Pietro Asinari

List of Publications by Year in Descending Order

130 papers	3,013 citations	30 h-index	48 g-index
137 ext. papers	3,519 ext. citations	5.7 avg, IF	5.7 L-index

#	Paper	IF	Citations
130	Characterisation and modelling of water wicking and evaporation in capillary porous media for passive and energy-efficient applications. *Applied Thermal Engineering*, **2022**, 208, 118159	5.8	0
129	A Modeling-Based Design to Engineering Protein Hydrogels with Random Copolymers. *ACS Nano*, **2021**, 15, 16139-16148	16.7	5
128	Sustainable polyethylene fabrics with engineered moisture transport for passive cooling. *Nature Sustainability*, **2021**, 4, 715-724	22.1	28
127	Nanoscale thermal properties of carbon nanotubes/epoxy composites by atomistic simulations. *International Journal of Thermal Sciences*, **2021**, 159, 106588	4.1	13
126	Machine learning and materials modelling interpretation of toxicological response to TiO nanoparticles library (UV and non-UV exposure). *Nanoscale*, **2021**, 13, 14666-14678	7.7	2
125	Data-driven appraisal of renewable energy potentials for sustainable freshwater production in Africa. *Renewable and Sustainable Energy Reviews*, **2021**, 149, 111414	16.2	4
124	Integrated molecular dynamics and experimental approach to characterize low-free-energy perfluoro-decyl-acrylate (PFDA) coated silicon. *Materials and Design*, **2021**, 208, 109902	8.1	1
123	Deep-sea reverse osmosis desalination for energy efficient low salinity enhanced oil recovery. *Applied Energy*, **2021**, 304, 117661	10.7	1
122	Water dynamics affects thermal transport at the surface of hydrophobic and hydrophilic irradiated nanoparticles. *Nanoscale Advances*, **2020**, 2, 3181-3190	5.1	5
121	3 Modeling carbon-based smart materials **2020**, 33-80		1
120	Convective Heat Transfer Enhancement through Laser-Etched Heat Sinks: Elliptic Scale-Roughened and Cones Patterns. *Energies*, **2020**, 13, 1360	3.1	2
119	Wettability-Engineered Meshes for Gas Microvolume Precision Handling in Liquids. *ACS Applied Materials & Interfaces*, **2020**, 12, 18046-18055	9.5	5
118	Exergy analysis of solar desalination systems based on passive multi-effect membrane distillation. *Energy Reports*, **2020**, 6, 445-454	4.6	18
117	Multistage and passive cooling process driven by salinity difference. *Science Advances*, **2020**, 6, eaax5015	14.3	11
116	Numerical simulation of droplet impact on wettability-patterned surfaces. *Physical Review Fluids*, **2020**, 5,	2.8	12
115	Sustainable freshwater production using passive membrane distillation and waste heat recovery from portable generator sets. *Applied Energy*, **2020**, 258, 114086	10.7	23
114	Techno-Economic Analysis of a Solar Thermal Plant for Large-Scale Water Pasteurization. *Applied Sciences (Switzerland)*, **2020**, 10, 4771	2.6	5

113	Solar passive distiller with high productivity and Marangoni effect-driven salt rejection. *Energy and Environmental Science*, **2020**, 13, 3646-3655	35.4	26
112	Unfolding the prospects of computational (bio)materials modeling. *Journal of Chemical Physics*, **2020**, 153, 100901	3.9	4
111	From GROMACS to LAMMPS: GRO2LAM : A converter for molecular dynamics software. *Journal of Molecular Modeling*, **2019**, 25, 147	2	17
110	Can Wicking Control Droplet Cooling?. *Langmuir*, **2019**, 35, 6562-6570	4	10
109	Coffee-based colloids for direct solar absorption. *Scientific Reports*, **2019**, 9, 4701	4.9	19
108	Atomistic modelling of water transport and adsorption mechanisms in silicoaluminophosphate for thermal energy storage. *Applied Thermal Engineering*, **2019**, 160, 114075	5.8	18
107	Exploring the Free Energy Landscape To Predict the Surfactant Adsorption Isotherm at the Nanoparticle-Water Interface. *ACS Central Science*, **2019**, 5, 1804-1812	16.8	12
106	Multi-scale approach for modeling stability, aggregation, and network formation of nanoparticles suspended in aqueous solutions. *Nanoscale*, **2019**, 11, 3979-3992	7.7	18
105	Mechanistic correlation between water infiltration and framework hydrophilicity in MFI zeolites. *Scientific Reports*, **2019**, 9, 18429	4.9	3
104	Water/Ethanol and 13X Zeolite Pairs for Long-Term Thermal Energy Storage at Ambient Pressure. *Frontiers in Energy Research*, **2019**, 7,	3.8	5
103	Thermally triggered nanorocket from double-walled carbon nanotube in water. *Molecular Simulation*, **2019**, 45, 417-424	2	5
102	Mesoscopic Moment Equations for Heat Conduction: Characteristic Features and Slow-Fast Mode Decomposition. *Entropy*, **2018**, 20,	2.8	6
101	Effect of interfacial thermal resistance and nanolayer on estimates of effective thermal conductivity of nanofluids. *Case Studies in Thermal Engineering*, **2018**, 12, 454-461	5.6	11
100	Multiple-Regression Method for Fast Estimation of Solar Irradiation and Photovoltaic Energy Potentials over Europe and Africa. *Energies*, **2018**, 11, 3477	3.1	12
99	Dissipative particle dynamics simulations of tri-block co-polymer and water: Phase diagram validation and microstructure identification. *Journal of Chemical Physics*, **2018**, 149, 184903	3.9	19
98	Passive solar high-yield seawater desalination by modular and low-cost distillation. *Nature Sustainability*, **2018**, 1, 763-772	22.1	147
97	A robust lattice Boltzmann method for parallel simulations of multicomponent flows in complex geometries. *Computers and Fluids*, **2017**, 153, 20-33	2.8	6
96	Thermal transport across nanoparticle-fluid interfaces: the interplay of interfacial curvature and nanoparticle-fluid interactions. *Physical Chemistry Chemical Physics*, **2017**, 19, 3244-3253	3.6	39

95	Multiscale simulation approach to heat and mass transfer properties of nanostructured materials for sorption heat storage. *Energy Procedia*, **2017**, 126, 509-516	2.3	8
94	Pore- and macro-scale simulations of high temperature proton exchange fuel cells HTPEMFC and possible strategies for enhancing durability. *International Journal of Hydrogen Energy*, **2017**, 42, 26730-26743	4.7	8
93	Efficient steam generation by inexpensive narrow gap evaporation device for solar applications. *Scientific Reports*, **2017**, 7, 11970	4.9	29
92	Nonequilibrium molecular dynamics simulations of nanoconfined fluids at solid-liquid interfaces. *Journal of Chemical Physics*, **2017**, 146, 244507	3.9	25
91	European Materials Modelling Council. *Minerals, Metals and Materials Series*, **2017**, 79-92	0.3	
90	Overview of the entropy production of incompressible and compressible fluid dynamics. *Meccanica*, **2016**, 51, 1245-1255	2.1	1
89	Thermal link-wise artificial compressibility method: GPU implementation and validation of a double-population model. *Computers and Mathematics With Applications*, **2016**, 72, 375-385	2.7	10
88	Interplay between hydrophilicity and surface barriers on water transport in zeolite membranes. *Nature Communications*, **2016**, 7, 12762	17.4	64
87	Thermal transport phenomena in nanoparticle suspensions. *Journal of Physics Condensed Matter*, **2016**, 28, 483003	1.8	40
86	Interfacial water thickness at inorganic nanoconstructs and biomolecules: Size matters. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2016**, 380, 1735-1740	2.3	20
85	Estimating photovoltaic energy potential from a minimal set of randomly sampled data. *Renewable Energy*, **2016**, 97, 457-467	8.1	11
84	Convective Heat Transfer Enhancement for Electronic Device Applications Using Patterned MWCNTs Structures. *Heat Transfer Engineering*, **2016**, 37, 783-790	1.7	4
83	Passive heat transfer enhancement by 3D printed Pitot tube based heat sink. *International Communications in Heat and Mass Transfer*, **2016**, 74, 36-39	5.8	27
82	A review on the heat and mass transfer phenomena in nanofluid coolants with special focus on automotive applications. *Renewable and Sustainable Energy Reviews*, **2016**, 60, 1615-1633	16.2	76
81	Integrated receivers with bottom subcooling for automotive air conditioning: Detailed experimental study of their filling capacity. *International Journal of Refrigeration*, **2016**, 62, 72-84	3.8	2
80	Convective heat transfer enhancement by diamond shaped micro-protruded patterns for heat sinks: Thermal fluid dynamic investigation and novel optimization methodology. *Applied Thermal Engineering*, **2016**, 93, 1254-1263	5.8	12
79	A Kinetic Perspective on k- Turbulence Model and Corresponding Entropy Production. *Entropy*, **2016**, 18, 121	2.8	9
78	Unshrouded Plate Fin Heat Sinks for Electronics Cooling: Validation of a Comprehensive Thermal Model and Cost Optimization in Semi-Active Configuration. *Energies*, **2016**, 9, 608	3.1	6

77	Multiscale Computational Fluid Dynamics Methodology for Predicting Thermal Performance of Compact Heat Exchangers. *Journal of Heat Transfer*, **2016**, 138,	1.8	2
76	Installation of a Concentrated Solar Power System for the Thermal Needs of Buildings or Industrial Processes. *Energy Procedia*, **2016**, 101, 956-963	2.3	8
75	Protocols for atomistic modeling of water uptake into zeolite crystals for thermal storage and other applications. *Applied Thermal Engineering*, **2016**, 101, 762-769	5.8	19
74	Towards a Multiscale Simulation Approach of Nanofluids for Volumetric Solar Receivers: Assessing Inter-particle Potential Energy. *Energy Procedia*, **2016**, 91, 3-10	2.3	7
73	Carbon-Nanohorn Based Nanofluids for a Direct Absorption Solar Collector for Civil Application. *Journal of Nanoscience and Nanotechnology*, **2015**, 15, 3488-95	1.3	41
72	Cave spiders choose optimal environmental factors with respect to the generated entropy when laying their cocoon. *Scientific Reports*, **2015**, 5, 7611	4.9	12
71	Enhancement of electrical and thermal conductivity of Su-8 photocrosslinked coatings containing graphene. *Progress in Organic Coatings*, **2015**, 86, 143-146	4.8	21
70	Thermal transmittance of carbon nanotube networks: Guidelines for novel thermal storage systems and polymeric material of thermal interest. *Renewable and Sustainable Energy Reviews*, **2015**, 41, 1028-1036	16.2	29
69	Solar energy potential assessment: An overview and a fast modeling approach with application to Italy. *Renewable and Sustainable Energy Reviews*, **2015**, 49, 291-296	16.2	15
68	Gas-dynamic and electro-chemical optimization of catalyst layers in high temperature polymeric electrolyte membrane fuel cells. *International Journal of Hydrogen Energy*, **2015**, 40, 5425-5431	6.7	12
67	Scaling behaviour for the water transport in nanoconfined geometries. *Nature Communications*, **2014**, 5, 4565	17.4	111
66	Hierarchically-Structured Magnetic Nanoconstructs with Enhanced Relaxivity and Cooperative Tumor Accumulation. *Advanced Functional Materials*, **2014**, 24, 4584-4594	15.6	44
65	Rough surfaces with enhanced heat transfer for electronics cooling by direct metal laser sintering. *International Journal of Heat and Mass Transfer*, **2014**, 75, 58-74	4.9	114
64	High-performance implementations and large-scale validation of the link-wise artificial compressibility method. *Journal of Computational Physics*, **2014**, 275, 143-153	4.1	13
63	Lattice-Boltzmann simulations of the thermally driven 2D square cavity at high Rayleigh numbers. *Journal of Computational Physics*, **2014**, 275, 257-272	4.1	73
62	A sensor for direct measurement of small convective heat fluxes: Validation and application to micro-structured surfaces. *Experimental Thermal and Fluid Science*, **2014**, 55, 42-53	3	19
61	Pore-scale modeling of fluid flow through gas diffusion and catalyst layers for high temperature proton exchange membrane (HT-PEM) fuel cells. *Computers and Mathematics With Applications*, **2014**, 67, 393-411	2.7	47
60	Analysis of Conduction-Radiation Heat Transfer in a 2D Enclosure Using the Lattice Boltzmann Method. *Numerical Heat Transfer; Part A: Applications*, **2014**, 66, 669-688	2.3	23

59	The notion of energy through multiple scales: From a molecular level to fluid flows and beyond. *Energy*, **2014**, 68, 870-876	7.9	5
58	Micro-structured rough surfaces by laser etching for heat transfer enhancement on flush mounted heat sinks. *Journal of Physics: Conference Series*, **2014**, 525, 012017	0.3	14
57	Heat Transfer Enhancement by Finned Heat Sinks with Micro-structured Roughness. *Journal of Physics: Conference Series*, **2014**, 494, 012009	0.3	8
56	Lattice Boltzmann scheme for electrolytes by an extended Maxwell-Stefan approach. *Physical Review E*, **2014**, 89, 053310	2.4	11
55	Magnetic Nanoparticles: Hierarchically Structured Magnetic Nanoconstructs with Enhanced Relaxivity and Cooperative Tumor Accumulation (Adv. Funct. Mater. 29/2014). *Advanced Functional Materials*, **2014**, 24, 4562-4562	15.6	
54	Water transport control in carbon nanotube arrays. *Nanoscale Research Letters*, **2014**, 9, 559	5	67
53	Inference of analytical thermodynamic models for biological networks. *Physica A: Statistical Mechanics and Its Applications*, **2013**, 392, 1122-1132	3.3	9
52	Louver Finned Heat Exchangers for Automotive Sector: Numerical Simulations of Heat Transfer and Flow Resistance Coping With Industrial Constraints. *Journal of Heat Transfer*, **2013**, 135,	1.8	9
51	An open-source library for the numerical modeling of mass-transfer in solid oxide fuel cells. *Computer Physics Communications*, **2012**, 183, 125-146	4.2	26
50	Warm cascade states in a forced-dissipated Boltzmann gas of hard spheres. *Physica D: Nonlinear Phenomena*, **2012**, 241, 600-615	3.3	4
49	Link-wise artificial compressibility method. *Journal of Computational Physics*, **2012**, 231, 5109-5143	4.1	47
48	Lattice Boltzmann model for reactive flow simulations. *Europhysics Letters*, **2012**, 98, 34001	1.6	21
47	Quadrature-based moment closures for non-equilibrium flows: Hard-sphere collisions and approach to equilibrium. *Journal of Computational Physics*, **2012**, 231, 7431-7449	4.1	7
46	A lattice Boltzmann model for diffusion of binary gas mixtures that includes diffusion slip. *International Journal for Numerical Methods in Fluids*, **2012**, 69, 171-189	1.9	18
45	Fast computation of multi-scale combustion systems. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2011**, 369, 2396-404	3	2
44	Matrix lattice Boltzmann reloaded. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2011**, 369, 2202-10	3	6
43	Scalable methodology for the photovoltaic solar energy potential assessment based on available roof surface area: Further improvements by ortho-image analysis and application to Turin (Italy). *Solar Energy*, **2011**, 85, 2741-2756	6.8	57
42	Enhancing surface heat transfer by carbon nanofins: towards an alternative to nanofluids?. *Nanoscale Research Letters*, **2011**, 6, 249	5	21

41	Improved angular discretization and error analysis of the lattice Boltzmann method for solving radiative heat transfer in a participating medium. *International Journal of Numerical Methods for Heat and Fluid Flow*, **2011**, 21, 640-662	4.5	32
40	Artificial compressibility method and lattice Boltzmann method: Similarities and differences. *Computers and Mathematics With Applications*, **2011**, 61, 3461-3474	2.7	17
39	Scalable methodology for the photovoltaic solar energy potential assessment based on available roof surface area: Application to Piedmont Region (Italy). *Solar Energy*, **2011**, 85, 1041-1055	6.8	118
38	Warm turbulence in the Boltzmann equation. *Europhysics Letters*, **2011**, 96, 24004	1.6	2
37	Three ways to lattice Boltzmann: a unified time-marching picture. *Physical Review E*, **2010**, 81, 016311	2.4	26
36	Quasiequilibrium lattice Boltzmann models with tunable bulk viscosity for enhancing stability. *Physical Review E*, **2010**, 81, 016702	2.4	24
35	A Lattice Boltzmann Formulation for the Analysis of Radiative Heat Transfer Problems in a Participating Medium. *Numerical Heat Transfer, Part B: Fundamentals*, **2010**, 57, 126-146	1.3	83
34	Factorization symmetry in the lattice Boltzmann method. *Physica A: Statistical Mechanics and Its Applications*, **2010**, 389, 1530-1548	3.3	55
33	Porous-layer model for laminar liquid flow in rough microchannels. *Microfluidics and Nanofluidics*, **2010**, 9, 1063-1075	2.8	5
32	Artificial compressibility method revisited: Asymptotic numerical method for incompressible Navier-Stokes equations. *Journal of Computational Physics*, **2010**, 229, 1698-1723	4.1	49
31	Nonlinear Boltzmann equation for the homogeneous isotropic case: Minimal deterministic Matlab program. *Computer Physics Communications*, **2010**, 181, 1776-1788	4.2	6
30	Reconstruction and modeling of 3D percolation networks of carbon fillers in a polymer matrix. *International Journal of Thermal Sciences*, **2010**, 49, 2272-2281	4.1	22
29	Lattice Boltzmann scheme for mixture modeling: analysis of the continuum diffusion regimes recovering Maxwell-Stefan model and incompressible Navier-Stokes equations. *Physical Review E*, **2009**, 80, 056701	2.4	17
28	Generalized Maxwell state and H theorem for computing fluid flows using the lattice Boltzmann method. *Physical Review E*, **2009**, 79, 036703	2.4	24
27	Lattice Boltzmann equation for microscale gas flows of binary mixtures. *Physical Review E*, **2009**, 79, 026702	2.4	24
26	Performances and Degradation Phenomena of Solid Oxide Anode Supported Cells With LSM and LSCF Cathodes: An Experimental Assessment. *Journal of Fuel Cell Science and Technology*, **2009**, 6,		6
25	Microstructural characterization of solid oxide fuel cell electrodes by image analysis technique. *Journal of Power Sources*, **2009**, 194, 408-422	8.9	48
24	Lattice Boltzmann simulations of 2D laminar flows past two tandem cylinders. *Journal of Computational Physics*, **2009**, 228, 983-999	4.1	60

23	Connection between kinetic methods for fluid-dynamic equations and macroscopic finite-difference schemes. *Computers and Mathematics With Applications*, **2009**, 58, 841-861	2.7	24
22	Polarization Analysis and Microstructural Characterization of SOFC Anode and Electrolyte Supported Cells. *ECS Transactions*, **2008**, 12, 343-353	1	1
21	Analysis of a Localized Fire in a 3-D Tunnel Using a Hybrid Solver: Lattice Boltzmann Method, Finite-Volume Method, and Fully Explicit Upwind Scheme. *Numerical Heat Transfer; Part A: Applications*, **2008**, 53, 392-417	2.3	14
20	Multiple-relaxation-time lattice Boltzmann scheme for homogeneous mixture flows with external force. *Physical Review E*, **2008**, 77, 056706	2.4	24
19	Generalized local equilibrium in the cascaded lattice Boltzmann method. *Physical Review E*, **2008**, 78, 016701	2.4	69
18	Asymptotic analysis of multiple-relaxation-time lattice Boltzmann schemes for mixture modeling. *Computers and Mathematics With Applications*, **2008**, 55, 1392-1407	2.7	20
17	A consistent lattice Boltzmann equation with baroclinic coupling for mixtures. *Journal of Computational Physics*, **2008**, 227, 3878-3895	4.1	30
16	Experimental investigations of the microscopic features and polarization limiting factors of planar SOFCs with LSM and LSCF cathodes. *Journal of Power Sources*, **2008**, 177, 111-122	8.9	45
15	Glass and composite seals for the joining of YSZ to metallic interconnect in solid oxide fuel cells. *Journal of the European Ceramic Society*, **2008**, 28, 611-616	6	62
14	Characterization and performance of glass–ceramic sealant to join metallic interconnects to YSZ and anode-supported-electrolyte in planar SOFCs. *Journal of the European Ceramic Society*, **2008**, 28, 2521-2527	6	58
13	Experimental evaluation of the operating temperature impact on solid oxide anode-supported fuel cells. *International Journal of Hydrogen Energy*, **2008**, 33, 3167-3172	6.7	13
12	Direct numerical calculation of the kinematic tortuosity of reactive mixture flow in the anode layer of solid oxide fuel cells by the lattice Boltzmann method. *Journal of Power Sources*, **2007**, 170, 359-375	8.9	66
11	3D Microstructure Reconstructions of Solid Oxide and Proton Exchange Membrane Fuel Cell Electrodes With Applications to Numerical Simulations of Reacting Mixture Flows Using LBM **2007**, 643		0
10	Numerical Simulations of Reactive Mixture Flow in the Anode Layer of Solid Oxide Fuel Cells by the Lattice Boltzmann Method **2006**, 221		1
9	Semi-implicit-linearized multiple-relaxation-time formulation of lattice Boltzmann schemes for mixture modeling. *Physical Review E*, **2006**, 73, 056705	2.4	45
8	Numerical prediction of turbulent convective heat transfer in mini/micro channels for carbon dioxide at supercritical pressure. *International Journal of Heat and Mass Transfer*, **2005**, 48, 3864-3879	4.9	27
7	Viscous coupling based lattice Boltzmann model for binary mixtures. *Physics of Fluids*, **2005**, 17, 067102	4.4	35
6	Numerical Simulations of Gaseous Mixture Flow in Porous Electrodes for PEM Fuel Cells by the Lattice Boltzmann Method **2005**,		2

5	Influence of Porous Electrode Structure on PEM Fuel Cells Design and Performance **2004**, 291		2
4	Effects of thermal conduction in microchannel gas coolers for carbon dioxide. *International Journal of Refrigeration*, **2004**, 27, 577-586	3.8	33
3	FINITE-VOLUME AND FINITE-ELEMENT HYBRID TECHNIQUE FOR THE CALCULATION OF COMPLEX HEAT EXCHANGERS BY SEMIEXPLICIT METHOD FOR WALL TEMPERATURE LINKED EQUATIONS (SEWTLE). *Numerical Heat Transfer, Part B: Fundamentals*, **2004**, 45, 221-247	1.3	7
2	A Roadmap for Transforming Research to Invent the Batteries of the Future Designed within the European Large Scale Research Initiative BATTERY 2030+. *Advanced Energy Materials*,2102785	21.8	10
1	Textured and Rigid Capillary Materials for Passive Energy-Conversion Devices. *Advanced Materials Interfaces*,2200057	4.6	0