

# Seunghwan Wi

## List of Publications by Year in descending order

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Version: 2024-02-01

91  
papers

2,264  
citations

186254

28  
h-index

276858

41  
g-index

91  
all docs

91  
docs citations

91  
times ranked

1552  
citing authors

#	ARTICLE	IF	CITATIONS
1	Thermal properties of shape-stabilized phase change materials using fatty acid ester and exfoliated graphite nanoplatelets for saving energy in buildings. <i>Solar Energy Materials and Solar Cells</i> , 2015, 143, 168-173.	6.2	106
2	Energy efficient Bio-based PCM with silica fume composites to apply in concrete for energy saving in buildings. <i>Solar Energy Materials and Solar Cells</i> , 2015, 143, 430-434.	6.2	87
3	Latent heat storage biocomposites of phase change material-biochar as feasible eco-friendly building materials. <i>Environmental Research</i> , 2019, 172, 637-648.	7.5	76
4	Improvement of thermal inertia effect in buildings using shape stabilized PCM wallboard based on the enthalpy-temperature function. <i>Sustainable Cities and Society</i> , 2020, 56, 102067.	10.4	64
5	Characterization of biocomposite using coconut oil impregnated biochar as latent heat storage insulation. <i>Chemosphere</i> , 2019, 236, 124269.	8.2	63
6	Structurally advanced hybrid support composite phase change materials: Architectural synergy. <i>Energy Storage Materials</i> , 2021, 42, 164-184.	18.0	63
7	Engineering biochar with multiwalled carbon nanotube for efficient phase change material encapsulation and thermal energy storage. <i>Energy</i> , 2021, 216, 119294.	8.8	59
8	An experimental study on applying organic PCMs to gypsum-cement board for improving thermal performance of buildings in different climates. <i>Energy and Buildings</i> , 2019, 190, 183-194.	6.7	56
9	A comparative analysis of biochar, activated carbon, expanded graphite, and multi-walled carbon nanotubes with respect to PCM loading and energy-storage capacities. <i>Environmental Research</i> , 2021, 195, 110853.	7.5	56
10	Biochar-red clay composites for energy efficiency as eco-friendly building materials: Thermal and mechanical performance. <i>Journal of Hazardous Materials</i> , 2019, 373, 844-855.	12.4	55
11	Comparative analysis of the PCM application according to the building type as retrofit system. <i>Building and Environment</i> , 2019, 151, 291-302.	6.9	52
12	Introduction of eicosane into biochar derived from softwood and wheat straw: Influence of porous structure and surface chemistry. <i>Chemical Engineering Journal</i> , 2021, 415, 128887.	12.7	52
13	Integrated analysis of the energy and economic efficiency of PCM as an indoor decoration element: Application to an apartment building. <i>Solar Energy</i> , 2020, 196, 437-447.	6.1	51
14	Analysis of walls of functional gypsum board added with porous material and phase change material to improve hygrothermal performance. <i>Energy and Buildings</i> , 2019, 183, 803-816.	6.7	46
15	Hygrothermal performance improvement of the Korean wood frame walls using macro-packed phase change materials (MPPCM). <i>Applied Thermal Engineering</i> , 2017, 114, 457-465.	6.0	45
16	Spent coffee grounds as supporting materials to produce bio-composite PCM with natural waxes. <i>Chemosphere</i> , 2019, 235, 626-635.	8.2	45
17	Energy retrofit of PCM-applied apartment buildings considering building orientation and height. <i>Energy</i> , 2021, 222, 119877.	8.8	43
18	Climatic cycling assessment of red clay/perlite and vermiculite composite PCM for improving thermal inertia in buildings. <i>Building and Environment</i> , 2020, 167, 106464.	6.9	41

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19	Optimal energy retrofit plan for conservation and sustainable use of historic campus building: Case of cultural property building. <i>Applied Energy</i> , 2020, 275, 115313.	10.1	41
20	Evaluation of environmental impact on the formaldehyde emission and flame-retardant performance of thermal insulation materials. <i>Journal of Hazardous Materials</i> , 2021, 402, 123463.	12.4	39
21	Development of thermal enhanced n-octadecane/porous nano carbon-based materials using 3-step filtered vacuum impregnation method. <i>Thermochimica Acta</i> , 2017, 655, 194-201.	2.7	38
22	Thermal transfer behavior of biochar-natural inorganic clay composite for building envelope insulation. <i>Construction and Building Materials</i> , 2019, 223, 668-678.	7.2	38
23	Optimization of phase change materials to improve energy performance within thermal comfort range in the South Korean climate. <i>Energy and Buildings</i> , 2019, 185, 12-25.	6.7	36
24	Impact of a passive retrofit shading system on educational building to improve thermal comfort and energy consumption. <i>Energy and Buildings</i> , 2020, 216, 109930.	6.7	35
25	Evaluation and analysis of volatile organic compounds and formaldehyde emission of building products in accordance with legal standards: A statistical experimental study. <i>Journal of Hazardous Materials</i> , 2020, 393, 122381.	12.4	35
26	Evaluation of energy efficient hybrid hollow plaster panel using phase change material/xGnP composites. <i>Applied Energy</i> , 2017, 205, 1548-1559.	10.1	30
27	Mechanical and thermal properties of artificial stone finishing materials mixed with PCM impregnated lightweight aggregate and carbon material. <i>Construction and Building Materials</i> , 2021, 272, 121882.	7.2	30
28	Thermal performance evaluation of macro-packed phase change materials (PCMs) using heat transfer analysis device. <i>Energy and Buildings</i> , 2016, 117, 120-127.	6.7	28
29	Energy efficient concrete with n-octadecane/xGnP SSPCM for energy conservation in infrastructure. <i>Construction and Building Materials</i> , 2016, 106, 543-549.	7.2	28
30	Microstructure and thermal characterization of aerogel-graphite polyurethane spray-foam composite for high efficiency thermal energy utilization. <i>Journal of Hazardous Materials</i> , 2020, 397, 122656.	12.4	27
31	Hygrothermal and energy retrofit planning of masonry facade historic building used as museum and office: A cultural properties case study. <i>Energy</i> , 2020, 201, 117607.	8.8	27
32	Thermal bridging analysis of connections in cross-laminated timber buildings based on ISO 10211. <i>Construction and Building Materials</i> , 2019, 213, 709-722.	7.2	26
33	Thermal Performance Evaluation of Fatty Acid Ester and Paraffin Based Mixed SSPCMs Using Exfoliated Graphite Nanoplatelets (xGnP). <i>Applied Sciences (Switzerland)</i> , 2016, 6, 106.	2.5	25
34	Development and performance evaluation of heat storage paint with MPCM for applying roof materials as basic research. <i>Energy and Buildings</i> , 2016, 112, 62-68.	6.7	23
35	Thermal and characteristic analysis of shape-stabilization phase change materials by advanced vacuum impregnation method using carbon-based materials. <i>Journal of Industrial and Engineering Chemistry</i> , 2019, 70, 281-289.	5.8	23
36	Moisture risk assessment of cross-laminated timber walls: Perspectives on climate conditions and water vapor resistance performance of building materials. <i>Building and Environment</i> , 2020, 168, 106502.	6.9	23

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37	Field study on the improvement of indoor air quality with toluene adsorption finishing materials in an urban residential apartment. <i>Environmental Pollution</i> , 2020, 261, 114137.	7.5	23
38	Thermoconductive n-alkane enables ultra-high shape/thermal stability, durability, and ambient thermal energy harvesting. <i>Chemical Engineering Journal</i> , 2021, 420, 130374.	12.7	23
39	Field study on indoor air quality of wood remodeled welfare facilities for physical and psychological benefits. <i>Journal of Cleaner Production</i> , 2019, 233, 197-208.	9.3	22
40	Novel proposal to overcome insulation limitations due to nonlinear structures using 3D printing: Hybrid heat-storage system. <i>Energy and Buildings</i> , 2019, 197, 177-187.	6.7	22
41	Energy performance evaluation of heat-storage gypsum board with hybrid SSPCM composite. <i>Journal of Industrial and Engineering Chemistry</i> , 2017, 51, 237-243.	5.8	21
42	Thermal performance enhancement of a phase change material with expanded graphite via ultrasonication. <i>Journal of Industrial and Engineering Chemistry</i> , 2019, 79, 437-442.	5.8	21
43	Hygrothermal properties analysis of cross-laminated timber wall with internal and external insulation systems. <i>Journal of Cleaner Production</i> , 2019, 231, 1353-1363.	9.3	21
44	Development of wood-lime boards as building materials improving thermal and moisture performance based on hygrothermal behavior evaluation. <i>Construction and Building Materials</i> , 2019, 204, 576-585.	7.2	21
45	Development of heat storage gypsum board with paraffin-based mixed SSPCM for application to buildings. <i>Journal of Adhesion Science and Technology</i> , 2017, 31, 297-309.	2.6	20
46	Assessment of recycled ceramic-based inorganic insulation for improving energy efficiency and flame retardancy of buildings. <i>Environment International</i> , 2019, 130, 104900.	10.0	20
47	Evaluation of thermal properties of phase change material-integrated artificial stone according to biochar loading content. <i>Construction and Building Materials</i> , 2021, 305, 124682.	7.2	20
48	Hazard evaluation of indoor environment based on long-term pollutant emission characteristics of building insulation materials: An empirical study. <i>Environmental Pollution</i> , 2021, 285, 117223.	7.5	19
49	Development and evaluation of gypsum/shape-stabilization phase change materials using large-capacity vacuum impregnator for thermal energy storage. <i>Applied Energy</i> , 2019, 241, 278-290.	10.1	18
50	Experimental study and assessment of high-tech thermal energy storing radiant floor heating system with latent heat storage materials. <i>International Journal of Thermal Sciences</i> , 2020, 155, 106410.	4.9	18
51	Thermal, hygric, and environmental performance evaluation of thermal insulation materials for their sustainable utilization in buildings. <i>Environmental Pollution</i> , 2021, 272, 116033.	7.5	18
52	Effect of eco-friendly pervious concrete with amorphous metallic fiber on evaporative cooling performance. <i>Journal of Environmental Management</i> , 2021, 297, 113269.	7.8	18
53	Exterior insulation finishing system using cementitious plaster/microencapsulated phase change material for improving the building thermal storage performance. <i>Construction and Building Materials</i> , 2021, 299, 123932.	7.2	17
54	Numerical analysis of hygrothermal properties and behavior of Korean based cross-laminated timber (CLT) wall system to deduce optimal assemblies. <i>Journal of Cleaner Production</i> , 2019, 213, 1217-1227.	9.3	16

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55	Numerical analysis of phase change materials/wood-plastic composite roof module system for improving thermal performance. <i>Journal of Industrial and Engineering Chemistry</i> , 2020, 82, 413-423.	5.8	16
56	Toxicity characteristics and fire retardant performance of commercially manufactured organic insulation materials for building applications. <i>Construction and Building Materials</i> , 2022, 341, 127898.	7.2	16
57	Analysis of energy retrofit system using latent heat storage materials applied to residential buildings considering climate impacts. <i>Applied Thermal Engineering</i> , 2020, 169, 114904.	6.0	15
58	Performance of the hygrothermal behavior of the CLT wall using different types of insulation; XPS, PF board and glass wool. <i>Case Studies in Thermal Engineering</i> , 2021, 24, 100846.	5.7	15
59	Evaluation of thermal properties and acetaldehyde adsorption performance of sustainable composites using waste wood and biochar. <i>Environmental Research</i> , 2021, 196, 110910.	7.5	15
60	Experimental verification of the theoretical aging of vacuum insulated panels. <i>Journal of Industrial and Engineering Chemistry</i> , 2020, 90, 300-304.	5.8	13
61	Evaluation of hygrothermal performance of wood-derived biocomposite with biochar in response to climate change. <i>Environmental Research</i> , 2021, 193, 110359.	7.5	13
62	Three-dimensional hybrid carbon nanocomposite-based intelligent composite phase change material with leakage resistance, low electrical resistivity, and high latent heat. <i>Journal of Industrial and Engineering Chemistry</i> , 2021, 98, 435-443.	5.8	13
63	Energy retrofit analysis of cross-laminated timber residential buildings in Seoul, Korea: Insights from a case study of packages. <i>Energy and Buildings</i> , 2019, 202, 109329.	6.7	12
64	Analysis of Cooling and Heating Energy Demands of Wooden Houses with Cross-laminated Timber (CLT) Using Domestic Plywood as Core Materials. <i>Journal of the Korean Society of Living Environmental System</i> , 2017, 24, 752-759.	0.2	12
65	Prediction evaluating of moisture problems in light-weight wood structure: Perspectives on regional climates and building materials. <i>Building and Environment</i> , 2020, 168, 106521.	6.9	11
66	Analysis on phase transition range of the pure and mixed phase change materials (PCM) using a thermostatic chamber test and differentiation. <i>Journal of Thermal Analysis and Calorimetry</i> , 2018, 131, 1999-2004.	3.6	10
67	Dynamic heat transfer and thermal performance evaluation of PCM-doped hybrid hollow plaster panels for buildings. <i>Journal of Hazardous Materials</i> , 2019, 374, 428-436.	12.4	10
68	Development of vacuum impregnation equipment and preparation of mass/uniform shape-stabilized phase change materials. <i>International Journal of Heat and Mass Transfer</i> , 2019, 132, 817-824.	4.8	10
69	Numerical analysis on the hygrothermal behavior of building envelope according to CLT wall assembly considering the hygrothermal-environmental zone in Korea. <i>Environmental Research</i> , 2020, 191, 110198.	7.5	10
70	Developing energy-efficient temporary houses for sustainable urban regeneration: Manufacturing homes with loess, perlite, and vermiculite. <i>Sustainable Cities and Society</i> , 2020, 61, 102287.	10.4	10
71	Thermal performance evaluation of Hwangtoh board developed with styrene butadiene latex/SSPCM. <i>Construction and Building Materials</i> , 2019, 200, 310-317.	7.2	9
72	Thermal performance analysis of phase change materials composed of double layers considering heating and cooling period. <i>Journal of Industrial and Engineering Chemistry</i> , 2019, 72, 255-264.	5.8	9

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73	Passive PM2.5 control plan of educational buildings by using airtight improvement technologies in South Korea. <i>Journal of Hazardous Materials</i> , 2022, 423, 126990.	12.4	9
74	Practical solutions with PCM for providing thermal stability of temporary house, school and hospital in disaster situations. <i>Building and Environment</i> , 2022, 207, 108540.	6.9	9
75	Energy-efficient Heat Storage using Gypsum Board with Fatty Acid Ester as Layered Phase Change Material. <i>Energy Technology</i> , 2017, 5, 1392-1398.	3.8	8
76	Analysis of the influence of moisture and temperature control according to the combination of porous sediment and MPCM. <i>Journal of Industrial and Engineering Chemistry</i> , 2021, 97, 390-401.	5.8	7
77	Evaluation of the Adsorption Performance and Sustainability of Exfoliated Graphite Nanoplatelets (xGnP) for VOCs. <i>Materials</i> , 2015, 8, 7615-7621.	2.9	6
78	Performance evaluation of macro-packed fatty acid ester composites using energy-efficient thermal storage systems. <i>Journal of Industrial and Engineering Chemistry</i> , 2017, 55, 215-223.	5.8	6
79	Framework for developing a building material property database using web crawling to improve the applicability of energy simulation tools. <i>Renewable and Sustainable Energy Reviews</i> , 2020, 121, 109665.	16.4	6
80	Thermal Storage Effect Analysis of Floor Heating Systems Using Latent Heat Storage Sheets. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2019, 6, 799-807.	4.9	5
81	Effective thermal performance analysis of vacuum insulation panel with metal-less film and infrared-dried core material. <i>Energy and Buildings</i> , 2021, 233, 110684.	6.7	5
82	Evaluation of Toluene Adsorption Performance of Mortar Adhesives Using Porous Carbon Material as Adsorbent. <i>Materials</i> , 2017, 10, 853.	2.9	3
83	Energy performance evaluation of heat storage of calcium sulfate hemihydrate composite with fine aggregate based on paraffinic phase change material. <i>Journal of Building Engineering</i> , 2021, 42, 103075.	3.4	3
84	Analysis of Hygrothermal Performance for Standard Wood-frame Structures in Korea. <i>Journal of the Korean Wood Science and Technology</i> , 2016, 44, 440-448.	3.0	3
85	Evaluation and Analysis of The Building Energy Saving Performance by Component of Wood Products Using EnergyPlus. <i>Journal of the Korean Wood Science and Technology</i> , 2016, 44, 655-663.	3.0	3
86	Verification of particle matter generation due to deterioration of building materials as the cause of indoor fine dust. <i>Journal of Hazardous Materials</i> , 2021, 416, 125920.	12.4	2
87	Smart heat storage building material development with Loess and SSPCM for building energy saving. <i>IOP Conference Series: Materials Science and Engineering</i> , 2019, 609, 062017.	0.6	0
88	Manufacture of optimized PCM within thermal comfort range to improve building energy performance. <i>IOP Conference Series: Materials Science and Engineering</i> , 2019, 609, 042019.	0.6	0
89	Dynamic heat transfer analysis on hwangtoh with PCM/eco-material for improving thermal inertia. <i>IOP Conference Series: Materials Science and Engineering</i> , 2019, 609, 062019.	0.6	0
90	Simulation-based analysis of optimized PCM to improve building energy performance and indoor thermal environment. <i>IOP Conference Series: Materials Science and Engineering</i> , 2019, 609, 042056.	0.6	0

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91	Simulation analysis of Macro-Packed Phase Change Materials (MPPCM) to reduce building energy use. IOP Conference Series: Materials Science and Engineering, 2019, 609, 042058.	0.6	0