Donald P Gaver

List of Publications by Year
in descending order

46 papers	2,093 citations	279798 23 h-index	243625 44 g-index
46 all docs	46 docs citations	46 times ranked	1401 citing authors

#	Article	IF	Citations
1	Mechanisms of surface-tension-induced epithelial cell damage in a model of pulmonary airway reopening. Journal of Applied Physiology, 2003, 94, 770-783.	2.5	312
2	The dynamics of a localized surfactant on a thin film. Journal of Fluid Mechanics, 1990, 213, 127.	3.4	195
3	A Theoretical Model Study of the Influence of Fluid Stresses on a Cell Adhering to a Microchannel Wall. Biophysical Journal, 1998, 75, 721-733.	0.5	157
4	The steady motion of a semi-infinite bubble through a flexible-walled channel. Journal of Fluid Mechanics, 1996, 319, 25.	3.4	120
5	Pressure gradient, not exposure duration, determines the extent of epithelial cell damage in a model of pulmonary airway reopening. Journal of Applied Physiology, 2004, 97, 269-276.	2.5	119
6	Droplet spreading on a thin viscous film. Journal of Fluid Mechanics, 1992, 235, 399.	3.4	117
7	Ventilator-induced lung injury: in vivo and in vitro mechanisms. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2002, 283, L678-L682.	2.9	111
8	Biomechanics of liquidâ€“epithelium interactions in pulmonary airways. Respiratory Physiology and Neurobiology, 2008, 163, 232-243.	1.6	83
9	The influence of non-equilibrium surfactant dynamics on the flow of a semi-infinite bubble in a rigid cylindrical capillary tube. Journal of Fluid Mechanics, 2003, 478, 165-196.	3.4	79
10	A Microscale Model of Bacterial Swimming, Chemotaxis and Substrate Transport. Journal of Theoretical Biology, 1995, 177, 325-340.	1.7	76
11	A Theoretical Model of Pulmonary Surfactant Multilayer Collapse under Oscillating Area Conditions. Journal of Colloid and Interface Science, 2000, 229, 353-364.	9.4	57
12	The POOR Get POORer: A Hypothesis for the Pathogenesis of Ventilator-induced Lung Injury. American Journal of Respiratory and Critical Care Medicine, 2020, 202, 1081-1087.	5.6	51
13	The influence of surfactant on two-phase flow in a flexible-walled channel under bulk equilibrium conditions. Physics of Fluids, 1998, 10, 1846-1863.	4.0	50
14	An investigation of pulmonary surfactant physicochemical behavior under airway reopening conditions. Journal of Applied Physiology, 2000, 88, 493-506.	2.5	48
15	An experimental investigation of oscillating flow in a tapered channel. Journal of Fluid Mechanics, 1986, 172, 47.	3.4	44
16	An Experimental Model Investigation of the Opening of a Collapsed Untethered Pulmonary Airway. Journal of Biomechanical Engineering, 1995, 117, 245-253.	1.3	38
17	Atelectrauma disrupts pulmonary epithelial barrier integrity and alters the distribution of tight junction proteins ZO-1 and claudin 4. Journal of Applied Physiology, 2012, 113, 1377-1387.	2.5	38
18	Core Competencies for Undergraduates in Bioengineering and Biomedical Engineering: Findings, Consequences, and Recommendations. Annals of Biomedical Engineering, 2020, 48, 905-912.	2.5	37

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19	Agent-based simulations of complex droplet pattern formation in a two-branch microfluidic network. Lab on A Chip, 2010, 10, 303-312.	6.0	30
20	Unsteady bubble propagation in a flexible channel: predictions of a viscous stick-slip instability. Journal of Fluid Mechanics, 2005, 528, 53-86.	3.4	28
21	Biofluid Mechanics of the Pulmonary System. Annals of Biomedical Engineering, 2005, 33, 1681-1688.	2.5	25
22	In situ enhancement of pulmonary surfactant function using temporary flow reversal. Journal of Applied Physiology, 2012, 112, 149-158.	2.5	24
23	A Dual-Reciprocity Boundary Element Method for Evaluating Bulk Convective Transport of Surfactant in Free-Surface Flows. Journal of Computational Physics, 2001, 171, 534-559.	3.8	23
24	A model of surfactant-induced surface tension effects on the parenchymal tethering of pulmonary airways. Journal of Biomechanics, 2013, 46, 319-328.	2.1	21
25	Atelectrauma Versus Volutrauma: A Tale of Two Time-Constants. , 2020, 2, e0299.		21
26	The pulsatile propagation of a finger of air within a fluid-occluded cylindrical tube. Journal of Fluid Mechanics, 2008, 601, 1-23.	3.4	18
27	Î¼-PIV measurements of the ensemble flow fields surrounding a migrating semi-infinite bubble. Experiments in Fluids, 2009, 47, 309-320.	2.4	16
28	Estimation of the Pressure Drop Required for Lymph Flow through Initial Lymphatic Networks. Lymphatic Research and Biology, 2016, 14, 62-69.	1.1	16
29	Modeling of Mass Transport into Immiscible Polymeric Blends. Macromolecules, 2003, 36, 9216-9229.	4.8	15
30	Computational lung modelling in respiratory medicine. Journal of the Royal Society Interface, 2022, 19, .	3.4	15
31	The pulsatile motion of a semi-infinite bubble in a channel: flow fields, and transport of an inactive surface-associated contaminant. Journal of Fluid Mechanics, 2005, 537, 1.	3.4	13
32	Microscale to mesoscale analysis of parenchymal tethering: the effect of heterogeneous alveolar pressures on the pulmonary mechanics of compliant airways. Journal of Applied Physiology, 2019, 126, 1204-1213.	2.5	12
33	Physicochemical Effects Enhance Surfactant Transport in Pulsatile Motion of a Semi-Infinite Bubble. Biophysical Journal, 2009, 96, 312-327.	0.5	11
34	Evaluation of interfacial fluid dynamical stresses using the immersed boundary method. Discrete and Continuous Dynamical Systems - Series B, 2009, 11, 519-540.	0.9	11
35	The influence of surfactant on the propagation of a semi-infinite bubble through a liquid-filled compliant channel. Journal of Fluid Mechanics, 2012, 698, 125-159.	3.4	10
36	Biofluid Mechanics of Special Organs and the Issue of System Control. Annals of Biomedical Engineering, 2010, 38, 1204-1215.	2.5	8

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37	Reduced-Dimension Modeling Approach for Simulating Recruitment/De-recruitment Dynamics in the Lung. Annals of Biomedical Engineering, 2016, 44, 3619-3631.	2.5	8
38	The unusual symmetric reopening effect induced by pulmonary surfactant. Journal of Applied Physiology, 2014, 116, 635-644.	2.5	7
39	Surfactant-Mediated Airway and Acinar Interactions in a Multi-Scale Model of a Healthy Lung. Frontiers in Physiology, 2020, 11, 941.	2.8	6
40	Learning Environments and Evidence-Based Practices in Bioengineering and Biomedical Engineering. Biomedical Engineering Education, 2022, 2, 1-16.	0.7	6
41	Lagrangian transport properties of pulmonary interfacial flows. Journal of Fluid Mechanics, 2012, 705, 234-257.	3.4	5
42	Electric Cell-Substrate Impedance Sensing (ECIS) as a Platform for Evaluating Barrier-Function Susceptibility and Damage from Pulmonary Atelectrauma. Biosensors, 2022, 12, 390.	4.7	5
43	Microscale distribution and dynamic surface tension of pulmonary surfactant normalize the recruitment of asymmetric bifurcating airways. Journal of Applied Physiology, 2017, 122, 1167-1178.	2.5	4
44	The influence of tethering and gravity on the stability of compliant liquid-lined airways. Journal of Biomechanics, 2017, 50, 228-233.	2.1	2
45	Invited editorial on â€œSurface tension in situ in flooded alveolus unaltered by albuminâ€• Journal of Applied Physiology, 2014, 117, 423-424.	2.5	1
46	1483: EXCESSIVE DYNAMIC AND STATIC STRAIN ACT SYNERGISTICALLY TO INCREASE LUNG INFLAMMATION. Critical Care Medicine, 2022, 50, 745-745.	0.9	0