

# Rafik Belarbi

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

88  
papers

2,049  
citations

26  
h-index

43  
g-index

92  
ext. papers

2,431  
ext. citations

4.7  
avg, IF

5.31  
L-index

#	Paper	IF	Citations
88	A comprehensive study of the impact of green roofs on building energy performance. <i>Renewable Energy</i> , <b>2012</b> , 43, 157-164	8.1	294
87	Assessment of green roof thermal behavior: A coupled heat and mass transfer model. <i>Building and Environment</i> , <b>2011</b> , 46, 2624-2631	6.5	124
86	Coupled heat and moisture transfer in multi-layer building materials. <i>Construction and Building Materials</i> , <b>2009</b> , 23, 967-975	6.7	101
85	Characterization of green roof components: Measurements of thermal and hydrological properties. <i>Building and Environment</i> , <b>2012</b> , 56, 78-85	6.5	66
84	Analysis of thermal effects of vegetated envelopes: Integration of a validated model in a building energy simulation program. <i>Energy and Buildings</i> , <b>2015</b> , 86, 93-103	7	65
83	Effect of bacteria on strength, permeation characteristics and micro-structure of silica fume concrete. <i>Construction and Building Materials</i> , <b>2017</b> , 142, 92-100	6.7	63
82	Experimental investigation of the variability of concrete durability properties. <i>Cement and Concrete Research</i> , <b>2013</b> , 45, 21-36	10.3	63
81	Experimental and numerical investigation of urban street canyons to evaluate the impact of green roof inside and outside buildings. <i>Applied Energy</i> , <b>2014</b> , 114, 273-282	10.7	61
80	Investigation of factors affecting condensation on soiled PV modules. <i>Solar Energy</i> , <b>2018</b> , 159, 488-500	6.8	61
79	Development and validation of a coupled heat and mass transfer model for green roofs. <i>International Communications in Heat and Mass Transfer</i> , <b>2012</b> , 39, 752-761	5.8	51
78	Fly ash and ground granulated blast furnace slag-based alkali-activated concrete: Mechanical, transport and microstructural properties. <i>Construction and Building Materials</i> , <b>2020</b> , 257, 119548	6.7	49
77	Comparative investigation on the influence of spent foundry sand as partial replacement of fine aggregates on the properties of two grades of concrete. <i>Construction and Building Materials</i> , <b>2015</b> , 83, 216-222	6.7	48
76	Dynamic control and advanced load management of a stand-alone hybrid renewable power system for remote housing. <i>Energy Conversion and Management</i> , <b>2015</b> , 105, 377-392	10.6	47
75	Simulation of whole building coupled hygrothermal-airflow transfer in different climates. <i>Energy Conversion and Management</i> , <b>2011</b> , 52, 1470-1478	10.6	46
74	Modeling of water spray evaporation: Application to passive cooling of buildings. <i>Solar Energy</i> , <b>2006</b> , 80, 1540-1552	6.8	46
73	Experimental and theoretical investigation of non-isothermal transfer in hygroscopic building materials. <i>Building and Environment</i> , <b>2008</b> , 43, 2154-2162	6.5	42
72	Experimental study of green walls impacts on buildings in summer and winter under an oceanic climate. <i>Energy and Buildings</i> , <b>2017</b> , 150, 403-411	7	40

71	Simulation of coupled heat and moisture transfer in air-conditioned buildings. <i>Automation in Construction</i> , <b>2009</b> , 18, 624-631	9.6	40
70	An analytical method to calculate the coupled heat and moisture transfer in building materials. <i>International Communications in Heat and Mass Transfer</i> , <b>2006</b> , 33, 39-48	5.8	39
69	Experimental study of the urban microclimate mitigation potential of green roofs and green walls in street canyons. <i>International Journal of Low-Carbon Technologies</i> , <b>2015</b> , 10, 34-44	2.8	38
68	Modeling green wall interactions with street canyons for building energy simulation in urban context. <i>Urban Climate</i> , <b>2016</b> , 16, 75-85	6.8	38
67	Nonisothermal moisture transport in hygroscopic building materials: modeling for the determination of moisture transport coefficients. <i>Transport in Porous Media</i> , <b>2008</b> , 72, 255-271	3.1	33
66	Modelling solar effects on the heat and mass transfer in a street canyon, a simplified approach. <i>Solar Energy</i> , <b>2005</b> , 79, 10-24	6.8	33
65	Cradle-to-gate Life Cycle Assessment of traditional gravel ballasted, white reflective, and vegetative roofs: A Lebanese case study. <i>Journal of Cleaner Production</i> , <b>2016</b> , 137, 833-842	10.3	32
64	Two-dimensional hygrothermal transfer in porous building materials. <i>Applied Thermal Engineering</i> , <b>2010</b> , 30, 2555-2562	5.8	27
63	Modeling of static contact angles with curved boundaries using a multiphase lattice Boltzmann method with variable density and viscosity ratios. <i>International Journal for Numerical Methods in Fluids</i> , <b>2016</b> , 82, 451-470	1.9	26
62	Impact of plants transpiration, grey and clean water irrigation on the thermal resistance of green roofs. <i>Ecological Engineering</i> , <b>2014</b> , 67, 60-66	3.9	25
61	Methods and Results of Experimental Researches of Thermal Conductivity of Soils. <i>Energy Procedia</i> , <b>2013</b> , 42, 775-783	2.3	21
60	Assessment of temperature gradient effects on moisture transfer through thermogradient coefficient. <i>Building Simulation</i> , <b>2012</b> , 5, 107-115	3.9	21
59	Development of an Analytical Method for Simultaneous Heat and Moisture Transfer in Building Materials Utilizing Transfer Function Method. <i>Journal of Materials in Civil Engineering</i> , <b>2005</b> , 17, 492-497 <sup>3</sup>		20
58	Microscopic hydric characterization of hemp concrete by X-ray microtomography and digital volume correlation. <i>Construction and Building Materials</i> , <b>2018</b> , 188, 983-994	6.7	19
57	Influence of the pozzolanic reactivity of the Blast Furnace Slag (BFS) and metakaolin on mortars. <i>Energy Procedia</i> , <b>2017</b> , 139, 224-229	2.3	17
56	Experimental investigation on the influence of immersion/drying cycles on the hygrothermal and mechanical properties of hemp concrete. <i>Journal of Building Engineering</i> , <b>2020</b> , 32, 101758	5.2	17
55	Hygrothermal behavior modeling of the hygroscopic envelopes of buildings: A dynamic co-simulation approach. <i>Building Simulation</i> , <b>2016</b> , 9, 501-512	3.9	17
54	Characterization of EPS lightweight concrete microstructure by X-ray tomography with consideration of thermal variations. <i>Construction and Building Materials</i> , <b>2018</b> , 178, 339-348	6.7	16

53	Periodic homogenization for heat, air, and moisture transfer of porous building materials. <i>Numerical Heat Transfer, Part B: Fundamentals</i> , <b>2016</b> , 70, 420-440	1.3	15
52	Thermal performance of a residential house equipped with a combined system: A direct solar floor and an earth-air heat exchanger. <i>Sustainable Cities and Society</i> , <b>2018</b> , 40, 534-545	10.1	15
51	Effect of flax shives content and size on the hygrothermal and mechanical properties of flax concrete. <i>Construction and Building Materials</i> , <b>2020</b> , 262, 120077	6.7	15
50	A genetic algorithm to optimize consistency ratio in AHP method for energy performance assessment of residential buildings—Application of top-down and bottom-up approaches in Algerian case study. <i>Sustainable Cities and Society</i> , <b>2018</b> , 42, 622-636	10.1	15
49	Sensitivity analyses of convective and diffusive driving potentials on combined heat air and mass transfer in hygroscopic materials. <i>Numerical Heat Transfer; Part A: Applications</i> , <b>2016</b> , 69, 1079-1091	2.3	14
48	Durability Properties of Concrete Made with High Volumes of Low-Calcium Coal Bottom Ash As a Replacement of Two Types of Sand. <i>Journal of Materials in Civil Engineering</i> , <b>2016</b> , 28, 04015175	3	13
47	Unstable two-phase flow rate in micro-channels and cracks under imposed pressure difference. <i>International Journal of Multiphase Flow</i> , <b>2015</b> , 77, 131-141	3.6	12
46	Utilization of treated saw dust in concrete as partial replacement of natural sand. <i>Journal of Cleaner Production</i> , <b>2020</b> , 261, 121226	10.3	12
45	Albedo effect of external surfaces on the energy loads and thermal comfort in buildings. <i>Energy Procedia</i> , <b>2017</b> , 139, 571-577	2.3	12
44	Real-time temperature monitoring for Traditional gravel ballasted and Extensive green roofs: A Lebanese case study. <i>Energy and Buildings</i> , <b>2016</b> , 133, 197-205	7	12
43	Influence of the origin of metakaolin on pozzolanic reactivity of mortars. <i>Energy Procedia</i> , <b>2017</b> , 139, 230-235	2.3	11
42	A CFD Comsol model for simulating complex urban flow. <i>Energy Procedia</i> , <b>2017</b> , 139, 373-378	2.3	11
41	Effect of geo-climatic conditions and pipe material on heating performance of earth-air heat exchangers. <i>Renewable Energy</i> , <b>2021</b> , 163, 22-40	8.1	11
40	Experimental Characterization of Green Roof Components. <i>Energy Procedia</i> , <b>2015</b> , 78, 1183-1188	2.3	10
39	Comparative cradle to grave environmental life cycle assessment of traditional and extensive vegetative roofs: an application for the Lebanese context. <i>International Journal of Life Cycle Assessment</i> , <b>2020</b> , 25, 423-442	4.6	10
38	On the hygrothermal behavior of concrete containing glass powder and silica fume. <i>Journal of Cleaner Production</i> , <b>2021</b> , 318, 128647	10.3	10
37	Hygromorphic characterization of softwood under high resolution X-ray tomography for hygrothermal simulation. <i>Heat and Mass Transfer</i> , <b>2018</b> , 54, 2761-2769	2.2	8
36	The impact of height/width ratio on the microclimate and thermal comfort levels of urban courtyards. <i>International Journal of Sustainable Building Technology and Urban Development</i> , <b>2016</b> , 7, 174-183		8

35	Green wall impacts inside and outside buildings: experimental study. <i>Energy Procedia</i> , <b>2017</b> , 139, 578-583.	3.3	8
34	Contribution to the Modelling of Coupled Heat and Mass Transfers on 3D Real Structure of Heterogeneous Building Materials: Application to Hemp Concrete. <i>Transport in Porous Media</i> , <b>2020</b> , 133, 333-356	3.1	7
33	Seasonal variability of temperature profiles of vegetative and traditional gravel-ballasted roofs: A case study for Lebanon. <i>Energy and Buildings</i> , <b>2017</b> , 151, 358-364	7	6
32	Simultaneous heat and moisture transport in porous building materials: evaluation of nonisothermal moisture transport properties. <i>Journal of Materials Science</i> , <b>2008</b> , 43, 3655-3663	4.3	6
31	Impact of coupled heat and moisture transfer effects on buildings energy consumption. <i>Thermal Science</i> , <b>2017</b> , 21, 1359-1368	1.2	6
30	Effect of Hygrothermal Transfer on Multilayer Walls Behavior, Assessment of Condensation Risk. <i>Advanced Materials Research</i> , <b>2014</b> , 1051, 647-655	0.5	5
29	Development of simplified approach to model the moisture transfer in building materials. <i>Revue Européenne De Génie Civil</i> , <b>2006</b> , 10, 1033-1048		5
28	Influence of hydric solicitations on the morphological behavior of hemp concrete. <i>RILEM Technical Letters</i> , <b>4</b> , 16-21		5
27	Review on the Integration of Phase Change Materials in Building Envelopes for Passive Latent Heat Storage. <i>Applied Sciences (Switzerland)</i> , <b>2021</b> , 11, 9305	2.6	5
26	Multiscale modelling for better hygrothermal prediction of porous building materials. <i>MATEC Web of Conferences</i> , <b>2018</b> , 149, 02005	0.3	4
25	Moisture transport in cementitious materials. Periodic homogenization and numerical analysis. <i>European Journal of Environmental and Civil Engineering</i> , <b>2017</b> , 21, 1026-1042	1.5	3
24	Moisture transfer modelling in polystyrene mortar with consideration of sorption hysteresis. <i>E3S Web of Conferences</i> , <b>2019</b> , 128, 07006	0.5	3
23	Hydric and structural approaches for earth based materials characterization. <i>Energy Procedia</i> , <b>2017</b> , 139, 417-423	2.3	3
22	Total Pressure Gradient Incidence on Hygrothermal Transfer in Highly Porous Building Materials. <i>Advanced Materials Research</i> , <b>2013</b> , 772, 124-129	0.5	3
21	Convective and conductive thermal homogenization for non-saturated porous building materials: Application on the thermal conductivity tensor. <i>Thermal Science</i> , <b>2018</b> , 22, 2367-2378	1.2	3
20	Evaluation of Earth-Air Heat Exchangers Efficiency in Hot and Dry Climates. <i>Advanced Materials Research</i> , <b>2013</b> , 739, 318-324	0.5	2
19	Évaluation des bâtiments munis de systèmes de rafraîchissement passif. Application au cas de l'évaporation adiabatique. <i>International Journal of Thermal Sciences</i> , <b>1997</b> , 36, 547-561		2
18	Accelerated Aging Effects on the Hygrothermal Behaviour of Hemp Concrete: Experimental and Numerical Investigations. <i>Energies</i> , <b>2021</b> , 14, 7005	3.1	2

17	Experimental and numerical modelling of hygrothermal transfer: Application on building energy performance. <i>Energy and Buildings</i> , <b>2021</b> , 111633	7	2
16	Energy performance evaluation of direct solar floor in traditional and modern buildings. <i>Building Services Engineering Research and Technology</i> , <b>2016</b> , 37, 450-467	2.3	1
15	Reply on the comments regarding the paper "Assessment of temperature gradient effects on moisture transfer through thermogradient coefficient" <i>Building Simulation</i> , <b>2013</b> , 6, 109-110	3.9	1
14	On The Semi-Analytical Solution of Integro-Partial Differential Equations. <i>Energy Procedia</i> , <b>2017</b> , 139, 358-366	2.3	1
13	Towards understanding cork concrete behaviour: Impact of considering cork absorption during mixing process. <i>Construction and Building Materials</i> , <b>2022</b> , 317, 125905	6.7	1
12	Assessment of hygrothermal performance of hemp concrete compared to conventional building materials at overall building scale. <i>Construction and Building Materials</i> , <b>2022</b> , 316, 126007	6.7	1
11	Effect of Immersion/Freezing/Drying Cycles on the Hygrothermal and Mechanical Behaviour of Hemp Concrete		1
10	Hygrothermal and Mechanical Behaviors of Fiber Mortar: Comparative Study between Palm and Hemp Fibers. <i>Energies</i> , <b>2021</b> , 14, 7110	3.1	1
9	Experimental and numerical validation of hygrothermal transfer in brick wall. <i>Heat Transfer</i> , <b>2021</b> , 50, 6300-6327	3.1	1
8	Development of a numerical approach to assess the effect of coupled heat and moisture transfer on energy consumption of residential buildings in Moroccan context. <i>Journal of Building Physics</i> , <b>2021</b> , 44, 1105-1126	2.6	0
7	Experimental Characterization of Raw Earth Properties for Modeling Their Hygrothermal Behavior. <i>Buildings</i> , <b>2022</b> , 12, 648	3.2	0
6	Investigation of a novel bio-based phase change material hemp concrete for passive energy storage in buildings. <i>Applied Thermal Engineering</i> , <b>2022</b> , 212, 118620	5.8	0
5	Moisture Transfers in Porous Construction Materials: Mechanisms and Applications <b>2015</b> , 41-116		
4	Use of the Buffering Capacity of the Building Envelope for the Reduction of the Rate of Air Exchange. <i>Energy Procedia</i> , <b>2015</b> , 78, 1531-1536	2.3	
3	Influence of recycled polystyrene beads on cement paste properties. <i>MATEC Web of Conferences</i> , <b>2018</b> , 149, 01032	0.3	
2	Multiscale modelling for better hygrothermal prediction of porous building materials. <i>MATEC Web of Conferences</i> , <b>2018</b> , 149, 02005	0.3	
1	Effect of Variability of Porous Media Properties on Drying Kinetics: Application to Cement-based Materials <b>2018</b> , 243-289		