Albert Castell

List of Publications by Citations

65 papers	5,909 citations	37 h-index	68 g-index
68 ext. papers	6,691 ext. citations	7.7 avg, IF	5.94 L-index

#	Paper	IF	Citations
65	Materials used as PCM in thermal energy storage in buildings: A review. *Renewable and Sustainable Energy Reviews*, **2011**, 15, 1675-1695	16.2	1068
64	Life cycle assessment (LCA) and life cycle energy analysis (LCEA) of buildings and the building sector: A review. *Renewable and Sustainable Energy Reviews*, **2014**, 29, 394-416	16.2	739
63	Review on phase change materials (PCMs) for cold thermal energy storage applications. *Applied Energy*, **2012**, 99, 513-533	10.7	667
62	Experimental study of using PCM in brick constructive solutions for passive cooling. *Energy and Buildings*, **2010**, 42, 534-540	7	347
61	Thermochemical energy storage and conversion: A-state-of-the-art review of the experimental research under practical conditions. *Renewable and Sustainable Energy Reviews*, **2012**, 16, 5207-5224	16.2	248
60	Thermal energy storage in building integrated thermal systems: A review. Part 2. Integration as passive system. *Renewable Energy*, **2016**, 85, 1334-1356	8.1	155
59	Experimental study on the performance of insulation materials in Mediterranean construction. *Energy and Buildings*, **2010**, 42, 630-636	7	154
58	Natural convection heat transfer coefficients in phase change material (PCM) modules with external vertical fins. *Applied Thermal Engineering*, **2008**, 28, 1676-1686	5.8	131
57	Thermal assessment of extensive green roofs as passive tool for energy savings in buildings. *Renewable Energy*, **2016**, 85, 1106-1115	8.1	110
56	Maximisation of heat transfer in a coil in tank PCM cold storage system. *Applied Energy*, **2011**, 88, 4120-4127	10.7	102
55	Life Cycle Assessment of the inclusion of phase change materials (PCM) in experimental buildings. *Energy and Buildings*, **2010**, 42, 1517-1523	7	101
54	Experimental study of a ventilated facade with PCM during winter period. *Energy and Buildings*, **2013**, 58, 324-332	7	100
53	Radiative cooling as low-grade energy source: A literature review. *Renewable and Sustainable Energy Reviews*, **2017**, 77, 803-820	16.2	95
52	Building integration of PCM for natural cooling of buildings. *Applied Energy*, **2013**, 109, 514-522	10.7	94
51	The use of phase change materials in domestic heat pump and air-conditioning systems for short term storage: A review. *Renewable and Sustainable Energy Reviews*, **2014**, 39, 1-13	16.2	93
50	Dimensionless numbers used to characterize stratification in water tanks for discharging at low flow rates. *Renewable Energy*, **2010**, 35, 2192-2199	8.1	92
49	Thermal analysis of a ventilated facade with PCM for cooling applications. *Energy and Buildings*, **2013**, 65, 508-515	7	81

48	Use of microencapsulated PCM in buildings and the effect of adding awnings. *Energy and Buildings*, **2012**, 44, 88-93	7	77
47	PCM thermal energy storage tanks in heat pump system for space cooling. *Energy and Buildings*, **2014**, 82, 399-405	7	76
46	Numerical modelling of ventilated facades: A review. *Renewable and Sustainable Energy Reviews*, **2013**, 22, 539-549	16.2	75
45	Modeling phase change materials behavior in building applications: Comments on material characterization and model validation. *Renewable Energy*, **2014**, 61, 132-135	8.1	60
44	Review of Solar Thermal Storage Techniques and Associated Heat Transfer Technologies. *Proceedings of the IEEE*, **2012**, 100, 525-538	14.3	60
43	Numerical study on the thermal performance of a ventilated facade with PCM. *Applied Thermal Engineering*, **2013**, 61, 372-380	5.8	60
42	PCM incorporation in a concrete core slab as a thermal storage and supply system: Proof of concept. *Energy and Buildings*, **2015**, 103, 70-82	7	58
41	Evaluation of the environmental impact of experimental buildings with different constructive systems using Material Flow Analysis and Life Cycle Assessment. *Applied Energy*, **2013**, 109, 544-552	10.7	58
40	Life Cycle Assessment of alveolar brick construction system incorporating phase change materials (PCMs). *Applied Energy*, **2013**, 101, 600-608	10.7	58
39	An effectiveness-NTU technique for characterising a finned tubes PCM system using a CFD model. *Applied Energy*, **2014**, 131, 377-385	10.7	55
38	Energy performance of a ventilated double skin facade with PCM under different climates. *Energy and Buildings*, **2015**, 91, 37-42	7	55
37	Evaluation of the environmental impact of experimental cubicles using Life Cycle Assessment: A highlight on the manufacturing phase. *Applied Energy*, **2012**, 92, 534-544	10.7	54
36	Experimental Study of PCM Inclusion in Different Building Envelopes. *Journal of Solar Energy Engineering, Transactions of the ASME*, **2009**, 131,	2.3	52
35	Stratification analysis in packed bed thermal energy storage systems. *Applied Energy*, **2013**, 109, 476-487	10.7	50
34	Life Cycle Assessment of experimental cubicles including PCM manufactured from natural resources (esters): A theoretical study. *Renewable Energy*, **2013**, 51, 398-403	8.1	49
33	Environmental performance of recycled rubber as drainage layer in extensive green roofs. A comparative Life Cycle Assessment. *Building and Environment*, **2014**, 74, 22-30	6.5	47
32	Experimental study of an active slab with PCM coupled to a solar air collector for heating purposes. *Energy and Buildings*, **2016**, 128, 12-21	7	45
31	Life cycle assessment of a ventilated facade with PCM in its air chamber. *Solar Energy*, **2014**, 104, 115-123	3.8	42

30	Experimental analysis of the effectiveness of a high temperature thermal storage tank for solar cooling applications. *Applied Thermal Engineering*, **2013**, 54, 521-527	5.8	42
29	High density polyethylene spheres with PCM for domestic hot water applications: Water tank and laboratory scale study. *Journal of Energy Storage*, **2017**, 13, 262-267	7.8	37
28	Dynamic thermal performance of alveolar brick construction system. *Energy Conversion and Management*, **2011**, 52, 2495-2500	10.6	33
27	Control of a PCM ventilated facade using reinforcement learning techniques. *Energy and Buildings*, **2015**, 106, 234-242	7	31
26	An overview on design methodologies for liquid/solid PCM storage systems. *Renewable and Sustainable Energy Reviews*, **2015**, 52, 289-307	16.2	27
25	Experimental validation of a methodology to assess PCM effectiveness in cooling building envelopes passively. *Energy and Buildings*, **2014**, 81, 59-71	7	27
24	Energetic and exergetic analysis of a domestic water tank with phase change material. *International Journal of Energy Research*, **2008**, 32, 204-214	4.5	27
23	Experimental evaluation of a concrete core slab with phase change materials for cooling purposes. *Energy and Buildings*, **2016**, 116, 411-419	7	23
22	Green roofs as passive system for energy savings in buildings during the cooling period: use of rubber crumbs as drainage layer. *Energy Efficiency*, **2014**, 7, 841-849	3	23
21	A simple model to predict the thermal performance of a ventilated facade with phase change materials. *Energy and Buildings*, **2015**, 93, 137-142	7	22
20	Thermal loads inside buildings with phase change materials: Experimental results. *Energy Procedia*, **2012**, 30, 342-349	2.3	21
19	Economics and climate change emissions analysis of a bioclimatic institutional building with trigeneration and solar support. *Applied Thermal Engineering*, **2008**, 28, 2227-2235	5.8	19
18	The thermal behaviour of extensive green roofs under low plant coverage conditions. *Energy Efficiency*, **2015**, 8, 881-894	3	17
17	Numerical model evaluation of a PCM cold storage tank and uncertainty analysis of the parameters. *Applied Thermal Engineering*, **2014**, 67, 16-23	5.8	17
16	Green roofs as passive system for energy savings when using rubber crumbs as drainage layer. *Energy Procedia*, **2012**, 30, 452-460	2.3	15
15	Thermal behaviour of insulation and phase change materials in buildings with internal heat loads: experimental study. *Energy Efficiency*, **2015**, 8, 895-904	3	14
14	Energy Savings Potential of a Novel Radiative Cooling and Solar Thermal Collection Concept in Buildings for Various World Climates. *Energy Technology*, **2018**, 6, 2200-2209	3.5	14
13	A correlation of the convective heat transfer coefficient between an air flow and a phase change material plate. *Applied Thermal Engineering*, **2013**, 51, 1245-1254	5.8	13

List of Publications

12	Design of a Prefabricated Concrete Slab with PCM Inside the Hollows. *Energy Procedia*, **2014**, 57, 2324-2333	2.3	13
11	Solar Absorption in a Ventilated Facade with PCM. Experimental Results. *Energy Procedia*, **2012**, 30, 986-994	2.3	13
10	Comparison of Stratification in a Water Tank and a PCM-Water Tank. *Journal of Solar Energy Engineering, Transactions of the ASME*, **2009**, 131,	2.3	13
9	A new flat-plate radiative cooling and solar collector numerical model: Evaluation and metamodeling. *Energy*, **2020**, 202, 117750	7.9	8
8	Economic Viability of a Molten Carbonate Fuel Cell Working With Biogas. *Journal of Fuel Cell Science and Technology*, **2010**, 7,		7
7	Combined Radiative Cooling and Solar Thermal Collection: Experimental Proof of Concept. *Energies* , **2020**, 13, 893	3.1	6
6	Thermal characterization of buildings from the monitoring of the AC system consumption. *Energy and Buildings*, **2016**, 116, 59-68	7	5
5	Adaptive covers for combined radiative cooling and solar heating. A review of existing technology and materials. *Solar Energy Materials and Solar Cells*, **2021**, 230, 111275	6.4	4
4	Life cycle assessment (LCA) of phase change materials (PCMs) used in buildings **2014**, 287-310		3
3	The use of phase change materials in fish farms: A general analysis. *Applied Energy*, **2013**, 109, 488-496	10.7	3
2	Mapping Nighttime and All-Day Radiative Cooling Potential in Europe and the Influence of Solar Reflectivity. *Atmosphere*, **2021**, 12, 1119	2.7	2
1	Design of latent heat energy storage systems using phase change materials **2021**, 331-357		1