

Boyce E Griffith

List of Publications by Year in descending order

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88
papers

3,510
citations

117625

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94
docs citations

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times ranked

2581
citing authors

#	ARTICLE	IF	CITATIONS
1	A hybrid semi-Lagrangian cut cell method for advection-diffusion problems with Robin boundary conditions in moving domains. <i>Journal of Computational Physics</i> , 2022, 449, 110805.	3.8	7
2	On the Lagrangian-Eulerian coupling in the immersed finite element/difference method. <i>Journal of Computational Physics</i> , 2022, 457, 111042.	3.8	9
3	An immersed interface-lattice Boltzmann method for fluid-structure interaction. <i>Journal of Computational Physics</i> , 2021, 428, 109807.	3.8	13
4	A poroelastic immersed finite element framework for modelling cardiac perfusion and fluid-structure interaction. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2021, 37, e3446.	2.1	5
5	Models for plasma kinetics during simultaneous therapeutic plasma exchange and extracorporeal membrane oxygenation. <i>Mathematical Medicine and Biology</i> , 2021, 38, 255-271.	1.2	0
6	Adherens junction engagement regulates functional patterning of the cardiac pacemaker cell lineage. <i>Developmental Cell</i> , 2021, 56, 1498-1511.e7.	7.0	6
7	Commentary: Diameter and wall stress—Wrong Laplace, wrong time?. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2021, , .	0.8	0
8	Bioprosthetic aortic valve diameter and thickness are directly related to leaflet fluttering: Results from a combined experimental and computational modeling study. <i>JTCVS Open</i> , 2021, 6, 60-81.	0.5	19
9	The smooth forcing extension method: A high-order technique for solving elliptic equations on complex domains. <i>Journal of Computational Physics</i> , 2021, 439, 110390.	3.8	2
10	A one-sided direct forcing immersed boundary method using moving least squares. <i>Journal of Computational Physics</i> , 2021, 440, 110359.	3.8	2
11	Mathematical modeling of the impact of recirculation on exchange kinetics in tandem extracorporeal membrane oxygenation and therapeutic plasma exchange. <i>Journal of Clinical Apheresis</i> , 2021, 36, 6-11.	1.3	1
12	An immersed interface method for discrete surfaces. <i>Journal of Computational Physics</i> , 2020, 400, 108854.	3.8	30
13	Immersed Methods for Fluid-Structure Interaction. <i>Annual Review of Fluid Mechanics</i> , 2020, 52, 421-448.	25.0	151
14	A sharp interface method for an immersed viscoelastic solid. <i>Journal of Computational Physics</i> , 2020, 409, 109217.	3.8	1
15	Reply: The stresses of cardiovascular mechanics. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2020, 159, e158-e159.	0.8	1
16	Stabilization approaches for the hyperelastic immersed boundary method for problems of large-deformation incompressible elasticity. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 365, 112978.	6.6	18
17	Fluid-Structure Interaction Models of Bioprosthetic Heart Valve Dynamics in an Experimental Pulse Duplicator. <i>Annals of Biomedical Engineering</i> , 2020, 48, 1475-1490.	2.5	53
18	Analysis of multi-electron, multi-step homogeneous catalysis by rotating disc electrode voltammetry: theory, application, and obstacles. <i>Analyst</i> , 2020, 145, 1258-1278.	3.5	10

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19	Analysis of a coupled fluid-structure interaction model of the left atrium and mitral valve. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2019, 35, e3254.	2.1	38
20	Computer modeling and simulation of heart valve function and intervention. , 2019, , 177-211.		3
21	Failure properties and microstructure of healthy and aneurysmatic human thoracic aortas subjected to uniaxial extension with a focus on the media. <i>Acta Biomaterialia</i> , 2019, 99, 443-456.	8.3	26
22	A robust incompressible Navier-Stokes solver for high density ratio multiphase flows. <i>Journal of Computational Physics</i> , 2019, 390, 548-594.	3.8	60
23	Commentary: The mechanics of acute aortic dissection: Measured calculations and calculated measures. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2019, 158, 366-367.	0.8	3
24	Analyzing the effects of instillation volume on intravesical delivery using biphasic solute transport in a deformable geometry. <i>Mathematical Medicine and Biology</i> , 2019, 36, 139-156.	1.2	3
25	Transition in swimming direction in a model self-propelled inertial swimmer. <i>Physical Review Fluids</i> , 2019, 4, .	2.5	23
26	Bacterial flagellar bundling and unbundling via polymorphic transformations. <i>Physical Review E</i> , 2018, 98, .	2.1	11
27	Muscle Thickness and Curvature Influence Atrial Conduction Velocities. <i>Frontiers in Physiology</i> , 2018, 9, 1344.	2.8	8
28	On the chordae structure and dynamic behaviour of the mitral valve. <i>IMA Journal of Applied Mathematics</i> , 2018, 83, 1066-1091.	1.6	16
29	Quantifying performance in the medusan mechanospace with an actively swimming three-dimensional jellyfish model. <i>Journal of Fluid Mechanics</i> , 2017, 813, 1112-1155.	3.4	52
30	Hybrid finite difference/finite element immersed boundary method. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2017, 33, e2888.	2.1	97
31	Incorporating inductances in tissue-scale models of cardiac electrophysiology. <i>Chaos</i> , 2017, 27, 093926.	2.5	12
32	A continuum mechanics-based musculo-mechanical model for esophageal transport. <i>Journal of Computational Physics</i> , 2017, 348, 433-459.	3.8	21
33	A coupled mitral valve-left ventricle model with fluid-structure interaction. <i>Medical Engineering and Physics</i> , 2017, 47, 128-136.	1.7	55
34	Image-based immersed boundary model of the aortic root. <i>Medical Engineering and Physics</i> , 2017, 47, 72-84.	1.7	17
35	An Immersed Boundary method with divergence-free velocity interpolation and force spreading. <i>Journal of Computational Physics</i> , 2017, 347, 183-206.	3.8	36
36	Hydrodynamics of suspensions of passive and active rigid particles: a rigid multiblob approach. <i>Communications in Applied Mathematics and Computational Science</i> , 2016, 11, 217-296.	1.8	63

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37	Bristles reduce the force required to "fling" wings apart in the smallest insects. <i>Journal of Experimental Biology</i> , 2016, 219, 3759-3772.	1.7	61
38	An immersed boundary method for rigid bodies. <i>Communications in Applied Mathematics and Computational Science</i> , 2016, 11, 79-141.	1.8	70
39	Immersed boundary-finite element model of fluid-structure interaction in the aortic root. <i>Theoretical and Computational Fluid Dynamics</i> , 2016, 30, 139-164.	2.2	30
40	Mechanical strength of aneurysmatic and dissected human thoracic aortas at different shear loading modes. <i>Journal of Biomechanics</i> , 2016, 49, 2374-2382.	2.1	75
41	Role of body stiffness in undulatory swimming: Insights from robotic and computational models. <i>Physical Review Fluids</i> , 2016, 1, .	2.5	59
42	Verification of cardiac mechanics software: benchmark problems and solutions for testing active and passive material behaviour. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2015, 471, 20150641.	2.1	80
43	Geometric multigrid for an implicit-time immersed boundary method. <i>Advances in Computational Mathematics</i> , 2015, 41, 635-662.	1.6	8
44	Fluid-Structure Interaction Model of Human Mitral Valve within Left Ventricle. <i>Lecture Notes in Computer Science</i> , 2015, , 330-337.	1.3	2
45	Emerging Trends in Heart Valve Engineering: Part IV. Computational Modeling and Experimental Studies. <i>Annals of Biomedical Engineering</i> , 2015, 43, 2314-2333.	2.5	34
46	A fully resolved active musculo-mechanical model for esophageal transport. <i>Journal of Computational Physics</i> , 2015, 298, 446-465.	3.8	31
47	Lift vs. drag based mechanisms for vertical force production in the smallest flying insects. <i>Journal of Theoretical Biology</i> , 2015, 384, 105-120.	1.7	48
48	Emerging Trends in Heart Valve Engineering: Part II. Novel and Standard Technologies for Aortic Valve Replacement. <i>Annals of Biomedical Engineering</i> , 2015, 43, 844-857.	2.5	52
49	Emerging Trends in Heart Valve Engineering: Part I. Solutions for Future. <i>Annals of Biomedical Engineering</i> , 2015, 43, 833-843.	2.5	80
50	Emerging Trends in Heart Valve Engineering: Part III. Novel Technologies for Mitral Valve Repair and Replacement. <i>Annals of Biomedical Engineering</i> , 2015, 43, 858-870.	2.5	35
51	Abstract 1931: Mathematical modeling predicts exponential growth kinetics for metastases in the lymphatic vessels in the absence of vascularization. , 2015, , .		0
52	Multiscale temporal integrators for fluctuating hydrodynamics. <i>Physical Review E</i> , 2014, 90, 063312.	2.1	28
53	A finite strain nonlinear human mitral valve model with fluid-structure interaction. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2014, 30, 1597-1613.	2.1	25
54	Dynamic finite-strain modelling of the human left ventricle in health and disease using an immersed boundary-finite element method. <i>IMA Journal of Applied Mathematics</i> , 2014, 79, 978-1010.	1.6	46

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55	Brownian dynamics without Green's functions. <i>Journal of Chemical Physics</i> , 2014, 140, 134110.	3.0	48
56	A modified Holzapfel-Ogden law for a residually stressed finite strain model of the human left ventricle in diastole. <i>Biomechanics and Modeling in Mechanobiology</i> , 2014, 13, 99-113.	2.8	62
57	Quasi-static image-based immersed boundary-finite element model of left ventricle under diastolic loading. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2014, 30, 1199-1222.	2.1	51
58	Fully resolved immersed electrohydrodynamics for particle motion, electrolocation, and self-propulsion. <i>Journal of Computational Physics</i> , 2014, 256, 88-108.	3.8	25
59	Immersed Boundary Method for Variable Viscosity and Variable Density Problems Using Fast Constant-Coefficient Linear Solvers II: Theory. <i>SIAM Journal of Scientific Computing</i> , 2014, 36, B589-B621.	2.8	12
60	Inertial coupling method for particles in an incompressible fluctuating fluid. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2014, 269, 139-172.	6.6	41
61	Efficient Variable-Coefficient Finite-Volume Stokes Solvers. <i>Communications in Computational Physics</i> , 2014, 16, 1263-1297.	1.7	41
62	Simulating the Dynamics of an Aortic Valve Prosthesis in a Pulse Duplicator: Numerical Methods and Initial Experience. <i>Journal of Medical Devices, Transactions of the ASME</i> , 2013, 7, 0409121-409122.	0.7	5
63	Immersed Boundary Method for Variable Viscosity and Variable Density Problems Using Fast Constant-Coefficient Linear Solvers I: Numerical Method and Results. <i>SIAM Journal of Scientific Computing</i> , 2013, 35, B1132-B1161.	2.8	51
64	Image-based fluid-structure interaction model of the human mitral valve. <i>Computers and Fluids</i> , 2013, 71, 417-425.	2.5	47
65	A unified mathematical framework and an adaptive numerical method for fluid-structure interaction with rigid, deforming, and elastic bodies. <i>Journal of Computational Physics</i> , 2013, 250, 446-476.	3.8	119
66	A Forced Damped Oscillation Framework for Undulatory Swimming Provides New Insights into How Propulsion Arises in Active and Passive Swimming. <i>PLoS Computational Biology</i> , 2013, 9, e1003097.	3.2	47
67	A minimally-resolved immersed boundary model for reaction-diffusion problems. <i>Journal of Chemical Physics</i> , 2013, 139, 214112.	3.0	10
68	Temporal integrators for fluctuating hydrodynamics. <i>Physical Review E</i> , 2013, 87, .	2.1	50
69	Electrophysiology. <i>Communications on Pure and Applied Mathematics</i> , 2013, 66, 1837-1913.	3.1	23
70	Initial Experience with a Dynamic Imaging-Derived Immersed Boundary Model of Human Left Ventricle. <i>Lecture Notes in Computer Science</i> , 2013, , 11-18.	1.3	2
71	Optimal Constitutive Parameters and Subject Specific Variability: An Application to the Aortic Sinuses. , 2013, , .		0
72	Simulating the Dynamics of an Aortic Valve Prosthesis in a Pulse Duplicator: Numerical Methods and Initial Experience. , 2013, , .		0

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73	Simulating an Elastic Ring with Bend and Twist by an Adaptive Generalized Immersed Boundary Method. Communications in Computational Physics, 2012, 12, 433-461.	1.7	20
74	On the Volume Conservation of the Immersed Boundary Method. Communications in Computational Physics, 2012, 12, 401-432.	1.7	61
75	Staggered Schemes for Fluctuating Hydrodynamics. Multiscale Modeling and Simulation, 2012, 10, 1369-1408.	1.6	96
76	Immersed boundary model of aortic heart valve dynamics with physiological driving and loading conditions. International Journal for Numerical Methods in Biomedical Engineering, 2012, 28, 317-345.	2.1	148
77	Effect of bending rigidity in a dynamic model of a polyurethane prosthetic mitral valve. Biomechanics and Modeling in Mechanobiology, 2012, 11, 815-827.	2.8	15
78	Empirical Study of an Adaptive Multiscale Model for Simulating Cardiac Conduction. Bulletin of Mathematical Biology, 2011, 73, 3071-3089.	1.9	6
79	The immersed boundary method for advection-electrodiffusion with implicit timestepping and local mesh refinement. Journal of Computational Physics, 2010, 229, 5208-5227.	3.8	25
80	Adaptive multiscale model for simulating cardiac conduction. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 14603-14608.	7.1	23
81	SIMULATING THE FLUID DYNAMICS OF NATURAL AND PROSTHETIC HEART VALVES USING THE IMMERSSED BOUNDARY METHOD. International Journal of Applied Mechanics, 2009, 01, 137-177.	2.2	146
82	An accurate and efficient method for the incompressible Navier-Stokes equations using the projection method as a preconditioner. Journal of Computational Physics, 2009, 228, 7565-7595.	3.8	99
83	Deriving Macroscopic Myocardial Conductivities by Homogenization of Microscopic Models. Bulletin of Mathematical Biology, 2009, 71, 1707-1726.	1.9	33
84	Simulating Cardiovascular Fluid Dynamics by the Immersed Boundary Method. , 2009, , .		2
85	An adaptive, formally second order accurate version of the immersed boundary method. Journal of Computational Physics, 2007, 223, 10-49.	3.8	278
86	On the order of accuracy of the immersed boundary method: Higher order convergence rates for sufficiently smooth problems. Journal of Computational Physics, 2005, 208, 75-105.	3.8	245
87	Recovering quasi-active properties of dendritic neurons from dual potential recordings. Journal of Computational Neuroscience, 2001, 11, 95-110.	1.0	21
88	Poster: Steering and Maneuvering in Jellyfish Bells. , 0, , .		0