Jacob Herrmann

List of Publications by Year
in descending order

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35 papers	662 citations	623734 14 h-index	610901 24 g-index
36 all docs	36 docs citations	36 times ranked	790 citing authors

#	Article	IF	Citations
1	Modeling lung perfusion abnormalities to explain early COVID-19 hypoxemia. Nature Communications, 2020, 11, 4883.	12.8	95
2	Extracellular matrix presentation modulates vascular smooth muscle cell mechanotransduction. Matrix Biology, 2015, 41, 36-43.	3.6	68
3	Multi-resolution convolutional neural networks for fully automated segmentation of acutely injured lungs in multiple species. Medical Image Analysis, 2020, 60, 101592.	11.6	55
4	Shared Ventilation in the Era of COVID-19: A Theoretical Consideration of the Dangers and Potential Solutions. Respiratory Care, 2020, 65, 932-945.	1.6	40
5	Lung distribution of gas and blood volume in critically ill COVID-19 patients: a quantitative dual-energy computed tomography study. Critical Care, 2021, 25, 214.	5.8	39
6	CT image segmentation for inflamed and fibrotic lungs using a multi-resolution convolutional neural network. Scientific Reports, 2021, 11, 1455.	3.3	32
7	Imaging the Injured Lung. Anesthesiology, 2019, 131, 716-749.	2.5	29
8	Respiratory System Mechanics During Low Versus High Positive End-Expiratory Pressure in Open Abdominal Surgery. Anesthesia and Analgesia, 2018, 126, 143-149.	2.2	28
9	Multifrequency Oscillatory Ventilation in the Premature Lung. Anesthesiology, 2015, 123, 1394-1403.	2.5	25
10	Intratidal Overdistention and Derecruitment in the Injured Lung: A Simulation Study. IEEE Transactions on Biomedical Engineering, 2017, 64, 681-689.	4.2	22
11	Regional gas transport in the heterogeneous lung during oscillatory ventilation. Journal of Applied Physiology, 2016, 121, 1306-1318.	2.5	21
12	Volatile anesthetics and the treatment of severe bronchospasm: a concept of targeted delivery. Drug Discovery Today: Disease Models, 2015, 15, 43-50.	1.2	18
13	Parenchymal strain heterogeneity during oscillatory ventilation: why two frequencies are better than one. Journal of Applied Physiology, 2018, 124, 653-663.	2.5	17
14	High-Frequency Oscillatory Ventilation and Ventilator-Induced Lung Injury. Critical Care Medicine, 2020, 48, e66-e73.	0.9	16
15	Quantifying Regional Lung Deformation Using Four-Dimensional Computed Tomography: A Comparison of Conventional and Oscillatory Ventilation. Frontiers in Physiology, 2020, 11, 14.	2.8	15
16	Diminishing Efficacy of Prone Positioning With Late Application in Evolving Lung Injury. Critical Care Medicine, 2021, 49, e1015-e1024.	0.9	14
17	Frequency-Selective Computed Tomography: Applications During Periodic Thoracic Motion. IEEE Transactions on Medical Imaging, 2017, 36, 1722-1732.	8.9	12
18	Strain, strain rate, and mechanical power: An optimization comparison for oscillatory ventilation. International Journal for Numerical Methods in Biomedical Engineering, 2019, 35, e3238.	2.1	12

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19	A Markov chain model of particle deposition in the lung. Scientific Reports, 2020, 10, 13573.	3.3	12
20	An Experimental Pre-Post Study on the Efficacy of Respiratory Physiotherapy in Severe Critically Ill COVID-19 Patients. Journal of Clinical Medicine, 2021, 10, 2139.	2.4	12
21	Effects of Lung Injury on Regional Aeration and Expiratory Time Constants: Insights From Four-Dimensional Computed Tomography Image Registration. Frontiers in Physiology, 2021, 12, 707119.	2.8	11
22	Computational Modeling of Primary Blast Lung Injury: Implications for Ventilator Management. Military Medicine, 2019, 184, 273-281.	0.8	10
23	Assessment of anesthesia machine redesign on cleaning of the anesthesia machine using surface disinfection wipes. American Journal of Infection Control, 2020, 48, 675-681.	2.3	10
24	Inflation instability in the lung: an analytical model of a thick-walled alveolus with wavy fibres under large deformations. Journal of the Royal Society Interface, 2021, 18, 20210594.	3.4	9
25	Percolation of collagen stress in a random network model of the alveolar wall. Scientific Reports, 2021, 11, 16654.	3.3	8
26	Early versus late intubation in COVID-19 patients failing helmet CPAP: A quantitative computed tomography study. Respiratory Physiology and Neurobiology, 2022, 301, 103889.	1.6	8
27	Regional Gas Transport During Conventional and Oscillatory Ventilation Assessed by Xenon-Enhanced Computed Tomography. Annals of Biomedical Engineering, 2021, 49, 2377-2388.	2.5	5
28	An Analytic Model of Tissue Self-Healing and Its Network Implementation: Application to Fibrosis and Aging. Frontiers in Physiology, 2020, 11, 583024.	2.8	5
29	Transfer Learning for Segmentation of Injured Lungs Using Coarse-to-Fine Convolutional Neural Networks. Lecture Notes in Computer Science, 2018, , 191-201.	1.3	4
30	Comparison of pneumotachography and anemometery for flow measurement during mechanical ventilation with volatile anesthetics. Journal of Clinical Monitoring and Computing, 2017, 31, 1263-1271.	1.6	3
31	Targeted Versus Continuous Delivery of Volatile Anesthetics During Cholinergic Bronchoconstriction. Journal of Engineering and Science in Medical Diagnostics and Therapy, 2018, 1, .	0.5	3
32	Stabilizing breathing pattern using local mechanical vibrations: comparison of deterministic and stochastic stimulations in rodent models of apnea of prematurity. Biomedical Engineering Letters, 2021, 11, 383-392.	4.1	1
33	System identification of proportional solenoid valve dynamics. International Journal of Modelling, Identification and Control, 2020, 34, 103.	0.2	1
34	A Personalized Spring Network Representation of Emphysematous Lungs From CT Images. Frontiers in Network Physiology, 2022, 2, .	1.8	1
35	A comparison of endotracheal tube compensation techniques for the measurement of respiratory mechanical impedance at low frequencies. Journal of Clinical Monitoring and Computing, 2021, , .	1.6	1