

Frank Bruno

List of Publications by Citations

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129
papers

4,710
citations

37
h-index

66
g-index

137
ext. papers

5,691
ext. citations

7.3
avg, IF

6.2
L-index

#	Paper	IF	Citations
129	Review on storage materials and thermal performance enhancement techniques for high temperature phase change thermal storage systems. <i>Renewable and Sustainable Energy Reviews</i> , 2012 , 16, 2118-2132	16.2	524
128	Review on concentrating solar power plants and new developments in high temperature thermal energy storage technologies. <i>Renewable and Sustainable Energy Reviews</i> , 2016 , 53, 1411-1432	16.2	523
127	Review on shell materials used in the encapsulation of phase change materials for high temperature thermal energy storage. <i>Renewable and Sustainable Energy Reviews</i> , 2015 , 48, 79-87	16.2	163
126	Thermal performance of PCM thermal storage unit for a roof integrated solar heating system. <i>Solar Energy</i> , 2005 , 78, 341-349	6.8	159
125	Experimental investigation of the effect of inclination angle on convection-driven melting of phase change material in a rectangular enclosure. <i>International Journal of Heat and Mass Transfer</i> , 2014 , 72, 186-200	4.9	153
124	Minimising the life cycle energy of buildings: Review and analysis. <i>Building and Environment</i> , 2014 , 73, 106-114	6.5	131
123	An effectiveness-NTU technique for characterising tube-in-tank phase change thermal energy storage systems. <i>Applied Energy</i> , 2012 , 91, 309-319	10.7	131
122	On-site experimental testing of a novel dew point evaporative cooler. <i>Energy and Buildings</i> , 2011 , 43, 3475-3483	7	114
121	Development of a novel refrigeration system for refrigerated trucks incorporating phase change material. <i>Applied Energy</i> , 2012 , 92, 336-342	10.7	112
120	Comparison of pinned and finned tubes in a phase change thermal energy storage system using CFD. <i>Applied Energy</i> , 2013 , 104, 79-86	10.7	102
119	Experimental investigation of tubes in a phase change thermal energy storage system. <i>Applied Energy</i> , 2012 , 90, 288-297	10.7	102
118	Maximisation of heat transfer in a coil in tank PCM cold storage system. <i>Applied Energy</i> , 2011 , 88, 4120-4127	10.7	102
117	Experimental validation of a CFD model for tubes in a phase change thermal energy storage system. <i>International Journal of Heat and Mass Transfer</i> , 2012 , 55, 574-585	4.9	83
116	Numerical analysis of a PCM thermal storage system with varying wall temperature. <i>Energy Conversion and Management</i> , 2005 , 46, 2592-2604	10.6	75
115	Considerations for the use of metal alloys as phase change materials for high temperature applications. <i>Solar Energy Materials and Solar Cells</i> , 2017 , 171, 275-281	6.4	72
114	Designing a PCM storage system using the effectiveness-number of transfer units method in low energy cooling of buildings. <i>Energy and Buildings</i> , 2012 , 50, 234-242	7	70
113	Eutectic Na ₂ CO ₃ -NaCl salt: A new phase change material for high temperature thermal storage. <i>Solar Energy Materials and Solar Cells</i> , 2016 , 152, 155-160	6.4	70

112	Determination of thermo-physical properties and stability testing of high-temperature phase-change materials for CSP applications. <i>Solar Energy Materials and Solar Cells</i> , 2015 , 139, 81-87	6.4	69
111	Effective thermal conductivity for melting in PCM encapsulated in a sphere. <i>Applied Energy</i> , 2014 , 122, 280-287	10.7	64
110	Impact of climate change on the design of energy efficient residential building envelopes. <i>Energy and Buildings</i> , 2015 , 87, 142-154	7	62
109	Performance of jet impingement in unglazed air collectors. <i>Solar Energy</i> , 2008 , 82, 389-398	6.8	61
108	Experimental investigation of dynamic melting in a tube-in-tank PCM system. <i>Applied Energy</i> , 2013 , 104, 137-148	10.7	60
107	Review on transportable phase change material in thermal energy storage systems. <i>Renewable and Sustainable Energy Reviews</i> , 2017 , 75, 264-277	16.2	60
106	An effectiveness-NTU technique for characterising a finned tubes PCM system using a CFD model. <i>Applied Energy</i> , 2014 , 131, 377-385	10.7	55
105	Experimental validation of a CFD and an ENTU model for a large tube-in-tank PCM system. <i>International Journal of Heat and Mass Transfer</i> , 2012 , 55, 5931-5940	4.9	55
104	Validation of a mathematical model for encapsulated phase change material flat slabs for cooling applications. <i>Applied Thermal Engineering</i> , 2011 , 31, 2340-2347	5.8	51
103	Performance enhancement of high temperature latent heat thermal storage systems using heat pipes with and without fins for concentrating solar thermal power plants. <i>Renewable Energy</i> , 2016 , 89, 36-50	8.1	50
102	Embodied energy and cost of high temperature thermal energy storage systems for use with concentrated solar power plants. <i>Applied Energy</i> , 2016 , 180, 586-597	10.7	49
101	Optimising PCM thermal storage systems for maximum energy storage effectiveness. <i>Solar Energy</i> , 2012 , 86, 2263-2272	6.8	47
100	Effectiveness-NTU correlation for low temperature PCM encapsulated in spheres. <i>Applied Energy</i> , 2012 , 93, 549-555	10.7	47
99	Numerical study of melting performance enhancement for PCM in an annular enclosure with internal-external fins and metal foams. <i>International Journal of Heat and Mass Transfer</i> , 2020 , 150, 119348	4.9	45
98	Novel Na ₂ SO ₄ -NaCl-ceramic composites as high temperature phase change materials for solar thermal power plants (Part I). <i>Solar Energy Materials and Solar Cells</i> , 2018 , 178, 74-83	6.4	45
97	Impact of the heat transfer fluid in a flat plate phase change thermal storage unit for concentrated solar tower plants. <i>Solar Energy</i> , 2014 , 101, 220-231	6.8	44
96	Investigation of the effect of dynamic melting in a tube-in-tank PCM system using a CFD model. <i>Applied Energy</i> , 2015 , 137, 738-747	10.7	42
95	A critical review of eutectic salt property prediction for latent heat energy storage systems. <i>Renewable and Sustainable Energy Reviews</i> , 2017 , 70, 936-944	16.2	41

94	Characterising PCM thermal storage systems using the effectiveness-NTU approach. <i>International Journal of Heat and Mass Transfer</i> , 2012 , 55, 3359-3365	4.9	41
93	Sensible and latent heat energy storage systems for concentrated solar power plants, exergy efficiency comparison. <i>Solar Energy</i> , 2019 , 180, 104-115	6.8	38
92	Thermal stability of Na ₂ CO ₃ -Li ₂ CO ₃ as a high temperature phase change material for thermal energy storage. <i>Thermochimica Acta</i> , 2017 , 650, 88-94	2.9	37
91	A eutectic salt high temperature phase change material: Thermal stability and corrosion of SS316 with respect to thermal cycling. <i>Solar Energy Materials and Solar Cells</i> , 2017 , 170, 1-7	6.4	36
90	Experimental investigation of the effect of dynamic melting in a cylindrical shell-and-tube heat exchanger using water as PCM. <i>Applied Energy</i> , 2017 , 185, 136-145	10.7	35
89	A phase change processor method for solving a one-dimensional phase change problem with convection boundary. <i>Renewable Energy</i> , 2010 , 35, 1688-1695	8.1	35
88	Minimising energy usage for domestic cooling with off-peak PCM storage. <i>Energy and Buildings</i> , 2014 , 76, 347-353	7	33
87	Development and experimental validation of a CFD model for PCM in a vertical triplex tube heat exchanger. <i>Applied Thermal Engineering</i> , 2017 , 116, 344-354	5.8	29
86	Performance comparison of latent heat storage systems comprising plate fins with different shell and tube configurations. <i>Applied Energy</i> , 2018 , 212, 1095-1106	10.7	29
85	Design optimization method for tube and fin latent heat thermal energy storage systems. <i>Energy</i> , 2017 , 134, 585-594	7.9	28
84	A review of numerical modelling of high-temperature phase change material composites for solar thermal energy storage. <i>Journal of Energy Storage</i> , 2020 , 29, 101378	7.8	28
83	An effectiveness-NTU model of a packed bed PCM thermal storage system. <i>Applied Energy</i> , 2014 , 134, 356-362	10.7	28
82	Thermal performance analysis of a flat slab phase change thermal storage unit with liquid-based heat transfer fluid for cooling applications. <i>Solar Energy</i> , 2011 , 85, 3017-3027	6.8	28
81	Investigation of the thermal resistance of timber attic spaces with reflective foil and bulk insulation, heat flow up. <i>Applied Energy</i> , 2011 , 88, 127-137	10.7	28
80	Roof integrated solar heating system with glazed collector. <i>Solar Energy</i> , 2004 , 76, 61-69	6.8	27
79	CFD simulation of a TES tank comprising a PCM encapsulated in sphere with heat transfer enhancement. <i>Applied Thermal Engineering</i> , 2018 , 143, 1085-1092	5.8	26
78	Modelling the cooling energy of night ventilation and economiser strategies on façade selection of commercial buildings. <i>Energy and Buildings</i> , 2013 , 66, 562-570	7	25
77	Effective tube-in-tank PCM thermal storage for CSP applications, Part 1: Impact of tube configuration on discharging effectiveness. <i>Solar Energy</i> , 2016 , 139, 733-743	6.8	23

76	Computer simulation with TRNSYS for a mobile refrigeration system incorporating a phase change thermal storage unit. <i>Applied Energy</i> , 2014 , 132, 226-235	10.7	23
75	Control concepts of a radiant wall working as thermal energy storage for peak load shifting of a heat pump coupled to a PV array. <i>Renewable Energy</i> , 2018 , 118, 489-501	8.1	23
74	Impact of periodic flow reversal of heat transfer fluid on the melting and solidification processes in a latent heat shell and tube storage system. <i>Applied Energy</i> , 2017 , 191, 276-286	10.7	22
73	Comparative study of melting and solidification processes in different configurations of shell and tube high temperature latent heat storage system. <i>Solar Energy</i> , 2017 , 150, 363-374	6.8	22
72	Investigation of Cascaded Shell and Tube Latent Heat Storage Systems for Solar Tower Power Plants. <i>Energy Procedia</i> , 2015 , 69, 913-924	2.3	22
71	Using renewables coupled with thermal energy storage to reduce natural gas consumption in higher temperature commercial/industrial applications. <i>Renewable Energy</i> , 2019 , 131, 1035-1046	8.1	21
70	A Study on EGR Utilization in Natural Gas SI Engines Using a Two-Zone Combustion Model 2007 ,		20
69	Effectiveness of direct contact PCM thermal storage with a gas as the heat transfer fluid. <i>Applied Energy</i> , 2015 , 137, 748-757	10.7	19
68	Design of sensible and latent heat thermal energy storage systems for concentrated solar power plants: Thermal performance analysis. <i>Renewable Energy</i> , 2020 , 151, 1286-1297	8.1	19
67	Controlling stored energy in a concentrating solar thermal power plant to maximise revenue. <i>IET Renewable Power Generation</i> , 2015 , 9, 379-388	2.9	17
66	Using solid-liquid phase change materials (PCMs) in thermal energy storage systems 2015 , 201-246		17
65	Characterisation of promising phase change materials for high temperature thermal energy storage. <i>Journal of Energy Storage</i> , 2019 , 24, 100801	7.8	17
64	Effectiveness-NTU correlation for a TES tank comprising a PCM encapsulated in a sphere with heat transfer enhancement. <i>Applied Thermal Engineering</i> , 2018 , 143, 1003-1010	5.8	16
63	Novel solid-solid phase-change cascade systems for high-temperature thermal energy storage. <i>Solar Energy</i> , 2019 , 177, 274-283	6.8	16
62	Influence of cascaded graphite foams on thermal performance of high temperature phase change material storage systems. <i>Applied Thermal Engineering</i> , 2020 , 180, 115618	5.8	14
61	Effective tube-in-tank PCM thermal storage for CSP applications, Part 2: Parametric assessment and impact of latent fraction. <i>Solar Energy</i> , 2016 , 139, 744-756	6.8	12
60	Simulations of melting performance enhancement for a PCM embedded in metal periodic structures. <i>International Journal of Heat and Mass Transfer</i> , 2021 , 168, 120853	4.9	12
59	Experimental investigation of specific heat capacity improvement of a binary nitrate salt by addition of nanoparticles/microparticles. <i>Journal of Energy Storage</i> , 2019 , 22, 137-143	7.8	12

58	Maximising revenue via optimal control of a concentrating solar thermal power plant with limited storage capacity. <i>IET Renewable Power Generation</i> , 2016 , 10, 729-734	2.9	11
57	Comparing the energy performance of Australian houses using NatHERS modelling against measured household energy consumption for heating and cooling. <i>Energy and Buildings</i> , 2016 , 119, 173-182		11
56	Effect of inner coatings on the stability of chloride-based phase change materials encapsulated in geopolymers. <i>Solar Energy Materials and Solar Cells</i> , 2018 , 174, 271-276	6.4	10
55	Numerical modeling of inward and outward melting of high temperature PCM in a vertical cylinder 2016 ,		10
54	Geopolymer encapsulation of a chloride salt phase change material for high temperature thermal energy storage 2016 ,		9
53	Should academic research be relevant and useful to practitioners? The contrasting difference between three applied disciplines. <i>Studies in Higher Education</i> , 2020 , 45, 129-144	2.6	9
52	Corrosion of AISI316 as containment material for latent heat thermal energy storage systems based on carbonates. <i>Solar Energy Materials and Solar Cells</i> , 2018 , 186, 1-8	6.4	8
51	Phase change behaviour study of PCM tanks partially filled with graphite foam. <i>Applied Thermal Engineering</i> , 2021 , 196, 117313	5.8	8
50	Techno-economic analysis on the design of sensible and latent heat thermal energy storage systems for concentrated solar power plants. <i>Renewable Energy</i> , 2021 , 178, 443-455	8.1	8
49	CO2 Refrigeration and Heat Pump Systems A Comprehensive Review. <i>Energies</i> , 2019 , 12, 2959	3.1	7
48	Thermochemical and Experimental Kinetic Analysis of Potassium Extraction from Ultrapotassic Syenite Using Molten Chloride Salts. <i>Industrial & Engineering Chemistry Research</i> , 2019 , 58, 7397-7407	3.9	7
47	Capital cost expenditure of high temperature latent and sensible thermal energy storage systems 2017 ,		7
46	Review and evaluation of using household metered energy data for rating of building thermal efficiency of existing buildings. <i>Energy and Buildings</i> , 2015 , 108, 433-440	7	6
45	Optimization of deterministic controls for a cooling radiant wall coupled to a PV array. <i>Applied Energy</i> , 2018 , 229, 1103-1110	10.7	6
44	Optimisation of Storage for Concentrated Solar Power Plants. <i>Challenges</i> , 2014 , 5, 473-503	3.4	6
43	Numerical investigation of PCM in vertical triplex tube thermal energy storage system for CSP applications 2017 ,		5
42	Investigation of Conducting Pins in Sphere Filled with Phase Change Material for Enhancing Heat Transfer in Thermal Energy Storage. <i>Advanced Materials Research</i> , 2012 , 472-475, 1693-1697	0.5	5
41	Maximising renewable gas export opportunities at wastewater treatment plants through the integration of alternate energy generation and storage options. <i>Science of the Total Environment</i> , 2020 , 742, 140580	10.2	5

40	Evaluating the utility of passive thermal storage as an energy storage system on the Australian energy market. <i>Renewable and Sustainable Energy Reviews</i> , 2021 , 137, 110615	16.2	5
39	A comprehensive study on a novel transcritical CO ₂ heat pump for simultaneous space heating and cooling [Concepts and initial performance. <i>Energy Conversion and Management</i> , 2021 , 243, 114397	10.6	5
38	Review and characterisation of high-temperature phase change material candidates between 500 C and 700°C. <i>Renewable and Sustainable Energy Reviews</i> , 2021 , 150, 111528	16.2	5
37	Performance Evaluation of a CO ₂ Refrigeration System Enhanced with a Dew Point Cooler. <i>Energies</i> , 2019 , 12, 1079	3.1	4
36	Investigation of the effect of thermal resistance on the performance of phase change materials. <i>International Journal of Thermal Sciences</i> , 2021 , 164, 106852	4.1	4
35	Transient Thermo-mechanical analysis of a shell and tube latent heat thermal energy storage for CSP plants. <i>Applied Thermal Engineering</i> , 2021 , 196, 117327	5.8	4
34	Analysis of the operation of a high-pressure micro-compressor. <i>Energy Conversion and Management</i> , 1996 , 37, 1517-1524	10.6	3
33	Novel geopolymers for use as a sensible storage option in high temperature thermal energy storage systems 2020 ,		3
32	Assessment of exergy delivery of thermal energy storage systems for CSP plants: Cascade PCMs, graphite-PCMs and two-tank sensible heat storage systems. <i>Sustainable Energy Technologies and Assessments</i> , 2020 , 42, 100823	4.7	3
31	Optimum Facade Design for Minimization of Heating and Cooling Demand in Commercial Office Buildings in Australian Cities. <i>Journal of Architectural Engineering</i> , 2017 , 23, 04017025	1.5	2
30	Experimental Kinetic Analysis of Potassium Extraction from Ultrapotassic Syenite Using NaCl-CaCl Salt Mixture. <i>ACS Omega</i> , 2020 , 5, 16421-16429	3.9	2
29	Experimental Investigation of PCM Spheres in Thermal Energy Storage System. <i>Applied Mechanics and Materials</i> , 2013 , 367, 228-233	0.3	2
28	Experimental study of thermodynamic properties and phase equilibria in Na ₂ CO ₃ -K ₂ CO ₃ system. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2020 , 71, 101992	1.9	2
27	Experimental phase diagram study of the binary KCl-Na ₂ CO ₃ system. <i>Thermochimica Acta</i> , 2021 , 695, 178811	2.9	2
26	Technoeconomic Impacts of Storage System Design on the Viability of Concentrated Solar Power Plants. <i>Journal of Energy Storage</i> , 2021 , 34, 101987	7.8	2
25	Economic Studies on High-Temperature Phase Change Storage Systems 2018 , 297-318		2
24	Stability and corrosion testing of a high temperature phase change material for CSP applications 2016 ,		1
23	Review of analytical studies of melting rate enhancement with fin and/or foam inserts. <i>Applied Thermal Engineering</i> , 2022 , 207, 118154	5.8	1

22	A new methodology for designing and assessing latent heat thermal energy storage systems 2020 ,		1
21	Corrosion interface formation in thermally cycled stainless steel 316 with high-temperature phase change material. <i>Solar Energy Materials and Solar Cells</i> , 2021 , 225, 111062	6.4	1
20	A New Phase Change Material for High Temperature Thermal Energy Storage 2016 ,		1
19	A numerical model for thermal energy storage systems utilising encapsulated phase change materials 2016 ,		1
18	Encapsulation of High-Temperature Phase Change Materials 2018 , 231-274		1
17	Dynamic Concept at University of South Australia 2018 , 39-92		1
16	Chemical degradation in Thermally Cycled Stainless Steel 316 with High-Temperature Phase Change Material. <i>Solar Energy Materials and Solar Cells</i> , 2021 , 230, 111216	6.4	1
15	A review of high temperature (1500°C) latent heat thermal energy storage. <i>Renewable and Sustainable Energy Reviews</i> , 2022 , 160, 112293	16.2	1
14	Optimising a packed bed phase change material of spheres using effectiveness-number of transfer unit method. <i>Journal of Energy Storage</i> , 2022 , 49, 104019	7.8	0
13	An optimisation study on a real-world transcritical CO ₂ heat pump system with a flash gas bypass. <i>Energy Conversion and Management</i> , 2021 , 251, 114995	10.6	0
12	Mathematical modelling of heat transmission in the temperature history apparatus by using inverse method to evaluate the latent heat of high temperature PCMs. <i>International Journal of Heat and Mass Transfer</i> , 2021 , 167, 120825	4.9	0
11	Solid-liquid phase change materials for thermal energy storage 2021 , 221-268		0
10	A novel, low-cost and robust method for determining molten salt density at high temperatures. <i>Journal of Energy Storage</i> , 2021 , 41, 102935	7.8	0
9	Thermal stability of a waste-based alkali-activated material for thermal energy storage. <i>Chemical Thermodynamics and Thermal Analysis</i> , 2021 , 3-4, 100014		0
8	Static Concept at University of South Australia 2018 , 157-191		
7	Parametric Study on a Thermal Energy Storage Containing Single PCM Sphere. <i>Applied Mechanics and Materials</i> , 2014 , 695, 477-481	0.3	
6	Mathematical Modeling on Thermal Energy Storage Systems. <i>Applied Mechanics and Materials</i> , 2014 , 695, 553-557	0.3	
5	CFD Model Validation for Charging and Discharging of a PCM Encapsulated in Sphere. <i>Applied Mechanics and Materials</i> , 2014 , 699, 300-304	0.3	

4 Thermal Performance Of A Pcm Thermal Storage Unit **2008**, 2766-2771

3 Potential Application of Combisystem for an Australian Climatic Region **2008**, 876-880

2 Direct Contact Phase Change Material Thermal Energy Storage **2018**, 7-37

1 Orientation impact on structural integrity of a shell and tube latent heat thermal energy storage system. *Journal of Energy Storage*, **2022**, 52, 104829

7.8