Giacomo Falcucci

List of Publications by Year
in descending order

85	1,670	257429 24	330122 37
papers	citations	h-index	g-index

87	87	87	1248
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Lattice Boltzmann simulations of phase-separating flows at large density ratios: the case of doubly-attractive pseudo-potentials. Soft Matter, 2010, 6, 4357.	2.7	84
2	Low pH, high salinity: Too much for microbial fuel cells?. Applied Energy, 2017, 192, 543-550.	10.1	71
3	Mesoscopic simulation of non-ideal fluids with self-tuning of the equation of state. Soft Matter, 2012, 8, 3798.	2.7	69
4	Lattice Boltzmann Methods for Multiphase Flow Simulations across Scales. Communications in Computational Physics, 2011, 9, 269-296.	1.7	68
5	Extreme flow simulations reveal skeletal adaptations of deep-sea sponges. Nature, 2021, 595, 537-541.	27.8	64
6	Transverse harmonic oscillations of laminae in viscous fluids: a lattice Boltzmann study. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 2456-2466.	3.4	63
7	Hydroelastic analysis of hull slamming coupling lattice Boltzmann and finite element methods. Computers and Structures, 2014, 138, 24-35.	4.4	55
8	3D CFD modeling and experimental characterization of HT PEM fuel cells at different anode gas compositions. International Journal of Hydrogen Energy, 2014, 39, 21663-21672.	7.1	55
9	Aeroelastic study of flexible flapping wings by a coupled lattice Boltzmann-finite element approach with immersed boundary method. Journal of Fluids and Structures, 2014, 49, 516-533.	3.4	53
10	Experimental characterization of oblique and asymmetric water entry. Experimental Thermal and Fluid Science, 2018, 92, 141-161.	2.7	48
11	A coupled lattice Boltzmann-finite element approach for two-dimensional fluidâ€“structure interaction. Computers and Fluids, 2013, 86, 558-568.	2.5	46
12	Mapping reactive flow patterns in monolithic nanoporous catalysts. Microfluidics and Nanofluidics, 2016, 20, 1.	2.2	46
13	Towards Exascale Lattice Boltzmann computing. Computers and Fluids, 2019, 181, 107-115.	2.5	40
14	Lattice Boltzmann models for nonideal fluids with arrested phase-separation. Physical Review E, 2008, 77, 036705.	2.1	39
15	Lattice Boltzmann Analysis of Fluid-Structure Interaction with Moving Boundaries. Communications in Computational Physics, 2013, 13, 823-834.	1.7	39
16	Smart integration of photovoltaic production, heat pump and thermal energy storage in residential applications. Solar Energy, 2019, 192, 133-143.	6.1	39
17	On the effects of membrane viscosity on transient red blood cell dynamics. Soft Matter, 2020, 16, 6191-6205.	2.7	34
18	Lattice Boltzmann Modeling of Diesel Spray Formation and Break-Up. SAE International Journal of Fuels and Lubricants, 0, 3, 582-593.	0.2	33

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19	Lattice Boltzmann Simulation of Cavitating Flows. Communications in Computational Physics, 2013, 13, 685-695.	1.7	33
20	Flow Confinement Enhancement of Heterogeneous Immunoassays in Microfluidics. IEEE Sensors Journal, 2015, 15, 7321-7328.	4.7	33
21	Heterogeneous catalysis in pulsed-flow reactors with nanoporous gold hollow spheres. Chemical Engineering Science, 2017, 166, 274-282.	3.8	33
22	Lattice Boltzmann spray-like fluids. Europhysics Letters, 2008, 82, 24005.	2.0	32
23	Optimization of microfluidic biosensor efficiency by means of fluid flow engineering. Scientific Reports, 2017, 7, 5721.	3.3	31
24	Simulating Engineering Flows through Complex Porous Media via the Lattice Boltzmann Method. Energies, 2018, 11, 715.	3.1	29
25	A Modified Version of the RNG kâ€“Îµ Turbulence Model for the Scale-Resolving Simulation of Internal Combustion Engines. Energies, 2017, 10, 2116.	3.1	27
26	Graphene Effect on the Improvement of the Response of Optical Fiber SPR Sensor. IEEE Sensors Journal, 2017, 17, 7440-7447.	4.7	25
27	Effect of nanoscale flows on the surface structure of nanoporous catalysts. Journal of Chemical Physics, 2017, 146, 214703.	3.0	24
28	Performance enhancement of a copper-based optical fiber SPR sensor by the addition of an oxide layer. Optik, 2019, 190, 1-9.	2.9	24
29	Electro-thermal modeling for InxGa1-xN/GaN based quantum well heterostructures. Materials Science in Semiconductor Processing, 2019, 93, 231-237.	4.0	20
30	Numerical Study of the Electrothermal Effect on the Kinetic Reaction of Immunoassays for a Microfluidic Biosensor. Langmuir, 2016, 32, 13305-13312.	3.5	19
31	Rupture of a ferrofluid droplet in external magnetic fields using a single-component lattice Boltzmann model for nonideal fluids. Physical Review E, 2009, 79, 056706.	2.1	18
32	Fluid Dynamic Investigation of Channel Design in High Temperature PEM Fuel Cells. Journal of Fuel Cell Science and Technology, 2012, 9, .	0.8	18
33	Optimized Modeling and Design of a PCM-Enhanced H2 Storage. Energies, 2021, 14, 1554.	3.1	17
34	Regularized lattice BGK versus highly accurate spectral methods for cavity flow simulations. International Journal of Modern Physics C, 2014, 25, 1441003.	1.7	16
35	Experimental assessment of buoyant cylinder impacts through high-speed image acquisition. Journal of Marine Science and Technology, 2018, 23, 67-80.	2.9	15
36	Hydrodynamic behavior of the pseudopotential lattice Boltzmann method for interfacial flows. Physical Review E, 2019, 99, 053305.	2.1	15

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37	Sensitive Detection of SARS-CoV-2 Using a Novel Plasmonic Fiber Optic Biosensor Design. Plasmonics, 2022, 17, 1489-1500.	3.4	15
38	Evaluation of a Scale-Resolving Methodology for the Multidimensional Simulation of GDI Sprays. Energies, 2019, 12, 2699.	3.1	14
39	3D simulation of microfluidic biosensor for SARS-CoV-2 S protein binding kinetics using new reaction surface design. European Physical Journal Plus, 2022, 137, 241.	2.6	14
40	Fluid Structure Interaction of Buoyant Bodies with Free Surface Flows: Computational Modelling and Experimental Validation. Water (Switzerland), 2019, 11, 1048.	2.7	13
41	Numerical modeling of InGaN/GaN p-i-n solar cells under temperature and hydrostatic pressure effects. AIP Advances, 2019, 9, .	1.3	13
42	Nanofluid Heat Transfer in Wavy-Wall Channels with Different Geometries: A Finite-Volume Lattice Boltzmann Study. Journal of Scientific Computing, 2020, 83, 1.	2.3	13
43	Modeling the simultaneous effects of thermal and polarization in InGaN/GaN based high electron mobility transistors. Optik, 2020, 207, 163883.	2.9	11
44	Use of Biochar-Based Cathodes and Increase in the Electron Flow by Pseudomonas aeruginosa to Improve Waste Treatment in Microbial Fuel Cells. Processes, 2021, 9, 1941.	2.8	11
45	Design parameters optimization of an electrothermal flow biosensor for the SARS-CoV-2 S protein immunoassay. Indian Journal of Physics, 2022, 96, 4091-4101.	1.8	11
46	Evaluating the electrochemical and power performances of microbial fuel cells across physicalÂscales: A novel numerical approach. International Journal of Hydrogen Energy, 2019, 44, 4468-4475.	7.1	10
47	Multiscale methodology for microbial fuel cell performance analysis. International Journal of Hydrogen Energy, 2021, 46, 20280-20290.	7.1	10
48	Lattice Boltzmann simulations on the tumbling to tank-treading transition: effects of membrane viscosity. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200395.	3.4	10
49	Direct Numerical Simulation of SCR Reactors through Kinetic Approach. , 2016, , .		9
50	Modeling the impact of temperature effect and polarization phenomenon on InGaN/GaN-Multi-quantum well solar cells. Optik, 2019, 199, 163385.	2.9	9
51	Numerical Modeling of the Electronic and Electrical Characteristics of InGaN/GaN-MQW Solar Cells. Materials, 2019, 12, 1241.	2.9	9
52	Loading and relaxation dynamics of a red blood cell. Soft Matter, 2021, 17, 5978-5990.	2.7	9
53	On the effects of surface corrugation on the hydrodynamic performance of cylindrical rigid structures. European Physical Journal E, 2018, 41, 95.	1.6	8
54	Analyzing the impact of Saharan sand and dust storms based on HYSPLIT algorithm in Tunisian regions. Arabian Journal of Geosciences, 2021, 14, 1.	1.3	7

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55	Magnetically driven droplet break-up and vaporization: a lattice Boltzmann study. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P05010.	2.3	6
56	The magnetic field effect on the improvement of the binding reaction of C-reactive protein at the microfluidic channel surface of an SPR biosensor. European Physical Journal Plus, 2021, 136, 1.	2.6	6
57	Projecting LBM performance on Exascale class Architectures: A tentative outlook. Journal of Computational Science, 2021, 55, 101447.	2.9	6
58	Mesoscale perspective on the Tolman length. Physical Review E, 2022, 105, 015301.	2.1	6
59	Live reconstruction of global loads on a powerboat using local strain FBG measurements. Procedia Structural Integrity, 2019, 24, 949-960.	0.8	5
60	Identification and assessment of intense African dust events and contribution to PM10 concentration in Tunisia. European Physical Journal Plus, 2019, 134, 1.	2.6	5
61	A lumped parameter model for diesel soot morphology evaluation and emission control. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2012, 226, 987-998.	1.9	4
62	Multi-component Lattice Boltzmann simulation of the hydrodynamics in drip emitters. Journal of Agricultural Engineering, 2017, 48, 175.	1.5	4
63	Ligament break-up simulation through pseudo-potential lattice Boltzmann method. AIP Conference Proceedings, 2018, , .	0.4	4
64	Effect of Strain Measurement Layout on Damage Detection and Localization in a Free Falling Compliant Cylinder Impacting a Water Surface. Fluids, 2021, 6, 58.	1.7	4
65	Structure and isotropy of lattice pressure tensors for multirange potentials. Physical Review E, 2021, 103, 063309.	2.1	4
66	Direct Numerical Simulation of Flow Induced Cavitation in Orifices. SAE International Journal of Fuels and Lubricants, 2013, 6, 915-921.	0.2	3
67	Numerical simulation of water entry problems using open souce codes. AIP Conference Proceedings, 2018, , .	0.4	3
68	A critical assessment of PIV-based pressure reconstruction in water-entry problems. AIP Conference Proceedings, 2018, , .	0.4	3
69	Numerical and experimental study of asymmetric water impacts of wedge-shaped sections. AIP Conference Proceedings, 2018, , .	0.4	3
70	Simulating blood rheology across scales: A hybrid LB-particle approach. International Journal of Modern Physics C, 2019, 30, 1941003.	1.7	2
71	Environmental and Health Impact of Electric and Hydrogen Light Vehicles: The Case of an Italian Small City. , 0, , .		2
72	Comparison of enthalpy-porosity and lattice Boltzmann-phase field techniques for the simulation of the heat transfer and melting processes in LHTES devices. E3S Web of Conferences, 2021, 312, 01002.	0.5	2

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73	Analysis of Deformation in an Aluminium Hull Impacting Water Free Surface. Fluids, 2022, 7, 49.	1.7	2
74	Lattice Boltzmann Simulation of a Cavitating Diesel Injector Nozzle. , 0, , .		1
75	Lattice Boltzmann investigation of ferrofluid jet evolution in external magnetic fields. AIP Conference Proceedings, 2015, , .	0.4	1
76	Experimental assessment of the water entry of compliant cylindrical structures. AIP Conference Proceedings, 2018, , .	0.4	1
77	Multidimensional Modeling of SCR Systems via the Lattice Boltzmann Method. , 0, , .		1
78	Reply to: Models of flow through sponges must consider the sponge tissue. Nature, 2022, 603, E26-E28.	27.8	1
79	Lattice Boltzmann Simulation of Diesel Injection. , 2012, , .		0
80	Overview on ICNAAM 2017 Session on Hull Slamming and Water-Entry Problems. AIP Conference Proceedings, 2018, , .	0.4	0
81	Dynamic symmetry-breaking in mutually annihilating fluids with selective interfaces. Journal of Statistical Mechanics: Theory and Experiment, 2019, 2019, 083215.	2.3	0
82	LBM for 2D and 3D chemical reactors. Advances in Chemical Engineering, 2020, , 81-141.	0.9	0
83	Investigation of Saharan dust influence on PM10 concentration using two methods in GabÃ¨s, Tunisia. Arabian Journal of Geosciences, 2021, 14, 1.	1.3	0
84	Progress in mesoscale methods for fluid dynamics simulation. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200393.	3.4	0
85	Electrochemical and Power Performance of Microbial Fuel Cells: A Novel Numerical Approach. ECS Meeting Abstracts, 2016, , .	0.0	0