

James B Grotberg

List of Publications by Year in descending order

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64
papers

3,781
citations

172386

29
h-index

128225

60
g-index

64
all docs

64
docs citations

64
times ranked

3091
citing authors

#	ARTICLE	IF	CITATIONS
1	Propagation and rupture of elastoviscoplastic liquid plugs in airway reopening model. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2022, 300, 104718.	1.0	12
2	Effects of Surface Tension and Yield Stress on Mucus Plug Rupture: A Numerical Study. <i>Journal of Biomechanical Engineering</i> , 2020, 142, .	0.6	17
3	Surfactant delivery in rat lungs: Comparing 3D geometrical simulation model with experimental instillation. <i>PLoS Computational Biology</i> , 2019, 15, e1007408.	1.5	18
4	Crackles and Wheezes: Agents of Injury?. <i>Annals of the American Thoracic Society</i> , 2019, 16, 967-969.	1.5	13
5	Microphysiological systems modeling acute respiratory distress syndrome that capture mechanical force-induced injury-inflammation-repair. <i>APL Bioengineering</i> , 2019, 3, 041503.	3.3	21
6	Steady displacement of long gas bubbles in channels and tubes filled by a Bingham fluid. <i>Physical Review Fluids</i> , 2018, 3, .	1.0	10
7	Did Reduced Alveolar Delivery of Surfactant Contribute to Negative Results in Adults with Acute Respiratory Distress Syndrome?. <i>American Journal of Respiratory and Critical Care Medicine</i> , 2017, 195, 538-540.	2.5	33
8	Age-related changes in thoracic skeletal geometry of elderly females. <i>Traffic Injury Prevention</i> , 2017, 18, S122-S128.	0.6	17
9	The effect of age and demographics on rib shape. <i>Journal of Anatomy</i> , 2017, 231, 229-247.	0.9	29
10	A new index for characterizing micro-bead motion in a flow induced by ciliary beating: Part II, modeling. <i>PLoS Computational Biology</i> , 2017, 13, e1005552.	1.5	15
11	A new index for characterizing micro-bead motion in a flow induced by ciliary beating: Part I, experimental analysis. <i>PLoS Computational Biology</i> , 2017, 13, e1005605.	1.5	19
12	A Macroscopic Model for Simulating the Mucociliary Clearance in a Bronchial Bifurcation: The Role of Surface Tension. <i>Journal of Biomechanical Engineering</i> , 2016, 138, .	0.6	4
13	Splitting of a two-dimensional liquid plug at an airway bifurcation. <i>Journal of Fluid Mechanics</i> , 2016, 793, 1-20.	1.4	10
14	Modeling female and male rib geometry with logarithmic spirals. <i>Journal of Biomechanics</i> , 2016, 49, 2995-3003.	0.9	22
15	A microfluidic model to study fluid dynamics of mucus plug rupture in small lung airways. <i>Biomicrofluidics</i> , 2015, 9, 044119.	1.2	27
16	Three-dimensional model of surfactant replacement therapy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 9287-9292.	3.3	66
17	Pulmonary Fluid Flow Challenges for Experimental and Mathematical Modeling. <i>Integrative and Comparative Biology</i> , 2014, 54, 985-1000.	0.9	39
18	Flow and Sound Generation in Human Lungs: Models of Wheezes and Crackles. <i>Lecture Notes in Mechanical Engineering</i> , 2014, , 301-317.	0.3	2

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19	Microfluidic Approaches Toward Pulmonary Tissue Constructs. , 2013, , 247-278.		1
20	Rheology Effects on Mucus Plug Rupture. , 2013, , .		0
21	An asymptotic model of particle deposition at an airway bifurcation. <i>Mathematical Medicine and Biology</i> , 2013, 30, 131-156.	0.8	3
22	Steady motion of Bingham liquid plugs in two-dimensional channels. <i>Journal of Fluid Mechanics</i> , 2012, 705, 258-279.	1.4	29
23	Combination of fluid and solid mechanical stresses contribute to cell death and detachment in a microfluidic alveolar model. <i>Lab on A Chip</i> , 2011, 11, 609-619.	3.1	197
24	Particle capture into the lung made simple?. <i>Journal of Applied Physiology</i> , 2011, 110, 1664-1673.	1.2	19
25	Epithelium damage and protection during reopening of occluded airways in a physiologic microfluidic pulmonary airway model. <i>Biomedical Microdevices</i> , 2011, 13, 731-742.	1.4	98
26	Adaptive Lagrangian-Eulerian computation of propagation and rupture of a liquid plug in a tube. <i>International Journal for Numerical Methods in Fluids</i> , 2011, 67, 1373-1392.	0.9	22
27	Respiratory fluid mechanics. <i>Physics of Fluids</i> , 2011, 23, 21301.	1.6	93
28	The effect of viscoelasticity on the stability of a pulmonary airway liquid layer. <i>Physics of Fluids</i> , 2010, 22, 11901.	1.6	33
29	Dynamics of Liquid Plugs of Buffer and Surfactant Solutions in a Micro-Engineered Pulmonary Airway Model. <i>Langmuir</i> , 2010, 26, 3744-3752.	1.6	39
30	Microfluidics, Lung Surfactant, and Respiratory Disorders. <i>Laboratory Medicine</i> , 2009, 40, 203-209.	0.8	18
31	Liquid and surfactant delivery into pulmonary airways. <i>Respiratory Physiology and Neurobiology</i> , 2008, 163, 222-231.	0.7	48
32	Pulsatile Flow and Oxygen Transport Past Cylindrical Fiber Arrays for an Artificial Lung: Computational and Experimental Studies. <i>Journal of Biomechanical Engineering</i> , 2008, 130, 031019.	0.6	18
33	Unsteady propagation of a liquid plug in a liquid-lined straight tube. <i>Physics of Fluids</i> , 2008, 20, 62104.	1.6	51
34	Acoustically detectable cellular-level lung injury induced by fluid mechanical stresses in microfluidic airway systems. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 18886-18891.	3.3	439
35	Pulsatile Flow and Mass Transport Over an Array of Cylinders: Gas Transfer in a Cardiac-Driven Artificial Lung. <i>Journal of Biomechanical Engineering</i> , 2006, 128, 85-96.	0.6	20
36	Flow Limitation in Liquid-Filled Lungs: Effects of Liquid Properties. <i>Journal of Biomechanical Engineering</i> , 2005, 127, 630-636.	0.6	13

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37	Preface: Biofluid mechanics. <i>Physics of Fluids</i> , 2005, 17, 031401.	1.6	0
38	The steady propagation of a surfactant-laden liquid plug in a two-dimensional channel. <i>Physics of Fluids</i> , 2005, 17, 082102.	1.6	65
39	Microfluidics for flow cytometric analysis of cells and particles. <i>Physiological Measurement</i> , 2005, 26, R73-R98.	1.2	362
40	Effect of ventilation rate on instilled surfactant distribution in the pulmonary airways of rats. <i>Journal of Applied Physiology</i> , 2004, 97, 45-56.	1.2	27
41	Steady Propagation of a Liquid Plug in a Two-Dimensional Channel. <i>Journal of Biomechanical Engineering</i> , 2004, 126, 567-577.	0.6	80
42	BIOFLUID MECHANICS IN FLEXIBLE TUBES. <i>Annual Review of Fluid Mechanics</i> , 2004, 36, 121-147.	10.8	379
43	Total Liquid Ventilation: Dynamic Airway Pressure and the Development of Expiratory Flow Limitation. <i>ASAIO Journal</i> , 2004, 50, 485-490.	0.9	11
44	Nonlinear saturation of the Rayleigh instability due to oscillatory flow in a liquid-lined tube. <i>Journal of Fluid Mechanics</i> , 2003, 492, 251-270.	1.4	44
45	Cycle-induced flow and transport in a model of alveolar liquid lining. <i>Journal of Fluid Mechanics</i> , 2003, 483, 1-36.	1.4	8
46	Reversible Switching of High-Speed Air-Liquid Two-Phase Flows Using Electrowetting-Assisted Flow-Pattern Change. <i>Journal of the American Chemical Society</i> , 2003, 125, 14678-14679.	6.6	88
47	Design of an Artificial Lung Compliance Chamber for Pulmonary Replacement. <i>ASAIO Journal</i> , 2003, 49, 35-40.	0.9	26
48	Title is missing!. <i>Biomedical Microdevices</i> , 2002, 4, 141-149.	1.4	102
49	Respiratory Fluid Mechanics and Transport Processes. <i>Annual Review of Biomedical Engineering</i> , 2001, 3, 421-457.	5.7	164
50	Oscillatory Shear Stress Induced Stabilization of Thin Film Instabilities. <i>Fluid Mechanics and Its Applications</i> , 2000, , 33-43.	0.1	4
51	Influence of Intravenous Perfluorocarbon Administration on the Dynamic Behavior of Lung Surfactant. <i>Artificial Cells, Blood Substitutes, and Biotechnology</i> , 1998, 26, 359-366.	0.9	4
52	Perfluorocarbon Induced Alterations in Pulmonary Mechanics. <i>Artificial Cells, Blood Substitutes, and Biotechnology</i> , 1998, 26, 259-271.	0.9	8
53	The steady motion of a semi-infinite bubble through a flexible-walled channel. <i>Journal of Fluid Mechanics</i> , 1996, 319, 25.	1.4	120
54	Bolus Contaminant Dispersion for Oscillatory Flow in a Curved Tube. <i>Journal of Biomechanical Engineering</i> , 1996, 118, 333-340.	0.6	6

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55	Bolus Contaminant Dispersion in Oscillatory Tube Flow With Conductive Walls. Journal of Biomechanical Engineering, 1993, 115, 424-431.	0.6	36
56	Droplet spreading on a thin viscous film. Journal of Fluid Mechanics, 1992, 235, 399.	1.4	117
57	Experiments on transition to turbulence in oscillatory pipe flow. Journal of Fluid Mechanics, 1991, 222, 329.	1.4	111
58	Oscillatory flow and mass transport in a flexible tube. Journal of Fluid Mechanics, 1991, 231, 135-155.	1.4	29
59	The dynamics of a localized surfactant on a thin film. Journal of Fluid Mechanics, 1990, 213, 127.	1.4	195
60	Effects of Curvature, Taper and Flexibility on Dispersion in Oscillatory Pipe Flow. , 1990, , 76-82.		0
61	Monolayer flow on a thin film. Journal of Fluid Mechanics, 1988, 193, 151.	1.4	138
62	Oscillatory flow and mass transport in a curved tube. Journal of Fluid Mechanics, 1988, 188, 509-527.	1.4	51
63	An experimental investigation of oscillating flow in a tapered channel. Journal of Fluid Mechanics, 1986, 172, 47.	1.4	44
64	Volume-cycled oscillatory flow in a tapered channel. Journal of Fluid Mechanics, 1984, 141, 249-264.	1.4	47