

Ching-Long Lin

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/8692354/publications.pdf>

Version: 2024-02-01

104
papers

4,951
citations

81900

39
h-index

98798

67
g-index

107
all docs

107
docs citations

107
times ranked

3580
citing authors

#	ARTICLE	IF	CITATIONS
1	A stable discretization of the lattice Boltzmann equation for simulation of incompressible two-phase flows at high density ratio. <i>Journal of Computational Physics</i> , 2005, 206, 16-47.	3.8	555
2	Characteristics of the turbulent laryngeal jet and its effect on airflow in the human intra-thoracic airways. <i>Respiratory Physiology and Neurobiology</i> , 2007, 157, 295-309.	1.6	268
3	Mass preserving nonrigid registration of CT lung images using cubic B-spline. <i>Medical Physics</i> , 2009, 36, 4213-4222.	3.0	185
4	Large-eddy simulation of turbulent flow in a channel with rib roughness. <i>International Journal of Heat and Fluid Flow</i> , 2003, 24, 372-388.	2.4	161
5	Regional Deposition of Particles in an Image-Based Airway Model: Large-Eddy Simulation and Left-Right Lung Ventilation Asymmetry. <i>Aerosol Science and Technology</i> , 2011, 45, 11-25.	3.1	141
6	A Characteristic Galerkin Method for Discrete Boltzmann Equation. <i>Journal of Computational Physics</i> , 2001, 171, 336-356.	3.8	136
7	Simulation of pulmonary air flow with a subject-specific boundary condition. <i>Journal of Biomechanics</i> , 2010, 43, 2159-2163.	2.1	131
8	Supine and prone differences in regional lung density and pleural pressure gradients in the human lung with constant shape. <i>Journal of Applied Physiology</i> , 2009, 107, 912-920.	2.5	130
9	On intra- and intersubject variabilities of airflow in the human lungs. <i>Physics of Fluids</i> , 2009, 21, 101901.	4.0	128
10	An Eulerian description of the streaming process in the lattice Boltzmann equation. <i>Journal of Computational Physics</i> , 2003, 185, 445-471.	3.8	113
11	Numerical simulation of unsteady multidimensional free surface motions by level set method. <i>International Journal for Numerical Methods in Fluids</i> , 2003, 42, 853-884.	1.6	111
12	Association of Dysanapsis With Chronic Obstructive Pulmonary Disease Among Older Adults. <i>JAMA - Journal of the American Medical Association</i> , 2020, 323, 2268.	7.4	104
13	The effects of geometry on airflow in the acinar region of the human lung. <i>Journal of Biomechanics</i> , 2009, 42, 1635-1642.	2.1	94
14	Rarefaction and compressibility effects of the lattice-Boltzmann-equation method in a gas microchannel. <i>Physical Review E</i> , 2005, 71, 046706.	2.1	90
15	A multiscale MDCT image-based breathing lung model with time-varying regional ventilation. <i>Journal of Computational Physics</i> , 2013, 244, 168-192.	3.8	85
16	Computational fluid dynamics. <i>IEEE Engineering in Medicine and Biology Magazine</i> , 2009, 28, 25-33.	0.8	81
17	Human airway branch variation and chronic obstructive pulmonary disease. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, E974-E981.	7.1	80
18	Quantitative computed tomographic imaging-based clustering differentiates asthmatic subgroups with distinctive clinical phenotypes. <i>Journal of Allergy and Clinical Immunology</i> , 2017, 140, 690-700.e8.	2.9	79

#	ARTICLE	IF	CITATIONS
19	A level set characteristic Galerkin finite element method for free surface flows. <i>International Journal for Numerical Methods in Fluids</i> , 2005, 49, 521-547.	1.6	78
20	Registration-based assessment of regional lung function via volumetric CT images of normal subjects vs. severe asthmatics. <i>Journal of Applied Physiology</i> , 2013, 115, 730-742.	2.5	77
21	Airway Wall Stiffening Increases Peak Wall Shear Stress: A Fluid-Structure Interaction Study in Rigid and Compliant Airways. <i>Annals of Biomedical Engineering</i> , 2010, 38, 1836-1853.	2.5	73
22	The comprehensive imaging-based analysis of the lung. <i>Academic Radiology</i> , 2004, 11, 1370-1380.	2.5	67
23	Quantitative assessment of multiscale structural and functional alterations in asthmatic populations. <i>Journal of Applied Physiology</i> , 2015, 118, 1286-1298.	2.5	67
24	Multiscale image-based modeling and simulation of gas flow and particle transport in the human lungs. <i>Wiley Interdisciplinary Reviews: Systems Biology and Medicine</i> , 2013, 5, 643-655.	6.6	66
25	Numerical Study of High-Frequency Oscillatory Air Flow and Convective Mixing in a CT-Based Human Airway Model. <i>Annals of Biomedical Engineering</i> , 2010, 38, 3550-3571.	2.5	64
26	Lattice Boltzmann method on composite grids. <i>Physical Review E</i> , 2000, 62, 2219-2225.	2.1	61
27	Effect of Carrier Gas Properties on Aerosol Distribution in a CT-based Human Airway Numerical Model. <i>Annals of Biomedical Engineering</i> , 2012, 40, 1495-1507.	2.5	54
28	Pressure evolution lattice-Boltzmann-equation method for two-phase flow with phase change. <i>Physical Review E</i> , 2003, 67, 056703.	2.1	53
29	Large-Eddy Simulation of Turbulent Flow over a Fixed Two-Dimensional Dune. <i>Journal of Hydraulic Engineering</i> , 2006, 132, 643-651.	1.5	49
30	A cubic B-spline-based hybrid registration of lung CT images for a dynamic airway geometric model with large deformation. <i>Physics in Medicine and Biology</i> , 2011, 56, 203-218.	3.0	49
31	A Numerical Study of Heat and Water Vapor Transfer in MDCT-Based Human Airway Models. <i>Annals of Biomedical Engineering</i> , 2014, 42, 2117-2131.	2.5	49
32	Assessment of regional ventilation and deformation using 4D-CT imaging for healthy human lungs during tidal breathing. <i>Journal of Applied Physiology</i> , 2015, 119, 1064-1074.	2.5	48
33	Prediction of Darcy-Forchheimer drag for micro-porous structures of complex geometry using the lattice Boltzmann method. <i>Journal of Micromechanics and Microengineering</i> , 2006, 16, 2240-2250.	2.6	47
34	Large eddy simulation of turbulent open-channel flow with free surface simulated by level set method. <i>Physics of Fluids</i> , 2005, 17, 025108.	4.0	46
35	The effect of surface roughness on flow structures in a neutrally stratified planetary boundary layer flow. <i>Physics of Fluids</i> , 1997, 9, 3235-3249.	4.0	45
36	Estimation of thermal and mass diffusivity in a porous medium of complex structure using a lattice Boltzmann method. <i>International Journal of Heat and Mass Transfer</i> , 2008, 51, 3913-3923.	4.8	45

#	ARTICLE	IF	CITATIONS
37	The lung physiome: merging imaging-based measures with predictive computational models. <i>Wiley Interdisciplinary Reviews: Systems Biology and Medicine</i> , 2009, 1, 61-72.	6.6	45
38	Characteristics of airflow in a CT-based ovine lung: a numerical study. <i>Journal of Applied Physiology</i> , 2007, 102, 1469-1482.	2.5	44
39	A lattice Boltzmann algorithm for calculation of the laminar jet diffusion flame. <i>Journal of Computational Physics</i> , 2006, 215, 133-152.	3.8	43
40	An unstructured finite volume approach for structural dynamics in response to fluid motions. <i>Computers and Structures</i> , 2008, 86, 684-701.	4.4	42
41	Image-based modeling of lung structure and function. <i>Journal of Magnetic Resonance Imaging</i> , 2010, 32, 1421-1431.	3.4	39
42	Improved CT-based estimate of pulmonary gas trapping accounting for scanner and lung-volume variations in a multicenter asthmatic study. <i>Journal of Applied Physiology</i> , 2014, 117, 593-603.	2.5	37
43	Multiscale imaging and registration-driven model for pulmonary acinar mechanics in the mouse. <i>Journal of Applied Physiology</i> , 2013, 114, 971-978.	2.5	35
44	Assessment of regional non-linear tissue deformation and air volume change of human lungs via image registration. <i>Journal of Biomechanics</i> , 2014, 47, 1626-1633.	2.1	35
45	Coherent Structures In Open-Channel Flows Over a Fixed Dune. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2005, 127, 858-864.	1.5	33
46	Steady streaming: A key mixing mechanism in low-Reynolds-number acinar flows. <i>Physics of Fluids</i> , 2011, 23, 41902.	4.0	33
47	Retrieval of Microscale Flow Structures from High-Resolution Doppler Lidar Data Using an Adjoint Model. <i>Journals of the Atmospheric Sciences</i> , 2004, 61, 1500-1520.	1.7	30
48	A 4DCT imaging-based breathing lung model with relative hysteresis. <i>Journal of Computational Physics</i> , 2016, 326, 76-90.	3.8	30
49	Differentiation of quantitative CT imaging phenotypes in asthma versus COPD. <i>BMJ Open Respiratory Research</i> , 2017, 4, e000252.	3.0	30
50	Effect of static vs. dynamic imaging on particle transport in CT-based numerical models of human central airways. <i>Journal of Aerosol Science</i> , 2016, 100, 129-139.	3.8	29
51	Automatic construction of subject-specific human airway geometry including trifurcations based on a CT-segmented airway skeleton and surface. <i>Biomechanics and Modeling in Mechanobiology</i> , 2017, 16, 583-596.	2.8	28
52	Evaluation of Lobar Biomechanics during Respiration Using Image Registration. <i>Lecture Notes in Computer Science</i> , 2009, 12, 739-746.	1.3	28
53	A Simple Finite-Volume Formulation of the Lattice Boltzmann Method for Laminar and Turbulent Flows. <i>Numerical Heat Transfer, Part B: Fundamentals</i> , 2010, 58, 242-261.	0.9	25
54	Imaging-based clusters in former smokers of the COPD cohort associate with clinical characteristics: the SubPopulations and intermediate outcome measures in COPD study (SPIROMICS). <i>Respiratory Research</i> , 2019, 20, 153.	3.6	25

#	ARTICLE	IF	CITATIONS
55	1D network simulations for evaluating regional flow and pressure distributions in healthy and asthmatic human lungs. <i>Journal of Applied Physiology</i> , 2019, 127, 122-133.	2.5	25
56	Lattice Boltzmann Study of Bubble Dynamics. <i>Numerical Heat Transfer, Part B: Fundamentals</i> , 2006, 50, 333-351.	0.9	24
57	Retrieval of Urban Boundary Layer Structures from Doppler Lidar Data. Part I: Accuracy Assessment. <i>Journals of the Atmospheric Sciences</i> , 2008, 65, 3-20.	1.7	24
58	Early Airway Structural Changes in Cystic Fibrosis Pigs as a Determinant of Particle Distribution and Deposition. <i>Annals of Biomedical Engineering</i> , 2014, 42, 915-927.	2.5	23
59	A four-dimensional computed tomography comparison of healthy and asthmatic human lungs. <i>Journal of Biomechanics</i> , 2017, 56, 102-110.	2.1	23
60	Airway Gas Flow. , 2011, 1, 1135-1157.		22
61	Numerical simulations of aerosol delivery to the human lung with an idealized laryngeal model, image-based airway model, and automatic meshing algorithm. <i>Computers and Fluids</i> , 2017, 148, 1-9.	2.5	22
62	Local tissue-weight-based nonrigid registration of lung images with application to regional ventilation. <i>Proceedings of SPIE</i> , 2009, , .	0.8	21
63	Efficient methods for implementation of multi-level nonrigid mass-preserving image registration on GPUs and multi-threaded CPUs. <i>Computer Methods and Programs in Biomedicine</i> , 2016, 127, 290-300.	4.7	21
64	A Feasible Computational Fluid Dynamics Study for Relationships of Structural and Functional Alterations with Particle Depositions in Severe Asthmatic Lungs. <i>Computational and Mathematical Methods in Medicine</i> , 2018, 2018, 1-12.	1.3	21
65	Differences in Particle Deposition Between Members of Imaging-Based Asthma Clusters. <i>Journal of Aerosol Medicine and Pulmonary Drug Delivery</i> , 2019, 32, 213-223.	1.4	21
66	Large Eddy Simulation of Internal Boundary Layers Created by a Change in Surface Roughness. <i>Journals of the Atmospheric Sciences</i> , 2002, 59, 1697-1711.	1.7	20
67	Large Eddy Simulation of an Inhomogeneous Atmospheric Boundary Layer under Neutral Conditions. <i>Journals of the Atmospheric Sciences</i> , 2002, 59, 2479-2497.	1.7	20
68	Imaging-based clusters in current smokers of the COPD cohort associate with clinical characteristics: the SubPopulations and Intermediate Outcome Measures in COPD Study (SPIROMICS). <i>Respiratory Research</i> , 2018, 19, 178.	3.6	20
69	Near-grid-scale energy transfer and coherent structures in the convective planetary boundary layer. <i>Physics of Fluids</i> , 1999, 11, 3482-3494.	4.0	19
70	Transport and deposition of hygroscopic particles in asthmatic subjects with and without airway narrowing. <i>Journal of Aerosol Science</i> , 2020, 146, 105581.	3.8	18
71	Retrieval of Flow Structures in a Convective Boundary Layer Using an Adjoint Model: Identical Twin Experiments. <i>Journals of the Atmospheric Sciences</i> , 2001, 58, 1767-1783.	1.7	17
72	A GPU-based symmetric non-rigid image registration method in human lung. <i>Medical and Biological Engineering and Computing</i> , 2018, 56, 355-371.	2.8	17

#	ARTICLE	IF	CITATIONS
73	Local pressure-transport structure in a convective atmospheric boundary layer. <i>Physics of Fluids</i> , 2000, 12, 1112-1128.	4.0	15
74	Retrieval of Urban Boundary Layer Structures from Doppler Lidar Data. Part II: Proper Orthogonal Decomposition. <i>Journals of the Atmospheric Sciences</i> , 2008, 65, 21-42.	1.7	15
75	A Numerical Study of Water Loss Rate Distributions in MDCT-Based Human Airway Models. <i>Annals of Biomedical Engineering</i> , 2015, 43, 2708-2721.	2.5	15
76	Lung Lobar Slippage Assessed with the Aid of Image Registration. <i>Lecture Notes in Computer Science</i> , 2010, 13, 578-585.	1.3	15
77	Large-eddy simulation of air flow around a wall-mounted circular cylinder and a tripod tower. <i>Journal of Turbulence</i> , 2007, 8, N29.	1.4	13
78	Lumen area change (Delta Lumen) between inspiratory and expiratory multidetector computed tomography as a measure of severe outcomes in asthmatic patients. <i>Journal of Allergy and Clinical Immunology</i> , 2018, 142, 1773-1780.e9.	2.9	13
79	Structural and Functional Features on Quantitative Chest Computed Tomography in the Korean Asian versus the White American Healthy Non-Smokers. <i>Korean Journal of Radiology</i> , 2019, 20, 1236.	3.4	13
80	An integrated mathematical epithelial cell model for airway surface liquid regulation by mechanical forces. <i>Journal of Theoretical Biology</i> , 2018, 438, 34-45.	1.7	12
81	Latent traits of lung tissue patterns in former smokers derived by dual channel deep learning in computed tomography images. <i>Scientific Reports</i> , 2021, 11, 4916.	3.3	12
82	An integrated 1D breathing lung simulation with relative hysteresis of airway structure and regional pressure for healthy and asthmatic human lungs. <i>Journal of Applied Physiology</i> , 2020, 129, 732-747.	2.5	10
83	Quantitative computed tomography determined regional lung mechanics in normal nonsmokers, normal smokers and metastatic sarcoma subjects. <i>PLoS ONE</i> , 2017, 12, e0179812.	2.5	10
84	CFD Simulation of Contaminant Decay for High Reynolds Flow in a Controlled Environment. <i>Annals of Occupational Hygiene</i> , 2010, 54, 88-99.	1.9	9
85	A numerical study of gas transport in human lung models. , 2005, , .		8
86	Contributions of Kinetic Energy and Viscous Dissipation to Airway Resistance in Pulmonary Inspiratory and Expiratory Airflows in Successive Symmetric Airway Models With Various Bifurcation Angles. <i>Journal of Biomechanical Engineering</i> , 2018, 140, .	1.3	8
87	Longitudinal Imaging-Based Clusters in Former Smokers of the COPD Cohort Associate with Clinical Characteristics: The SubPopulations and Intermediate Outcome Measures in COPD Study (SPIROMICS). <i>International Journal of COPD</i> , 2021, Volume 16, 1477-1496.	2.3	8
88	CT-derived 3D-diaphragm motion in emphysema and IPF compared to normal subjects. <i>Scientific Reports</i> , 2021, 11, 14923.	3.3	8
89	On the Smoothness Constraints for Four-Dimensional Data Assimilation. <i>Journal of Computational Physics</i> , 2002, 181, 430-453.	3.8	7
90	Quantitative CT-based structural alterations of segmental airways in cement dust-exposed subjects. <i>Respiratory Research</i> , 2020, 21, 133.	3.6	7

#	ARTICLE	IF	CITATIONS
91	Assessment and validation of a hygroscopic growth model with different water activity estimation methods. <i>Aerosol Science and Technology</i> , 2020, 54, 1169-1182.	3.1	7
92	Aerosol deposition predictions in computed tomography-derived skeletons from severe asthmatics: A feasibility study. <i>Clinical Biomechanics</i> , 2019, 66, 81-87.	1.2	6
93	Generation-based study of airway remodeling in smokers with normal-looking CT with normalization to control inter-subject variability. <i>European Journal of Radiology</i> , 2021, 138, 109657.	2.6	6
94	Estimation of Turbulent Viscosity and Diffusivity in Adjoint Recovery of Atmospheric Boundary Layer Flow Structures. <i>Multiscale Modeling and Simulation</i> , 2003, 1, 196-220.	1.6	5
95	Application of a Nonhydrostatic Model to Flow in a Free Surface Fish Passage Facility. <i>Journal of Hydraulic Engineering</i> , 2008, 134, 993-999.	1.5	4
96	A Perfect Match Condition for Point-Set Matching Problems Using the Optimal Mass Transport Approach. <i>SIAM Journal on Imaging Sciences</i> , 2013, 6, 730-764.	2.2	4
97	Use of Large-Eddy Simulation to Characterize Roughness Effect of Turbulent Flow Over a Wavy Wall. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2003, 125, 1075-1077.	1.5	4
98	Large Eddy Simulation of Wind Flow over A Realistic Urban Area. <i>Computation</i> , 2020, 8, 47.	2.0	3
99	In silico methods to model dose deposition. , 2021, , 167-195.		3
100	Cluster-Guided Multiscale Lung Modeling via Machine Learning. , 2018, , 1-20.		2
101	Machine learning and in silico methods. , 2021, , 375-390.		2
102	Detection of smoothly distributed spatial outliers, with applications to identifying the distribution of parenchymal hyperinflation following an airway challenge in asthmatics. <i>Statistics in Medicine</i> , 2017, 36, 1638-1654.	1.6	1
103	Coherent Structures in Open-Channel Flows Over a Fixed Dune. , 2004, , 575.		0
104	Cluster-Guided Multiscale Lung Modeling via Machine Learning. , 2020, , 2699-2718.		0