Frdric Kuznik

List of Publications by Year in Descending Order

91 papers	3,894 citations	30 h-index	61 g-index
99 ext. papers	4,479 ext. citations	5.6 avg, IF	5.82 L-index

#	Paper	IF	Citations
91	Thermodynamic equilibrium and kinetic study of lanthanum chloride heptahydrate dehydration for thermal energy storage. *Journal of Energy Storage*, **2022**, 48, 103562	7.8	0
90	Magnetohydrodynamic blood flow study in stenotic coronary artery using lattice Boltzmann method.. *Computer Methods and Programs in Biomedicine*, **2022**, 221, 106850	6.9	2
89	Calculation of heating and cooling energy loads at the district scale: Development of MoDEM, a modular and technologically explicit platform. *Sustainable Cities and Society*, **2022**, 103901	10.1	
88	A reality check on long-term thermochemical heat storage for household applications. *Renewable and Sustainable Energy Reviews*, **2021**, 139, 110683	16.2	18
87	Numerical Study of Thermal Diffusion and Diffusion Thermo Effects in a Differentially Heated and Salted Driven Cavity Using MRT-Lattice Boltzmann Finite Difference Model. *International Journal of Applied Mechanics*, **2021**, 13, 2150049	2.4	5
86	Artificial Neural Network Simulation of Energetic Performance for Sorption Thermal Energy Storage Reactors. *Energies*, **2021**, 14, 3294	3.1	
85	Integrating phase change materials in thermal energy storage systems for buildings **2021**, 381-422		0
84	Thermal energy storage for space heating and domestic hot water in individual residential buildings **2021**, 567-594		2
83	Detailed airflow dynamics and temperature data of axisymmetric and anisothermal jets developing in a room. *Data in Brief*, **2020**, 29, 105382	1.2	0
82	New kinetic model of the dehydration reaction of magnesium sulfate hexahydrate: Application for heat storage. *Thermochimica Acta*, **2020**, 687, 178569	2.9	11
81	Thermodynamic Efficiency of Water Vapor/Solid Chemical Sorption Heat Storage for Buildings: Theoretical Limits and Integration Considerations. *Applied Sciences (Switzerland)*, **2020**, 10, 489	2.6	5
80	Sensitivity analysis of a zeolite energy storage model: Impact of parameters on heat storage density and discharge power density. *Renewable Energy*, **2020**, 149, 468-478	8.1	4
79	Fast and accurate district heating and cooling energy demand and load calculations using reduced-order modelling. *Applied Energy*, **2019**, 238, 963-971	10.7	15
78	On the impact of local microclimate on building performance simulation. Part I: Prediction of building external conditions. *Building Simulation*, **2019**, 12, 735-746	3.9	4
77	On the impact of local microclimate on building performance simulation. Part II: Effect of external conditions on the dynamic thermal behavior of buildings. *Building Simulation*, **2019**, 12, 747-757	3.9	7
76	A full-scale experimental study concerning the moisture condensation on building glazing surface. *Building and Environment*, **2019**, 156, 215-224	6.5	8
75	Numerical modelling and investigations on a full-scale zeolite 13X open heat storage for buildings. *Renewable Energy*, **2019**, 132, 761-772	8.1	13

74	Modeling the heating and cooling energy demand of urban buildings at city scale. *Renewable and Sustainable Energy Reviews*, **2018**, 81, 2318-2327	16.2	83
73	Energy Storage by Adsorption Technology for Building **2018**, 1-27		1
72	Energy Storage by Adsorption Technology for Building **2018**, 1025-1051		1
71	Energy Storage by Adsorption Technology for Building **2018**, 1-27		
70	Derivation of generic typologies for microscale urban airflow studies. *Sustainable Cities and Society*, **2018**, 36, 71-80	10.1	15
69	Experimental investigation on thermal behavior and reduction of energy consumption in a real scale building by using phase change materials on its envelope. *Sustainable Cities and Society*, **2018**, 41, 35-43	10.1	27
68	A review on recent developments in physisorption thermal energy storage for building applications. *Renewable and Sustainable Energy Reviews*, **2018**, 94, 576-586	16.2	39
67	Quantification of the natural convection perturbations on differential scanning calorimetry measurements of PCMs. *Thermochimica Acta*, **2017**, 655, 145-154	2.9	3
66	Adaptation of building envelope models for energy simulation at district scale. *Energy Procedia*, **2017**, 122, 307-312	2.3	6
65	Thermodynamic study of MgSO4 H2O system dehydration at low pressure in view of heat storage. *Thermochimica Acta*, **2017**, 656, 135-143	2.9	24
64	Storage of thermal solar energy. *Comptes Rendus Physique*, **2017**, 18, 401-414	1.4	52
63	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
62	Thermal synthesis of a thermochemical heat storage with heat exchanger optimization. *Applied Thermal Engineering*, **2016**, 101, 669-677	5.8	17
61	Hybrid LBM-MRT model coupled with finite difference method for double-diffusive mixed convection in rectangular enclosure with insulated moving lid. *Physica A: Statistical Mechanics and Its Applications*, **2016**, 444, 311-326	3.3	26
60	Experimental investigation of natural convection near a wall containing phase change material. *International Journal of Thermal Sciences*, **2016**, 104, 281-291	4.1	8
59	IEA SHC Task 42 / ECES Annex 29 Working Group B: Applications of Compact Thermal Energy Storage. *Energy Procedia*, **2016**, 91, 231-245	2.3	13
58	Chemisorption heat storage in buildings: State-of-the-art and outlook. *Energy and Buildings*, **2015**, 106, 183-191	7	19
57	Studying the evolution of both thermal and kinetic boundary layers in the vicinity of a vertical conductive gypsum plate under dynamic time-depending conditions at the building scale. *Energy and Buildings*, **2015**, 86, 898-908	7	4

56	Design of a PCM to air heat exchanger using dimensionless analysis: Application to electricity peak shaving in buildings. *Energy and Buildings*, **2015**, 106, 65-73	7	24
55	Hybrid thermal link-wise artificial compressibility method. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2015**, 379, 2224-2229	2.3	3
54	Thermal conductivity measurement of thermochemical storage materials. *Applied Thermal Engineering*, **2015**, 89, 916-926	5.8	36
53	Numerical analysis of truncation error, consistency, and axis boundary condition for axis-symmetric flow simulations via the radius weighted lattice Boltzmann model. *Computers and Fluids*, **2015**, 116, 46-59	2.8	4
52	Design and characterisation of a high powered energy dense zeolite thermal energy storage system for buildings. *Applied Energy*, **2015**, 159, 80-86	10.7	78
51	Phase change material wall optimization for heating using metamodeling. *Energy and Buildings*, **2015**, 106, 216-224	7	27
50	Simulation of the thermal and energy behaviour of a composite material containing encapsulated-PCM: Influence of the thermodynamical modelling. *Applied Energy*, **2015**, 140, 269-274	10.7	48
49	An adapted steady RANS RSM wall-function for building external convection. *Building and Environment*, **2015**, 94, 654-664	6.5	0
48	Numerical Simulation of Melting with Natural Convection Based on Lattice Boltzmann Method and Performed with CUDA Enabled GPU. *Communications in Computational Physics*, **2015**, 17, 1201-1224	2.4	7
47	Performance Evaluation of an OpenCL Implementation of the Lattice Boltzmann Method on the Intel Xeon Phi. *Parallel Processing Letters*, **2015**, 25, 1541001	0.3	2
46	Thermal decomposition kinetic of salt hydrates for heat storage systems. *Applied Energy*, **2015**, 154, 447-458	10.7	51
45	Performance analysis of a thermochemical based heat storage as an addition to cogeneration systems. *Energy Conversion and Management*, **2015**, 106, 1327-1344	10.6	32
44	Towards aeraulic simulations at urban scale using the lattice Boltzmann method. *Environmental Fluid Mechanics*, **2015**, 15, 753-770	2.2	20
43	Lattice Boltzmann Simulation of Mixed Convection Heat Transfer in a Driven Cavity with Non-uniform Heating of the Bottom Wall. *Communications in Theoretical Physics*, **2015**, 63, 91-100	2.4	15
42	Modeling phase change materials behavior in building applications: Comments on material characterization and model validation. *Renewable Energy*, **2014**, 61, 132-135	8.1	60
41	Development and validation of a new LBM-MRT hybrid model with enthalpy formulation for melting with natural convection. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2014**, 378, 374-381	2.3	18
40	Decomposition and coupling of soil domain for modeling vertical ground heat exchangers using the state model size reduction technique. *Applied Thermal Engineering*, **2014**, 69, 155-164	5.8	6
39	Optimizing energy and environmental performance of passive Trombe wall. *Energy and Buildings*, **2014**, 70, 279-286	7	82

38	Specification requirements for inter-seasonal heat storage systems in a low energy residential house. *Energy Conversion and Management*, **2014**, 77, 628-636	10.6	13
37	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
36	Sensitivity Analysis of the Energy Density in a Thermo Chemical Heat Storage Device. *Energy Procedia*, **2014**, 48, 405-412	2.3	5
35	Hybrid lattice Boltzmann finite difference simulation of mixed convection flows in a lid-driven square cavity. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2014**, 378, 2429-2435	2.3	22
34	Inter-seasonal Heat Storage in Low Energy House: From Requirements to TESS Specifications. *Energy Procedia*, **2014**, 57, 2399-2407	2.3	1
33	Modelling of Heat Exchangers Based on Thermochemical Material for Solar Heat Storage Systems. *Energy Procedia*, **2014**, 61, 2809-2813	2.3	8
32	A Review on Chemisorption Heat Storage in Low-energy Buildings. *Energy Procedia*, **2014**, 57, 2333-2341	2.3	9
31	Interpretation of calorimetry experiments to characterise phase change materials. *International Journal of Thermal Sciences*, **2014**, 78, 48-55	4.1	39
30	Multi-GPU implementation of a hybrid thermal lattice Boltzmann solver using the TheLMA framework. *Computers and Fluids*, **2013**, 80, 269-275	2.8	15
29	Phase-change materials to improve solar panel's performance. *Energy and Buildings*, **2013**, 62, 59-67	7	201
28	Scalable lattice Boltzmann solvers for CUDA GPU clusters. *Parallel Computing*, **2013**, 39, 259-270	1	41
27	Numerical modeling and experimental validation of a PCM to air heat exchanger. *Energy and Buildings*, **2013**, 64, 415-422	7	43
26	Melting with convection and radiation in a participating phase change material. *Applied Energy*, **2013**, 109, 454-461	10.7	26
25	Multi-GPU implementation of the lattice Boltzmann method. *Computers and Mathematics With Applications*, **2013**, 65, 252-261	2.7	73
24	Efficient GPU implementation of the linearly interpolated bounce-back boundary condition. *Computers and Mathematics With Applications*, **2013**, 65, 936-944	2.7	6
23	The TheLMA project: A thermal lattice Boltzmann solver for the GPU. *Computers and Fluids*, **2012**, 54, 118-126	2.8	17
22	Experimental Study of Turbulent Structures in a Non Isothermal Horizontal Jet Issuing from a Round Nozzle Distanced from a Wall. *International Journal of Ventilation*, **2011**, 10, 277-290	1.1	3
21	Numerical study of the influence of the convective heat transfer on the dynamical behaviour of a phase change material wall. *Applied Thermal Engineering*, **2011**, 31, 3117-3124	5.8	42

20	Numerical modelling of combined heat transfers in a double skin façade – Full-scale laboratory experiment validation. *Applied Thermal Engineering*, **2011**, 31, 3043-3054	5.8	37
19	A new approach to the lattice Boltzmann method for graphics processing units. *Computers and Mathematics With Applications*, **2011**, 61, 3628-3638	2.7	92
18	In-situ study of thermal comfort enhancement in a renovated building equipped with phase change material wallboard. *Renewable Energy*, **2011**, 36, 1458-1462	8.1	141
17	A review on phase change materials integrated in building walls. *Renewable and Sustainable Energy Reviews*, **2011**, 15, 379-391	16.2	669
16	Development and characterisation of a new $MgSO_4$-zeolite composite for long-term thermal energy storage. *Solar Energy Materials and Solar Cells*, **2011**, 95, 1831-1837	6.4	196
15	The TheLMA project: Multi-GPU implementation of the lattice Boltzmann method. *International Journal of High Performance Computing Applications*, **2011**, 25, 295-303	1.8	13
14	Evaluation of Thermal Energy Storage Potential in Low-Energy Buildings in France **2011**,		8
13	Global Memory Access Modelling for Efficient Implementation of the Lattice Boltzmann Method on Graphics Processing Units. *Lecture Notes in Computer Science*, **2011**, 151-161	0.9	3
12	Experimental study of a mechanically ventilated double-skin façade with venetian sun-shading device: A full-scale investigation in controlled environment. *Solar Energy*, **2010**, 84, 183-195	6.8	34
11	Numerical modelling of geothermal vertical heat exchangers for the short time analysis using the state model size reduction technique. *Applied Thermal Engineering*, **2010**, 30, 706-714	5.8	40
10	LBM based flow simulation using GPU computing processor. *Computers and Mathematics With Applications*, **2010**, 59, 2380-2392	2.7	134
9	Development and validation of a new TRNSYS type for the simulation of external building walls containing PCM. *Energy and Buildings*, **2010**, 42, 1004-1009	7	104
8	Experimental assessment of a phase change material for wall building use. *Applied Energy*, **2009**, 86, 2038-2046	6.2	287
7	Evaluation of thermal comfort using combined CFD and experimentation study in a test room equipped with a cooling ceiling. *Building and Environment*, **2009**, 44, 1740-1750	6.5	133
6	A second order turbulence model for the prediction of air movement and heat transfer in a ventilated room. *Building Simulation*, **2008**, 1, 72-82	3.9	5
5	Optimization of a phase change material wallboard for building use. *Applied Thermal Engineering*, **2008**, 28, 1291-1298	5.8	196
4	Energetic efficiency of room wall containing PCM wallboard: A full-scale experimental investigation. *Energy and Buildings*, **2008**, 40, 148-156	7	214
3	Experimental and numerical study of a full scale ventilated enclosure: Comparison of four two equations closure turbulence models. *Building and Environment*, **2007**, 42, 1043-1053	6.5	47

2	Use of a RSM Turbulence Model for the Prediction of Velocity and Temperature Fields in a Mechanically Ventilated Room. *International Journal of Ventilation*, **2007**, 6, 157-166	1.1	
1	Experimental and numerical study of a mechanically ventilated enclosure with thermal effects. *Energy and Buildings*, **2006**, 38, 931-938	7	7