

Hendrik Simon Cornelis Metselaar

List of Publications by Year in descending order

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112
papers

10,760
citations

29994

54
h-index

30848

102
g-index

114
all docs

114
docs citations

114
times ranked

10337
citing authors

#	ARTICLE	IF	CITATIONS
1	A review of nanofluid stability properties and characterization in stationary conditions. <i>International Journal of Heat and Mass Transfer</i> , 2011, 54, 4051-4068.	2.5	940
2	A review of available methods and development on energy storage; technology update. <i>Renewable and Sustainable Energy Reviews</i> , 2014, 33, 532-545.	8.2	706
3	Developments in organic solid-liquid phase change materials and their applications in thermal energy storage. <i>Energy Conversion and Management</i> , 2015, 95, 193-228.	4.4	597
4	A review on powder-based additive manufacturing for tissue engineering: selective laser sintering and inkjet 3D printing. <i>Science and Technology of Advanced Materials</i> , 2015, 16, 033502.	2.8	502
5	A review on insulation materials for energy conservation in buildings. <i>Renewable and Sustainable Energy Reviews</i> , 2017, 73, 1352-1365.	8.2	485
6	Investigation of thermal conductivity and rheological properties of nanofluids containing graphene nanoplatelets. <i>Nanoscale Research Letters</i> , 2014, 9, 15.	3.1	341
7	Shape-stabilized phase change materials with high thermal conductivity based on paraffin/graphene oxide composite. <i>Energy Conversion and Management</i> , 2013, 67, 275-282.	4.4	306
8	Mechanisms of interfacial bond in steel and polypropylene fiber reinforced geopolymer composites. <i>Composites Science and Technology</i> , 2016, 122, 73-81.	3.8	258
9	Compressive strength and microstructural analysis of fly ash/palm oil fuel ash based geopolymer mortar under elevated temperatures. <i>Construction and Building Materials</i> , 2014, 65, 114-121.	3.2	257
10	A comprehensive review on graphene nanofluids: Recent research, development and applications. <i>Energy Conversion and Management</i> , 2016, 111, 466-487.	4.4	253
11	A review on thermophysical properties of nanoparticle dispersed phase change materials. <i>Energy Conversion and Management</i> , 2015, 95, 69-89.	4.4	241
12	The green reduction of graphene oxide. <i>RSC Advances</i> , 2016, 6, 27807-27828.	1.7	235
13	Preparation and characterization of palmitic acid/graphene nanoplatelets composite with remarkable thermal conductivity as a novel shape-stabilized phase change material. <i>Applied Thermal Engineering</i> , 2013, 61, 633-640.	3.0	222
14	Performance improvement of solar thermal systems integrated with phase change materials (PCM), a review. <i>Solar Energy</i> , 2020, 206, 330-352.	2.9	213
15	The influence of surfactant and ultrasonic processing on improvement of stability, thermal conductivity and viscosity of titania nanofluid. <i>Experimental Thermal and Fluid Science</i> , 2013, 51, 1-9.	1.5	209
16	Synthesis, characterization and thermal properties of nanoencapsulated phase change materials via sol-gel method. <i>Energy</i> , 2013, 61, 664-672.	4.5	204
17	Thermal properties and heat storage analysis of palmitic acid-TiO ₂ composite as nano-enhanced organic phase change material (NEOPCM). <i>Applied Thermal Engineering</i> , 2016, 99, 1254-1262.	3.0	194
18	Performance investigation of thermal energy storage system with Phase Change Material (PCM) for solar water heating application. <i>International Communications in Heat and Mass Transfer</i> , 2014, 57, 132-139.	2.9	183

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19	Synthesis, Mechanical Properties, and in Vitro Biocompatibility with Osteoblasts of Calcium Silicateâ€“Reduced Graphene Oxide Composites. ACS Applied Materials & Interfaces, 2014, 6, 3947-3962.	4.0	153
20	Curbing global warming with phase change materials for energy storage. Renewable and Sustainable Energy Reviews, 2013, 18, 23-30.	8.2	149
21	Preparation of nitrogen-doped graphene/palmitic acid shape stabilized composite phase change material with remarkable thermal properties for thermal energy storage. Applied Energy, 2014, 135, 339-349.	5.1	134
22	Preparation and properties of highly conductive palmitic acid/graphene oxide composites as thermal energy storage materials. Energy, 2013, 58, 628-634.	4.5	130
23	Heat transfer and entropy generation analysis of hybrid graphene/Fe ₃ O ₄ ferro-nanofluid flow under the influence of a magnetic field. Powder Technology, 2017, 308, 149-157.	2.1	123
24	One-Step Preparation of Form-Stable Phase Change Material through Self-Assembly of Fatty Acid and Graphene. Journal of Physical Chemistry C, 2015, 119, 22787-22796.	1.5	118
25	Experimental investigation of the effect of graphene nanofluids on heat pipe thermal performance. Applied Thermal Engineering, 2016, 100, 775-787.	3.0	115
26	An experimental and numerical investigation of heat transfer enhancement for graphene nanoplatelets nanofluids in turbulent flow conditions. International Journal of Heat and Mass Transfer, 2015, 81, 41-51.	2.5	109
27	Preparation, characterization, viscosity, and thermal conductivity of nitrogen-doped graphene aqueous nanofluids. Journal of Materials Science, 2014, 49, 7156-7171.	1.7	108
28	Dental implants from functionally graded materials. Journal of Biomedical Materials Research - Part A, 2013, 101, 3046-3057.	2.1	105
29	Effect of specific surface area on convective heat transfer of graphene nanoplatelet aqueous nanofluids. Experimental Thermal and Fluid Science, 2015, 68, 100-108.	1.5	103
30	Exergetic analysis of a solar thermal power system with PCM storage. Energy Conversion and Management, 2014, 78, 486-492.	4.4	94
31	Potential energy savings by radiative cooling system for a building in tropical climate. Renewable and Sustainable Energy Reviews, 2014, 32, 642-650.	8.2	90
32	Experimental Investigation of Convective Heat Transfer Using Graphene Nanoplatelet Based Nanofluids under Turbulent Flow Conditions. Industrial & Engineering Chemistry Research, 2014, 53, 12455-12465.	1.8	88
33	Effect of nitrogen-doped graphene nanofluid on the thermal performance of the grooved copper heat pipe. Energy Conversion and Management, 2016, 118, 459-473.	4.4	87
34	Heat transfer and entropy generation for laminar forced convection flow of graphene nanoplatelets nanofluids in a horizontal tube. International Communications in Heat and Mass Transfer, 2015, 66, 23-31.	2.9	84
35	A state-of-the-art review on hybrid heat pipe latent heat storage systems. Energy Conversion and Management, 2015, 105, 1178-1204.	4.4	84
36	Accelerated Thermal Cycling Test of Microencapsulated Paraffin Wax/Polyaniline Made by Simple Preparation Method for Solar Thermal Energy Storage. Materials, 2013, 6, 1608-1620.	1.3	83

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37	Palmitic acid/polypyrrole composites as form-stable phase change materials for thermal energy storage. Energy Conversion and Management, 2014, 80, 491-497.	4.4	83
38	Effect of carbon nanospheres on shape stabilization and thermal behavior of phase change materials for thermal energy storage. Energy Conversion and Management, 2014, 88, 206-213.	4.4	78
39	Theoretical model of an evacuated tube heat pipe solar collector integrated with phase change material. Energy, 2015, 91, 911-924.	4.5	78
40	Facile synthesis and thermal performances of stearic acid/titania core/shell nanocapsules by sol-gel method. Energy, 2015, 85, 635-644.	4.5	76
41	Temperature Regulation of Photovoltaic Module Using Phase Change Material: A Numerical Analysis and Experimental Investigation. International Journal of Photoenergy, 2016, 2016, 1-8.	1.4	75
42	Numerical and experimental investigation of heat transfer in a shell and tube thermal energy storage system. International Communications in Heat and Mass Transfer, 2014, 53, 71-78.	2.9	73
43	Preparation and thermal properties of form-stable phase change materials composed of palmitic acid/polypyrrole/graphene nanoplatelets. Energy and Buildings, 2015, 99, 189-195.	3.1	73
44	An ecofriendly graphene-based nanofluid for heat transfer applications. Journal of Cleaner Production, 2016, 137, 555-566.	4.6	72
45	Investigation of viscosity and thermal conductivity of alumina nanofluids with addition of SDBS. Heat and Mass Transfer, 2013, 49, 1109-1115.	1.2	69
46	Antibacterial activity of graphene oxide nanosheet against multidrug resistant superbugs isolated from infected patients. Royal Society Open Science, 2020, 7, 200640.	1.1	69
47	Electrophoretic deposition of calcium silicate-reduced graphene oxide composites on titanium substrate. Journal of the European Ceramic Society, 2016, 36, 319-332.	2.8	67
48	Mechanical and physical properties of calcium silicate/alumina composite for biomedical engineering applications. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 30, 168-175.	1.5	63
49	Preparation and mechanical properties of calcium silicate/alumina composite for biomedical engineering applications. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 30, 168-175.	1.5	62
50	Performance and cost analysis of phase change materials with different melting temperatures in heating systems. Energy, 2013, 53, 173-178.	4.5	62
51	Facile synthesis of calcium silicate hydrate using sodium dodecyl sulfate as a surfactant assisted by ultrasonic irradiation. Ultrasonics Sonochemistry, 2014, 21, 735-742.	3.8	60
52	Thermal performance of a compact design heat pipe solar collector with latent heat storage in charging/discharging modes. Energy, 2017, 127, 101-115.	4.5	60
53	Thermal characteristic reliability of fatty acid binary mixtures as phase change materials (PCMs) for thermal energy storage applications. Applied Thermal Engineering, 2015, 80, 127-131.	3.0	57
54	Experimental study on heat transfer augmentation of graphene based ferrofluids in presence of magnetic field. Applied Thermal Engineering, 2017, 114, 415-427.	3.0	56

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55	Numerical study for enhancement of solidification of phase change materials using trapezoidal cavity. Powder Technology, 2014, 268, 38-47.	2.1	55
56	Mechanical and In Vitro Biological Performance of Graphene Nanoplatelets Reinforced Calcium Silicate Composite. PLoS ONE, 2014, 9, e106802.	1.1	53
57	Fabrication and Performances of Microencapsulated Palmitic Acid with Enhanced Thermal Properties. Energy & Fuels, 2015, 29, 1010-1018.	2.5	52
58	Nitrogen doped activated carbon/graphene with high nitrogen level: Green synthesis and thermo-electrical properties of its nanofluid. Materials Letters, 2015, 152, 192-195.	1.3	49
59	Phase change material: Optimizing the thermal properties and thermal conductivity of myristic acid/palmitic acid eutectic mixture with acid-based surfactants. Applied Thermal Engineering, 2013, 60, 261-265.	3.0	48
60	Sodium laurate enhancements the thermal properties and thermal conductivity of eutectic fatty acid as phase change material (PCM). Solar Energy, 2014, 102, 333-337.	2.9	43
61	Experimental investigation of thermophysical properties, entropy generation and convective heat transfer for a nitrogen-doped graphene nanofluid in a laminar flow regime. Advanced Powder Technology, 2016, 27, 717-727.	2.0	43
62	Experimental and numerical investigation of the effective electrical conductivity of nitrogen-doped graphene nanofluids. Journal of Nanoparticle Research, 2015, 17, 1.	0.8	41
63	Parametric study on the thermal performance enhancement of a thermosyphon heat pipe using covalent functionalized graphene nanofluids. Applied Thermal Engineering, 2020, 175, 115385.	3.0	41
64	Deoxygenation of graphene oxide using household baking soda as a reducing agent: a green approach. RSC Advances, 2015, 5, 70461-70472.	1.7	39
65	Organosulfonic acid functionalized zeolite ZSM-5 as temperature tolerant proton conducting material. International Journal of Hydrogen Energy, 2012, 37, 12513-12521.	3.8	38
66	Investigation of interfacial damping nanotube-based composite. Composites Part B: Engineering, 2013, 50, 354-361.	5.9	38
67	From rice husk to high performance shape stabilized phase change materials for thermal energy storage. RSC Advances, 2016, 6, 45595-45604.	1.7	35
68	Boxâ€Behnken experimental design for investigation of stability and thermal conductivity of TiO2 nanofluids. Journal of Nanoparticle Research, 2013, 15, 1.	0.8	32
69	Two parameter-tuned meta-heuristics for a discounted inventory control problem in a fuzzy environment. Information Sciences, 2014, 276, 42-62.	4.0	32
70	Biphasic calcium phosphate (BCP) macroporous scaffold with different ratios of HA/ β -TCP by combination of gel casting and polymer sponge methods. Advances in Applied Ceramics, 2012, 111, 367-373.	0.6	31
71	In vitro characterization and mechanical properties of β -calcium silicate/POC composite as a bone fixation device. Journal of Biomedical Materials Research - Part A, 2014, 102, 3973-3985.	2.1	31
72	Preparation and characterisation of microencapsulated paraffin wax with polyaniline-based polymer shells for thermal energy storage. Materials Research Innovations, 2014, 18, S6-480-S6-484.	1.0	28

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73	An overview of fluoride-based solid lubricants in sliding contacts. Journal of the European Ceramic Society, 2020, 40, 4974-4996.	2.8	28
74	Thermo-physical stability of fatty acid eutectic mixtures subjected to accelerated aging for thermal energy storage (TES) application. Applied Thermal Engineering, 2014, 66, 328-334.	3.0	26
75	Preparation and thermal characteristics of eutectic fatty acids/ Shorea javanica composite for thermal energy storage. Applied Thermal Engineering, 2016, 100, 62-67.	3.0	25
76	Wear of ceramics due to thermal stress: a thermal severity parameter. Wear, 2001, 249, 962-970.	1.5	24
77	The mechanical properties of thin alumina films deposited by metal-organic chemical vapour deposition. Thin Solid Films, 1995, 254, 153-163.	0.8	23
78	Residual stress and mechanical properties of Al_2O_3/ZrO_2 functionally graded material prepared by EPD from ϵ -butanone based suspension. Advances in Applied Ceramics, 2011, 110, 35-40.	0.6	23
79	Ion size, loading, and charge determine the mechanical properties, surface apatite, and cell growth of silver and tantalum doped calcium silicate. RSC Advances, 2016, 6, 190-200.	1.7	23
80	Cooling of air using heptadecane phase change material in shell and tube arrangement: Analytical and experimental study. Energy and Buildings, 2014, 85, 98-106.	3.1	21
81	Thermal Performance Study of Composite Phase Change Material with Polyacrylic and Conformal Coating. Materials, 2017, 10, 873.	1.3	21
82	Recent Advances in Scaffolding from Natural-Based Polymers for Volumetric Muscle Injury. Molecules, 2021, 26, 699.	1.7	20
83	Thermophysical properties of sustainable cement mortar containing oil palm boiler clinker (OPBC) as a fine aggregate. Construction and Building Materials, 2021, 268, 121091.	3.2	20
84	Thermal Performance and Numerical Simulation of the 1-Pyrene Carboxylic-Acid Functionalized Graphene Nanofluids in a Sintered Wick Heat Pipe. Energies, 2020, 13, 6542.	1.6	19
85	Prediction and optimization of stability parameters for titanium dioxide nanofluid using response surface methodology and artificial neural networks. Science and Engineering of Composite Materials, 2013, 20, 319-330.	0.6	18
86	On-demand dynamic performance of a thermal battery in tankless domestic solar water heating in the tropical region. Applied Thermal Engineering, 2020, 167, 114790.	3.0	18
87	Kinetics of Grain Growth in 718 Ni-Base Superalloy. Archives of Metallurgy and Materials, 2014, 59, 847-852.	0.6	17
88	Analysis of a thermal energy storage system for air cooling/heating application through cylindrical tube. Energy Conversion and Management, 2013, 76, 732-737.	4.4	15
89	Modelling of PV module with incremental conductance MPPT controlled buck-boost converter. , 2013, , ,		14
90	Characterization and Mechanical Properties of Calcium Silicate/Citric Acid-Based Polymer Composite Materials. International Journal of Applied Ceramic Technology, 2015, 12, 371-376.	1.1	12

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91	Synthesis of europium-doped calcium silicate hydrate via hydrothermal and coprecipitation method. <i>Ceramics International</i> , 2021, 47, 4803-4812.	2.3	12
92	Low-temperature green route synthesis of Fe ₃ O ₄ -C nanocomposite using Olive Leaves Extract. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2021, 271, 115276.	1.7	12
93	Evaluating a strain energy fatigue method using cyclic plasticity models. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2010, 33, 530-537.	1.7	10
94	Indoor Solar Thermal Energy Saving Time with Phase Change Material in a Horizontal Shell and Finned-Tube Heat Exchanger. <i>Scientific World Journal, The</i> , 2015, 2015, 1-7.	0.8	10
95	Highly hydrophobic silanized melamine foam for facile and uniform assembly of graphene nanoplatelet towards efficient light-to-thermal energy storage. <i>Materials Today Energy</i> , 2022, 28, 101077.	2.5	10
96	Preparation of Nickel Zinc Ferrite by Electrophoretic Deposition. <i>Journal of the Electrochemical Society</i> , 2011, 159, E18-E22.	1.3	9
97	Facile Preparation of Carbon Microcapsules Containing Phase-Change Material with Enhanced Thermal Properties. <i>Scientific World Journal, The</i> , 2014, 2014, 1-5.	0.8	9
98	Mechanochemical Synthesis and Characterization of Silver (Ag⁺) and Tantalum (Ta⁵⁺) Doped Calcium Silicate Nanopowders. <i>Science of Advanced Materials</i> , 2015, 7, 2664-2671.	0.1	9
99	Thermal Reliability of Myristic Acid/Palmitic Acid/Sodium Laurate Eutectic Mixture: A Feasibility Study of Accelerated Aging for Thermal Energy Storage Application. <i>Energy Procedia</i> , 2014, 61, 49-54.	1.8	8
100	Synthesis, Characterization and Filtration Properties of Ecofriendly Fe ₃ O ₄ Nanoparticles Derived from Olive Leaves Extract. <i>Materials</i> , 2021, 14, 4306.	1.3	8
101	Evaluation of cyclic plasticity models of multi-surface and non-linear hardening by an energy-based fatigue criterion. <i>Journal of Mechanical Science and Technology</i> , 2010, 24, 1255-1260.	0.7	7
102	Latent Heat Thermal Storage (LHTS) for Energy Sustainability. <i>Green Energy and Technology</i> , 2015, , 245-263.	0.4	6
103	Elastic properties of electrospun PVDF nanofibrous membranes: Experimental investigation and numerical modelling using pixel-based finite element method. <i>Polymer Testing</i> , 2020, 81, 106218.	2.3	6
104	Comparison of nanostructured nickel zinc ferrite and magnesium copper zinc ferrite prepared by water-in-oil microemulsion. <i>Electronic Materials Letters</i> , 2012, 8, 639-642.	1.0	5
105	Solar Hot Water Production by Using Latent Heat Storage Under Tropical Conditions. , 2016, , .		3
106	Nanoscale domain structures in 0.91Pb(Zn _{1/3} Nb _{2/3})O ₃ -0.09PbTiO ₃ (91PZN-9PT) single crystals studied by piezoresponse forcemicroscopy. <i>Phase Transitions</i> , 2014, 87, 419-426.	0.6	2
107	Domain structures on (001) and (111) planes in PZN-PT single crystal. <i>Emerging Materials Research</i> , 2013, 2, 104-108.	0.4	1
108	Solidification of Cu-Water nanofluid in a trapezoidal cavity: A CFD study. <i>IOP Conference Series: Materials Science and Engineering</i> , 2015, 88, 012013.	0.3	1

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109	X-Ray Powder Diffraction Studies of Mechanically Milled Cobalt. Advanced Materials Research, 2012, 626, 913-917.	0.3	0
110	Viscosity analysis of polypropylene-kaolin composites measured using single-screw extruder. Journal of Vinyl and Additive Technology, 2014, 20, 275-283.	1.8	0
111	Numerical study of freezing of Cu-water nanofluid in a trapezoidal cavity. , 2014, , .		0
112	Extraction of silica content from the Cymbopogon citratus (lemon grass) and its performance as reinforcement for polymers. , 2017, , .		0