

Bryn A Martin

List of Publications by Year in descending order

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80
papers

1,573
citations

279487

23
h-index

344852

36
g-index

87
all docs

87
docs citations

87
times ranked

1142
citing authors

#	ARTICLE	IF	CITATIONS
1	Quantifying the influence of respiration and cardiac pulsations on cerebrospinal fluid dynamics using real-time phase-contrast MRI. <i>Journal of Magnetic Resonance Imaging</i> , 2017, 46, 431-439.	1.9	106
2	Magnetic resonance 4D flow analysis of cerebrospinal fluid dynamics in Chiari I malformation with and without syringomyelia. <i>European Radiology</i> , 2012, 22, 1860-1870.	2.3	77
3	Comparison of 4D Phase-Contrast MRI Flow Measurements to Computational Fluid Dynamics Simulations of Cerebrospinal Fluid Motion in the Cervical Spine. <i>PLoS ONE</i> , 2012, 7, e52284.	1.1	74
4	Cerebrospinal fluid hydrodynamics in type I Chiari malformation. <i>Neurological Research</i> , 2011, 33, 247-260.	0.6	66
5	Spinal Subarachnoid Space Pressure Measurements in an In Vitro Spinal Stenosis Model: Implications on Syringomyelia Theories. <i>Journal of Biomechanical Engineering</i> , 2010, 132, 111007.	0.6	57
6	Hydrodynamic and Longitudinal Impedance Analysis of Cerebrospinal Fluid Dynamics at the Craniovertebral Junction in Type I Chiari Malformation. <i>PLoS ONE</i> , 2013, 8, e75335.	1.1	54
7	A coupled hydrodynamic model of the cardiovascular and cerebrospinal fluid system. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2012, 302, H1492-H1509.	1.5	52
8	Dispersion in porous media in oscillatory flow between flat plates: applications to intrathecal, periarterial and paraarterial solute transport in the central nervous system. <i>Fluids and Barriers of the CNS</i> , 2019, 16, 13.	2.4	52
9	Impact of Aortic Grafts on Arterial Pressure: A Computational Fluid Dynamics Study. <i>European Journal of Vascular and Endovascular Surgery</i> , 2011, 42, 704-710.	0.8	51
10	Subarachnoid Trabeculae: A Comprehensive Review of Their Embryology, Histology, Morphology, and Surgical Significance. <i>World Neurosurgery</i> , 2018, 111, 279-290.	0.7	51
11	The Impact of Spinal Cord Nerve Roots and Denticulate Ligaments on Cerebrospinal Fluid Dynamics in the Cervical Spine. <i>PLoS ONE</i> , 2014, 9, e91888.	1.1	46
12	Syringomyelia Hydrodynamics: An In Vitro Study Based on In Vivo Measurements. <i>Journal of Biomechanical Engineering</i> , 2005, 127, 1110-1120.	0.6	44
13	MR Measurement of Cerebrospinal Fluid Velocity Wave Speed in the Spinal Canal. <i>IEEE Transactions on Biomedical Engineering</i> , 2009, 56, 1765-1768.	2.5	44
14	The influence of coughing on cerebrospinal fluid pressure in an in vitro syringomyelia model with spinal subarachnoid space stenosis. <i>Cerebrospinal Fluid Research</i> , 2009, 6, 17.	0.5	42
15	Task-Specific and General Cognitive Effects in Chiari Malformation Type I. <i>PLoS ONE</i> , 2014, 9, e94844.	1.1	42
16	A morphometric assessment of type I Chiari malformation above the McRae line: A retrospective case-control study in 302 adult female subjects. <i>Journal of Neuroradiology</i> , 2018, 45, 23-31.	0.6	38
17	A 3D subject-specific model of the spinal subarachnoid space with anatomically realistic ventral and dorsal spinal cord nerve rootlets. <i>Fluids and Barriers of the CNS</i> , 2017, 14, 36.	2.4	36
18	Cerebrospinal Fluid Flow Impedance is Elevated in Type I Chiari Malformation. <i>Journal of Biomechanical Engineering</i> , 2014, 136, 021012.	0.6	35

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19	Syringomyelia: A review of the biomechanics. <i>Journal of Fluids and Structures</i> , 2013, 40, 1-24.	1.5	33
20	Morphometric and volumetric comparison of 102 children with symptomatic and asymptomatic Chiari malformation Type I. <i>Journal of Neurosurgery: Pediatrics</i> , 2018, 21, 65-71.	0.8	33
21	Anthropomorphic Model of Intrathecal Cerebrospinal Fluid Dynamics Within the Spinal Subarachnoid Space: Spinal Cord Nerve Roots Increase Steady-Streaming. <i>Journal of Biomechanical Engineering</i> , 2018, 140, .	0.6	28
22	Acoustic radiation from a fluid-filled, subsurface vascular tube with internal turbulent flow due to a constriction. <i>Journal of the Acoustical Society of America</i> , 2005, 118, 1193-1209.	0.5	27
23	Neural Tissue Motion Impacts Cerebrospinal Fluid Dynamics at the Cervical Medullary Junction: A Patient-Specific Moving-Boundary Computational Model. <i>Annals of Biomedical Engineering</i> , 2015, 43, 2911-2923.	1.3	27
24	A Retrospective 2D Morphometric Analysis of Adult Female Chiari Type I Patients with Commonly Reported and Related Conditions. <i>Frontiers in Neuroanatomy</i> , 2018, 12, 2.	0.9	25
25	Non-invasive MRI quantification of cerebrospinal fluid dynamics in amyotrophic lateral sclerosis patients. <i>Fluids and Barriers of the CNS</i> , 2020, 17, 4.	2.4	25
26	Accuracy of 4D Flow Measurement of Cerebrospinal Fluid Dynamics in the Cervical Spine: An In Vitro Verification Against Numerical Simulation. <i>Annals of Biomedical Engineering</i> , 2016, 44, 3202-3214.	1.3	24
27	An Electrophysiological Study of Cognitive and Emotion Processing in Type I Chiari Malformation. <i>Cerebellum</i> , 2018, 17, 404-418.	1.4	22
28	Characterization of the Discrepancies Between Four-Dimensional Phase-Contrast Magnetic Resonance Imaging and In-Silico Simulations of Cerebrospinal Fluid Dynamics. <i>Journal of Biomechanical Engineering</i> , 2015, 137, 051002.	0.6	21
29	Cerebrospinal fluid velocity amplitudes within the cerebral aqueduct in healthy children and patients with Chiari I malformation. <i>Journal of Magnetic Resonance Imaging</i> , 2016, 44, 463-470.	1.9	21
30	Machine learning applied to neuroimaging for diagnosis of adult classic Chiari malformation: role of the basion as a key morphometric indicator. <i>Journal of Neurosurgery</i> , 2018, 129, 779-791.	0.9	21
31	Cardiac-Related Spinal Cord Tissue Motion at the Foramen Magnum is Increased in Patients with Type I Chiari Malformation and Decreases Postdecompression Surgery. <i>World Neurosurgery</i> , 2018, 116, e298-e307.	0.7	20
32	A numerical investigation of intrathecal isobaric drug dispersion within the cervical subarachnoid space. <i>PLoS ONE</i> , 2017, 12, e0173680.	1.1	19
33	Cerebellar tonsil ectopia measurement in type I Chiari malformation patients show poor inter-operator reliability. <i>Fluids and Barriers of the CNS</i> , 2018, 15, 33.	2.4	17
34	Development of Common Data Elements for Use in Chiari Malformation Type I Clinical Research: An NIH/NINDS Project. <i>Neurosurgery</i> , 2019, 85, 854-860.	0.6	16
35	Quantitative magnetic resonance image assessment of the optic nerve and surrounding sheath after spaceflight. <i>Npj Microgravity</i> , 2020, 6, 30.	1.9	16
36	Inter-operator Reliability of Magnetic Resonance Image-Based Computational Fluid Dynamics Prediction of Cerebrospinal Fluid Motion in the Cervical Spine. <i>Annals of Biomedical Engineering</i> , 2016, 44, 1524-1537.	1.3	15

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37	Characterization of intrathecal cerebrospinal fluid geometry and dynamics in cynomolgus monkeys (macaca fascicularis) by magnetic resonance imaging. <i>PLoS ONE</i> , 2019, 14, e0212239.	1.1	15
38	In vitro and numerical simulation of blood removal from cerebrospinal fluid: comparison of lumbar drain to Neurapheresis therapy. <i>Fluids and Barriers of the CNS</i> , 2020, 17, 23.	2.4	14
39	Human in silico trials for parametric computational fluid dynamics investigation of cerebrospinal fluid drug delivery: impact of injection location, injection protocol, and physiology. <i>Fluids and Barriers of the CNS</i> , 2022, 19, 8.	2.4	13
40	Continuous positive airway pressure alters cranial blood flow and cerebrospinal fluid dynamics at the craniovertebral junction. <i>Interdisciplinary Neurosurgery: Advanced Techniques and Case Management</i> , 2015, 2, 152-159.	0.2	12
41	Cephalometric oropharynx and oral cavity analysis in Chiari malformation Type I: a retrospective case-control study. <i>Journal of Neurosurgery</i> , 2017, 126, 626-633.	0.9	12
42	Nonuniform Moving Boundary Method for Computational Fluid Dynamics Simulation of Intrathecal Cerebrospinal Flow Distribution in a Cynomolgus Monkey. <i>Journal of Biomechanical Engineering</i> , 2017, 139, .	0.6	12
43	An MRI-Compatible Hydrodynamic Simulator of Cerebrospinal Fluid Motion in the Cervical Spine. <i>IEEE Transactions on Biomedical Engineering</i> , 2018, 65, 1516-1523.	2.5	12
44	Automated MRI-based quantification of posterior ocular globe flattening and recovery after long-duration spaceflight. <i>Eye</i> , 2021, 35, 1869-1878.	1.1	12
45	In vitro evaluation of cerebrospinal fluid velocity measurement in type I Chiari malformation: repeatability, reproducibility, and agreement using 2D phase contrast and 4D flow MRI. <i>Fluids and Barriers of the CNS</i> , 2021, 18, 12.	2.4	12
46	Ventricle Equilibrium Position in Healthy and Normal Pressure Hydrocephalus Brains Using an Analytical Model. <i>Journal of Biomechanical Engineering</i> , 2012, 134, 041007.	0.6	11
47	In vivo estimation of optic nerve sheath stiffness using noninvasive MRI measurements and finite element modeling. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2020, 110, 103924.	1.5	10
48	Numerical study of intrathecal drug delivery to a permeable spinal cord: effect of catheter position and angle. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2017, 20, 1599-1608.	0.9	9
49	Impact of Neurapheresis System on Intrathecal Cerebrospinal Fluid Dynamics: A Computational Fluid Dynamics Study. <i>Journal of Biomechanical Engineering</i> , 2020, 142, .	0.6	9
50	A pilot study on the biomechanical assessment of obstructive sleep apnea pre and post bariatric surgery. <i>Respiratory Physiology and Neurobiology</i> , 2018, 250, 1-6.	0.7	8
51	Modelling of Cerebrospinal Fluid Flow by Computational Fluid Dynamics. <i>Biological and Medical Physics Series</i> , 2019, , 215-241.	0.3	8
52	The effect of continuous positive airway pressure on total cerebral blood flow in healthy awake volunteers. <i>Sleep and Breathing</i> , 2013, 17, 289-296.	0.9	7
53	Quantitative comparison of 4D MRI flow measurements to 3D computational fluid dynamics simulation of cerebrospinal fluid movement in the spinal subarachnoid space. , 2011, , .		4
54	Ex-vivo quantification of ovine pia arachnoid complex biomechanical properties under uniaxial tension. <i>Fluids and Barriers of the CNS</i> , 2020, 17, 68.	2.4	4

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55	Anatomy and Physiology of Cerebrospinal Fluid Dynamics. , 2019, , 73-89.		3
56	Where do we stand on the relationship between tau biomarkers and mild cognitive impairment?. Quantitative Imaging in Medicine and Surgery, 2013, 3, 189-91.	1.1	2
57	Impact of aortic grafts on hemodynamics: A 1D computational assessment. , 2011, , .		1
58	The effect of continuous positive airway pressure on total cerebral blood flow in 23 healthy awake volunteers. , 2011, , .		1
59	MRI-based quantification of ophthalmic changes in healthy volunteers during acute 15° head-down tilt as an analogue to microgravity. Journal of the Royal Society Interface, 2021, 18, 20200920.	1.5	1
60	Method for Dynamic Material Property Characterization of Soft-Tissue-Mimicking Isotropic Viscoelastic Materials Using Fractional Damping Models. Journal of Testing and Evaluation, 2013, 41, 804-812.	0.4	1
61	MR Measurement of Pulse Wave Velocity in the Spinal Canal. , 2008, , .		1
62	Pathological Biomechanics of Cerebrospinal Fluid Pressure in Syringomyelia: Fluid Structure Interaction of an In Vitro Coaxial Elastic Tube System. , 2009, , .		1
63	Intrathecal catheter implantation decreases cerebrospinal fluid dynamics in cynomolgus monkeys. PLoS ONE, 2020, 15, e0244090.	1.1	1
64	A Fluid Structure Interaction Simulation of the Cerebrospinal Fluid, Spinal Cord, and Spinal Stenosis Present in Syringomyelia. , 2010, , .		0
65	A Coupled Simulation of Spinal Cord Blood Flow and Cerebrospinal Fluid Motion in the Spinal Subarachnoid Space Based on In Vivo Measurements. , 2011, , .		0
66	Prediction of the Impact of Craniospinal Compliance on the Relative Timing of Arterial and Cerebrospinal Fluid Pulsations and Perivascular Fluid Flow Into the Spinal Cord. , 2012, , .		0
67	4D MRI Flow Quantification of Cerebrospinal Fluid Motion in the Cervical Spine in Healthy Subjects and Chiari Malformation Patients: How Do the Results Compare With 3D Computational Fluid Dynamics?. , 2012, , .		0
68	Response to comments regarding Vardoulis O, etÂal., Impact of Aortic Grafts on Arterial Pressure: A Computational Fluid Dynamics Study. Eur J Vasc Endovasc Surg 2011;42:704â€“10. European Journal of Vascular and Endovascular Surgery, 2012, 43, 238-239.	0.8	0
69	Cerebrospinal Fluid Dynamics in the Cervical Spine: Importance of Fine Anatomical Structures. , 2013, , .		0
70	Relation of Cerebrospinal Fluid Flow Impedance and Cerebellar Herniation in Type I Chiari Malformation. , 2013, , .		0
71	Uvula Dynamic Characteristics. , 2013, , .		0
72	313 Morphometric and Volumetric Comparison of Symptomatic and Asymptomatic Chiari Malformation Type I. Neurosurgery, 2017, 64, 267.	0.6	0

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73	Construction and Validation of a Complaint Model of the Cerebrospinal Fluid System With Fluid Filled Syrinx. , 2004, , .		0
74	The Influence of Coughing on Cerebrospinal Fluid Pressure in an In Vitro Syringomyelia Model With Spinal Canal Stenosis. , 2009, , .		0
75	Towards Non-Invasive Assessment of the Elastic Properties of the Spinal Aqueduct. , 2009, , .		0
76	The Effect of Continuous Positive Airway Pressure on Total Cerebral Blood Flow in 23 Healthy Awake Volunteers. , 2011, , .		0
77	Assessment of Aortic Graft Impact on Hemodynamics. , 2011, , .		0
78	Continuous Positive Airway Pressure Impacts Cerebral Blood Flow and Cerebrospinal Fluid Motion: A Phase Contrast MRI Study. , 2012, , .		0
79	Research on the Pathophysiology of Chiari I-Related Symptoms and Syringomyelia, with Emphasis on Dynamic MRI Techniques. , 2020, , 167-179.		0
80	Investigation of Human Intrathecal Solute Transport Dynamics Using a Novel in vitro Cerebrospinal Fluid System Analog. , 0, 1, .		0