

# Fang-Bao Tian

## List of Publications by Year in descending order

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107  
papers

2,857  
citations

172457

29  
h-index

189892

50  
g-index

108  
all docs

108  
docs citations

108  
times ranked

1451  
citing authors

#	ARTICLE	IF	CITATIONS
1	Fluid-structure interaction involving large deformations: 3D simulations and applications to biological systems. <i>Journal of Computational Physics</i> , 2014, 258, 451-469.	3.8	299
2	An efficient immersed boundary-lattice Boltzmann method for the hydrodynamic interaction of elastic filaments. <i>Journal of Computational Physics</i> , 2011, 230, 7266-7283.	3.8	226
3	Force production and asymmetric deformation of a flexible flapping wing in forward flight. <i>Journal of Fluids and Structures</i> , 2013, 36, 149-161.	3.4	107
4	Recent trends and progress in the immersed boundary method. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , 2019, 233, 7617-7636.	2.1	107
5	An immersed boundary method for fluid-structure interaction with compressible multiphase flows. <i>Journal of Computational Physics</i> , 2017, 346, 131-151.	3.8	76
6	Coupling modes of three filaments in side-by-side arrangement. <i>Physics of Fluids</i> , 2011, 23, .	4.0	74
7	On numerical modeling of animal swimming and flight. <i>Computational Mechanics</i> , 2013, 52, 1221-1242.	4.0	72
8	A novel geometry-adaptive Cartesian grid based immersed boundary-lattice Boltzmann method for fluid-structure interactions at moderate and high Reynolds numbers. <i>Journal of Computational Physics</i> , 2018, 375, 22-56.	3.8	69
9	Review on bio-inspired flight systems and bionic aerodynamics. <i>Chinese Journal of Aeronautics</i> , 2021, 34, 170-186.	5.3	67
10	Secondary vortex street in the wake of two tandem circular cylinders at low Reynolds number. <i>Physical Review E</i> , 2010, 81, 036305.	2.1	66
11	An immersed boundary-lattice Boltzmann method for fluid-structure interaction problems involving viscoelastic fluids and complex geometries. <i>Journal of Computational Physics</i> , 2020, 415, 109487.	3.8	65
12	Effects of wing shape, aspect ratio and deviation angle on aerodynamic performance of flapping wings in hover. <i>Physics of Fluids</i> , 2016, 28, .	4.0	64
13	Interaction between a flexible filament and a downstream rigid body. <i>Physical Review E</i> , 2010, 82, 026301.	2.1	62
14	Improving power-extraction efficiency of a flapping plate: From passive deformation to active control. <i>Journal of Fluids and Structures</i> , 2014, 51, 384-392.	3.4	61
15	Simulation of a pulsatile non-Newtonian flow past a stenosed 2D artery with atherosclerosis. <i>Computers in Biology and Medicine</i> , 2013, 43, 1098-1113.	7.0	58
16	Numerical study on the power extraction performance of a flapping foil with a flexible tail. <i>Physics of Fluids</i> , 2015, 27, .	4.0	54
17	Effects of hawkmoth-like flexibility on the aerodynamic performance of flapping wings with different shapes and aspect ratios. <i>Physics of Fluids</i> , 2018, 30, .	4.0	52
18	Effects of flexibility on the hovering performance of flapping wings with different shapes and aspect ratios. <i>Journal of Fluids and Structures</i> , 2018, 81, 69-96.	3.4	48

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19	Effects of pitching motion profile on energy harvesting performance of a semi-active flapping foil using immersed boundary method. <i>Ocean Engineering</i> , 2018, 163, 94-106.	4.3	45
20	AN EFFICIENT RED BLOOD CELL MODEL IN THE FRAME OF IB-LBM AND ITS APPLICATION. <i>International Journal of Biomathematics</i> , 2013, 06, 1250061.	2.9	43
21	How a flexible tail improves the power extraction efficiency of a semi-activated flapping foil system: A numerical study. <i>Journal of Fluids and Structures</i> , 2015, 54, 886-899.	3.4	40
22	FSI modeling with the DSD/SST method for the fluid and finite difference method for the structure. <i>Computational Mechanics</i> , 2014, 54, 581-589.	4.0	39
23	Flapping foil power generator performance enhanced with a spring-connected tail. <i>Physics of Fluids</i> , 2017, 29, .	4.0	39
24	An FSI solution technique based on the DSD/SST method and its applications. <i>Mathematical Models and Methods in Applied Sciences</i> , 2015, 25, 2257-2285.	3.3	37
25	Role of mass on the stability of flag/flags in uniform flow. <i>Applied Physics Letters</i> , 2013, 103, .	3.3	34
26	An improved lattice Boltzmann method for solid-liquid phase change in porous media under local thermal non-equilibrium conditions. <i>International Journal of Heat and Mass Transfer</i> , 2017, 110, 58-62.	4.8	32
27	Propulsive performance of a body with a traveling-wave surface. <i>Physical Review E</i> , 2012, 86, 016304.	2.1	31
28	A hybrid immersed boundary-lattice Boltzmann/finite difference method for coupled dynamics of fluid flow, advection, diffusion and adsorption in fractured and porous media. <i>Computers and Geosciences</i> , 2019, 128, 70-78.	4.2	31
29	An immersed boundary method for fluid-structure-acoustics interactions involving large deformations and complex geometries. <i>Journal of Fluids and Structures</i> , 2020, 95, 102993.	3.4	30
30	Onset of instability of a flag in uniform flow. <i>Theoretical and Applied Mechanics Letters</i> , 2012, 2, 022005.	2.8	28
31	IB-LBM simulation of the haemocyte dynamics in a stenotic capillary. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2014, 17, 978-985.	1.6	28
32	Refuging rainbow trout selectively exploit flows behind tandem cylinders. <i>Journal of Experimental Biology</i> , 2016, 219, 2182-2191.	1.7	28
33	Swimming performance and vorticity structures of a mother-calf pair of fish. <i>Computers and Fluids</i> , 2016, 124, 1-11.	2.5	26
34	Numerical study of flexible flapping wings with an immersed boundary method: Fluid-structure-acoustics interaction. <i>Journal of Fluids and Structures</i> , 2019, 90, 396-409.	3.4	26
35	Red blood cell partitioning and blood flux redistribution in microvascular bifurcation. <i>Theoretical and Applied Mechanics Letters</i> , 2012, 2, 024001.	2.8	25
36	A numerical study of fish adaption behaviors in complex environments with a deep reinforcement learning and immersed boundary-lattice Boltzmann method. <i>Scientific Reports</i> , 2021, 11, 1691.	3.3	25

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37	Deforming-Spatial-Domain/Stabilized Space-Time (DSD/SST) method in computation of non-Newtonian fluid flow and heat transfer with moving boundaries. <i>Computational Mechanics</i> , 2014, 53, 257-271.	4.0	24
38	Macroscopic modeling of pedestrian flow based on a second-order predictive dynamic model. <i>Applied Mathematical Modelling</i> , 2016, 40, 9806-9820.	4.2	24
39	A simple and efficient implicit direct forcing immersed boundary model for simulations of complex flow. <i>Applied Mathematical Modelling</i> , 2017, 43, 287-305.	4.2	24
40	Heat Transfer in Non-Newtonian Flows by a Hybrid Immersed Boundary-Lattice Boltzmann and Finite Difference Method. <i>Applied Sciences (Switzerland)</i> , 2018, 8, 559.	2.5	24
41	Effects of surface roughness and derivation of scaling laws on gas transport in coal using a fractal-based lattice Boltzmann method. <i>Fuel</i> , 2020, 259, 116229.	6.4	24
42	Discrete Vortex Method with Flow Separation Corrections for Flapping-Foil Power Generators. <i>AIAA Journal</i> , 2017, 55, 410-418.	2.6	23
43	Numerical study on hydrodynamics for a non-sinusoidal forced oscillating hydrofoil based on an immersed boundary method. <i>Ocean Engineering</i> , 2018, 147, 606-620.	4.3	22
44	Deformation of a Capsule in a Power-Law Shear Flow. <i>Computational and Mathematical Methods in Medicine</i> , 2016, 2016, 1-9.	1.3	21
45	Transition to chaos in a two-sided collapsible channel flow. <i>Journal of Fluid Mechanics</i> , 2021, 926, .	3.4	21
46	Energy harvesting of two inverted piezoelectric flags in tandem, side-by-side and staggered arrangements. <i>International Journal of Heat and Fluid Flow</i> , 2020, 83, 108589.	2.4	20
47	Dynamic characteristics of a deformable capsule in a simple shear flow. <i>Physical Review E</i> , 2019, 99, 023101.	2.1	19
48	Modeling the effects of gas slippage, cleat network topology and scale dependence of gas transport in coal seam gas reservoirs. <i>Fuel</i> , 2020, 264, 116715.	6.4	18
49	Numerical study of sound generation by three-dimensional flexible flapping wings during hovering flight. <i>Journal of Fluids and Structures</i> , 2020, 99, 103165.	3.4	18
50	A numerical study of linear and nonlinear kinematic models in fish swimming with the DSD/SST method. <i>Computational Mechanics</i> , 2015, 55, 469-477.	4.0	17
51	External force-induced focus pattern of a flexible filament in a viscous fluid. <i>Applied Mathematical Modelling</i> , 2018, 53, 369-383.	4.2	16
52	Kinematic optimization of a flapping foil power generator using a multi-fidelity evolutionary algorithm. <i>Renewable Energy</i> , 2019, 132, 543-557.	8.9	16
53	Analysis of unsteady flow effects on the Betz limit for flapping foil power generation. <i>Journal of Fluid Mechanics</i> , 2020, 902, .	3.4	16
54	Numerical simulation of flow over a parallel cantilevered flag in the vicinity of a rigid wall. <i>Physical Review E</i> , 2019, 99, 053111.	2.1	15

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55	Influences of serrated trailing edge on the aerodynamic and aeroacoustic performance of a flapping wing during hovering flight. <i>Physics of Fluids</i> , 2022, 34, .	4.0	15
56	Effect of the Mobility Parameter on the Oscillatory Electroconvection of Dielectric Liquids Subject to Strong Unipolar Charge Injection. <i>IEEE Transactions on Industry Applications</i> , 2014, 50, 2306-2313.	4.9	14
57	A higher-order macroscopic model for bi-direction pedestrian flow. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2015, 425, 69-78.	2.6	14
58	Aerodynamic characteristics of hoverflies during hovering flight. <i>Computers and Fluids</i> , 2019, 183, 75-83.	2.5	14
59	Hydrodynamic effects of mucus on swimming performance of an undulatory foil by using the DSD/SST method. <i>Computational Mechanics</i> , 2020, 65, 751-761.	4.0	14
60	STUDY ON A SELF-PROPELLED FISH SWIMMING IN VISCOUS FLUID BY A FINITE ELEMENT METHOD. <i>Journal of Mechanics in Medicine and Biology</i> , 2013, 13, 1340012.	0.7	13
61	The Role of Finite Displacements in Vocal Fold Modeling. <i>Journal of Biomechanical Engineering</i> , 2013, 135, 111008.	1.3	13
62	A Full-Newton Step Infeasible Interior-Point Algorithm for Linear Programming Based on a Kernel Function. <i>Applied Mathematics and Optimization</i> , 2009, 60, 237-251.	1.6	12
63	Macroscopic pedestrian flow model with degrading spatial information. <i>Journal of Computational Science</i> , 2015, 10, 36-44.	2.9	12
64	An IB-LBM study of continuous cell sorting in deterministic lateral displacement arrays. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2016, 32, 1023-1030.	3.4	12
65	Hydrodynamic study of sperm swimming near a wall based on the immersed boundary-lattice Boltzmann method. <i>Engineering Applications of Computational Fluid Mechanics</i> , 2020, 14, 853-870.	3.1	12
66	Numerical Investigation of Electrohydrodynamic Plumes for Locally Enhanced Cooling in Dielectric Liquids. <i>IEEE Transactions on Industry Applications</i> , 2015, 51, 669-678.	4.9	11
67	IB-LBM simulation on blood cell sorting with a micro-fence structure. <i>Bio-Medical Materials and Engineering</i> , 2014, 24, 475-481.	0.6	10
68	Benchmark numerical solutions for two-dimensional fluid-structure interaction involving large displacements with the deforming-spatial-domain/stabilized space-time and immersed boundary-lattice Boltzmann methods. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , 2018, 232, 2500-2514.	2.1	10
69	Stable Schooling Formations Emerge from the Combined Effect of the Active Control and Passive Self-Organization. <i>Fluids</i> , 2022, 7, 41.	1.7	8
70	An efficient geometry-adaptive mesh refinement framework and its application in the immersed boundary lattice Boltzmann method. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 392, 114662.	6.6	8
71	IB-LBM study on cell sorting by pinched flow fractionation. <i>Bio-Medical Materials and Engineering</i> , 2014, 24, 2547-2554.	0.6	7
72	Numerical Modeling of Sperm Swimming. <i>Fluids</i> , 2021, 6, 73.	1.7	7

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73	A Geometry-Adaptive Immersed Boundaryâ€“Lattice Boltzmann Method for Modelling Fluidâ€“Structure Interaction Problems. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2019, , 161-171.	0.2	6
74	Numerical study of rigid and flexible wing shapes in hover. Journal of Physics: Conference Series, 2017, 822, 012007.	0.4	5
75	The lattice Boltzmann method and its applications in complex flows and fluidâ€“structure interactions. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2018, 232, 403-404.	2.1	5
76	A Computational Analysis of the Influence of a Pressure Wire in Evaluating Coronary Stenosis. Fluids, 2021, 6, 165.	1.7	5
77	Numerical study of three-dimensional flapping wings hovering in ultra-low-density atmosphere. Physics of Fluids, 2022, 34, .	4.0	5
78	Computational Fluidâ€“Structure Interaction for Biological and Biomedical Flows. , 2013, , .		4
79	Dynamic Behaviours of a Filament in a Viscoelastic Uniform Flow. Fluids, 2021, 6, 90.	1.7	4
80	Effects of uniform vertical inflow perturbations on the performance of flapping wings. Royal Society Open Science, 2021, 8, 210471.	2.4	4
81	ANALYTICAL SOLUTIONS OF NON-FOURIER PENNES AND CHENâ€“HOLMES EQUATIONS. International Journal of Biomathematics, 2012, 05, 1250022.	2.9	3
82	Numerical study of the sound generated by two tandem arranged wings in forward flight. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2021, 235, 265-279.	2.1	3
83	Performance of passively pitching flapping wings in the presence of vertical inflows. Bioinspiration and Biomimetics, 2021, 16, 056003.	2.9	3
84	Lattice Boltzmann model for interface capturing of multiphase flows based on Allenâ€“Cahn equation. Chinese Physics B, 2022, 31, 024701.	1.4	3
85	A Diffused Interface Immersed Boundaryâ€“Lattice Boltzmann Method for Simulation of Channel Flow. , 2020, , .		3
86	Hydrodynamic behaviors of self-propelled sperms in confined spaces. Engineering Applications of Computational Fluid Mechanics, 2022, 16, 141-160.	3.1	3
87	Point-to-Point Navigation of a Fish-Like Swimmer in a Vortical Flow With Deep Reinforcement Learning. Frontiers in Physics, 2022, 10, .	2.1	3
88	Bio-inspired flapping foils and their applications. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2018, 232, 2493-2493.	2.1	2
89	Optimal Efficiency and Heaving Velocity in Flapping Foil Propulsion. AIAA Journal, 2021, 59, 2143-2154.	2.6	2
90	Sound generated by the flow around an airfoil with an attached flap: From passive fluidâ€“structure interaction to active control. Journal of Fluids and Structures, 2022, 111, 103571.	3.4	2

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91	THE DEVELOPMENT AND STABILITY ANALYSIS OF A NONLINEAR GROWTH MODEL FOR MICROORGANISMS. International Journal of Biomathematics, 2010, 03, 417-438.	2.9	1
92	Three-dimensional numerical simulation of electro-convection due to strong unipolar charge injection in a cubic cavity. , 2013, , .		1
93	A MATHEMATICAL MODEL FOR MICRO- AND NANO-SWIMMERS. Journal of Mechanics in Medicine and Biology, 2013, 13, 1340013.	0.7	1
94	Immersed Boundary-Lattice Boltzmann Method for Biological and Biomedical Flows. Communications in Computer and Information Science, 2014, , 383-392.	0.5	1
95	Energy harvesting simulation of two piezoelectric flags in tandem arrangement in the uniform flow. , 2014, , .		1
96	Investigation of effects of surface roughness on coal seam gas transport using a fractal-based lattice Boltzmann method. ASEG Extended Abstracts, 2019, 2019, 1-2.	0.1	1
97	Numerical simulations of biological flows and their engineering applications. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2021, 235, 205-207.	2.1	1
98	Impact of Modelling Surface Roughness in an Arterial Stenosis. Fluids, 2022, 7, 179.	1.7	1
99	Microbial Growth Model and Stability Analysis. , 2009, , .		0
100	Numerical observation of stationary and oscillatory electro-thermo-convection in a plane layer of dielectric liquid. , 2013, , .		0
101	Numerical investigation of electrohydrodynamic plumes for locally enhanced cooling in dielectric liquids. , 2013, , .		0
102	Effect of the mobility parameter on the oscillatory electro-convection of dielectric liquids subject to strong unipolar charge injection. , 2013, , .		0
103	Computational Methods and Models in Circulatory and Reproductive Systems. Computational and Mathematical Methods in Medicine, 2016, 2016, 1-2.	1.3	0
104	The Parameter's Effect on the Stability in Microbial Growth Model. Journal of Computers, 2010, 5, .	0.4	0
105	The Serrated Trailing Edge Influence on Flapping-wing Acoustics. , 2020, , .		0
106	IB-LBM study of non-Newtonian flexible capsule flows in contraction-expansion microchannels. , 2020, , .		0
107	Sound generation by three-dimensional flapping wings during hovering flight. , 2020, , .		0