 6732-5.		8
90	An in vitro model of traumatic brain injury utilising two-dimensional stretch of organotypic hippocampal slice cultures. Journal of Neuroscience Methods, 2006, 150, 192-201.	1.3	163

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91	Temporal development of hippocampal cell death is dependent on tissue strain but not strain rate. <i>Journal of Biomechanics</i> , 2006, 39, 2810-2818.	0.9	122
92	Monitoring of Traumatically Injured Organotypic Hippocampal Cultures with Stretchable Microelectrode Arrays. <i>Materials Research Society Symposia Proceedings</i> , 2006, 926, 1.	0.1	1
93	Organotypic cultures as tools for functional screening in the CNS. <i>Drug Discovery Today</i> , 2005, 10, 993-1000.	3.2	111
94	Characterisation of a novel class of polyamine-based neuroprotective compounds. <i>Naunyn-Schmiedeberg's Archives of Pharmacology</i> , 2003, 368, 216-224.	1.4	4
95	Lactate and glucose as energy substrates during, and after, oxygen deprivation in rat hippocampal acute and cultured slices. <i>Journal of Neurochemistry</i> , 2003, 87, 1381-1390.	2.1	74
96	A tissue level tolerance criterion for living brain developed with an in vitro model of traumatic mechanical loading. <i>Stapp Car Crash Journal</i> , 2003, 47, 93-105.	1.1	123
97	L-Arginyl-3,4-Spermidine is neuroprotective in several in vitro models of neurodegeneration and in vivo ischaemia without suppressing synaptic transmission. <i>British Journal of Pharmacology</i> , 2002, 137, 1255-1268.	2.7	36
98	Dynamic Mechanical Stretch of Organotypic Brain Slice Cultures Induces Differential Genomic Expression: Relationship to Mechanical Parameters. <i>Journal of Biomechanical Engineering</i> , 2000, 122, 224-230.	0.6	55
99	<i>In Vitro</i> Central Nervous System Models of Mechanically Induced Trauma: A Review. <i>Journal of Neurotrauma</i> , 1998, 15, 911-928.	1.7	182
100	A Tissue Level Tolerance Criterion for Living Brain Developed with an In Vitro Model of Traumatic Mechanical Loading. , 0, , .		62
101	Region-Specific Tolerance Criteria for the Living Brain. , 0, , .		44