

# Choongwan Koo

## List of Publications by Year in descending order

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90  
papers

3,044  
citations

126858

33  
h-index

182361

51  
g-index

91  
all docs

91  
docs citations

91  
times ranked

2287  
citing authors

#	ARTICLE	IF	CITATIONS
1	A review on sustainable construction management strategies for monitoring, diagnosing, and retrofitting the building's dynamic energy performance: Focused on the operation and maintenance phase. <i>Applied Energy</i> , 2015, 155, 671-707.	5.1	140
2	Development of a method for estimating the rooftop solar photovoltaic (PV) potential by analyzing the available rooftop area using Hillshade analysis. <i>Applied Energy</i> , 2017, 194, 320-332.	5.1	127
3	A GIS (geographic information system)-based optimization model for estimating the electricity generation of the rooftop PV (photovoltaic) system. <i>Energy</i> , 2014, 65, 190-199.	4.5	102
4	LCC and LCCO2 analysis of green roofs in elementary schools with energy saving measures. <i>Energy and Buildings</i> , 2012, 45, 229-239.	3.1	100
5	A CBR-based hybrid model for predicting a construction duration and cost based on project characteristics in multi-family housing projects. <i>Canadian Journal of Civil Engineering</i> , 2010, 37, 739-752.	0.7	93
6	An optimization model for selecting the optimal green systems by considering the thermal comfort and energy consumption. <i>Applied Energy</i> , 2016, 169, 682-695.	5.1	85
7	Development of a new energy efficiency rating system for existing residential buildings. <i>Energy Policy</i> , 2014, 68, 218-231.	4.2	78
8	An estimation model for determining the annual energy cost budget in educational facilities using SARIMA (seasonal autoregressive integrated moving average) and ANN (artificial neural network). <i>Energy</i> , 2014, 71, 71-79.	4.5	75
9	A decision support model for reducing electric energy consumption in elementary school facilities. <i>Applied Energy</i> , 2012, 95, 253-266.	5.1	74
10	An estimation model for the heating and cooling demand of a residential building with a different envelope design using the finite element method. <i>Applied Energy</i> , 2014, 115, 205-215.	5.1	73
11	Framework for the analysis of the potential of the rooftop photovoltaic system to achieve the net-zero energy solar buildings. <i>Progress in Photovoltaics: Research and Applications</i> , 2014, 22, 462-478.	4.4	67
12	An economic and environmental assessment for selecting the optimum new renewable energy system for educational facility. <i>Renewable and Sustainable Energy Reviews</i> , 2014, 29, 286-300.	8.2	65
13	An integrated multi-objective optimization model for determining the optimal solution in implementing the rooftop photovoltaic system. <i>Renewable and Sustainable Energy Reviews</i> , 2016, 57, 822-837.	8.2	65
14	Estimation of the Monthly Average Daily Solar Radiation using Geographic Information System and Advanced Case-Based Reasoning. <i>Environmental Science &amp; Technology</i> , 2013, 47, 4829-4839.	4.6	63
15	The development of a construction cost prediction model with improved prediction capacity using the advanced CBR approach. <i>Expert Systems With Applications</i> , 2011, 38, 8597-8606.	4.4	62
16	Development of the smart photovoltaic system blind and its impact on net-zero energy solar buildings using technical-economic-political analyses. <i>Energy</i> , 2017, 124, 382-396.	4.5	59
17	A decision support model for improving a multi-family housing complex based on CO2 emission from gas energy consumption. <i>Building and Environment</i> , 2012, 52, 142-151.	3.0	56
18	AN INTEGRATED MULTI-OBJECTIVE OPTIMIZATION MODEL FOR SOLVING THE CONSTRUCTION TIME-COST TRADE-OFF PROBLEM. <i>Journal of Civil Engineering and Management</i> , 2015, 21, 323-333.	1.9	55

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19	An optimized gene expression programming model for forecasting the national CO2 emissions in 2030 using the metaheuristic algorithms. <i>Applied Energy</i> , 2018, 228, 808-820.	5.1	54
20	Framework for the Mapping of the Monthly Average Daily Solar Radiation Using an Advanced Case-Based Reasoning and a Geostatistical Technique. <i>Environmental Science &amp; Technology</i> , 2014, 48, 4604-4612.	4.6	50
21	Establishment of an optimal occupant behavior considering the energy consumption and indoor environmental quality by region. <i>Applied Energy</i> , 2017, 204, 1431-1443.	5.1	50
22	Framework for the implementation of a new renewable energy system in an educational facility. <i>Applied Energy</i> , 2013, 103, 539-551.	5.1	47
23	Decision support model for establishing the optimal energy retrofit strategy for existing multi-family housing complexes. <i>Energy Policy</i> , 2014, 66, 157-169.	4.2	46
24	A real-time optimal control strategy for multi-zone VAV air-conditioning systems adopting a multi-agent based distributed optimization method. <i>Applied Energy</i> , 2021, 287, 116605.	5.1	43
25	Benchmarks as a tool for free allocation through comparison with similar projects: Focused on multi-family housing complex. <i>Applied Energy</i> , 2014, 114, 663-675.	5.1	42
26	An integrated psychological response score of the occupants based on their activities and the indoor environmental quality condition changes. <i>Building and Environment</i> , 2017, 123, 66-77.	3.0	42
27	A decision support model for improving a multi-family housing complex based on CO2 emission from electricity consumption. <i>Journal of Environmental Management</i> , 2012, 112, 67-78.	3.8	40
28	A model for predicting the environmental impacts of educational facilities in the project planning phase. <i>Journal of Cleaner Production</i> , 2015, 107, 538-549.	4.6	40
29	An integrated multi-objective optimization model for establishing the low-carbon scenario 2020 to achieve the national carbon emissions reduction target for residential buildings. <i>Renewable and Sustainable Energy Reviews</i> , 2015, 49, 410-425.	8.2	39
30	An economic impact analysis of state solar incentives for improving financial performance of residential solar photovoltaic systems in the United States. <i>Renewable and Sustainable Energy Reviews</i> , 2016, 58, 590-607.	8.2	38
31	Development of a dynamic operational rating system in energy performance certificates for existing buildings: Geostatistical approach and data-mining technique. <i>Applied Energy</i> , 2015, 154, 254-270.	5.1	37
32	Spatial perception of ceiling height and type variation in immersive virtual environments. <i>Building and Environment</i> , 2019, 163, 106285.	3.0	37
33	A novel operation approach for the energy efficiency improvement of the HVAC system in office spaces through real-time big data analytics. <i>Renewable and Sustainable Energy Reviews</i> , 2020, 127, 109885.	8.2	37
34	Assessment of Seasonal Energy Efficiency Strategies of a Double Skin Façade in a Monsoon Climate Region. <i>Energies</i> , 2013, 6, 4352-4376.	1.6	34
35	Framework for establishing the optimal implementation strategy of a fuel-cell-based combined heat and power system: Focused on multi-family housing complex. <i>Applied Energy</i> , 2014, 127, 11-24.	5.1	33
36	Life cycle economic and environmental assessment for establishing the optimal implementation strategy of rooftop photovoltaic system in military facility. <i>Journal of Cleaner Production</i> , 2015, 104, 315-327.	4.6	33

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37	Nonlinearity analysis of the shading effect on the technicalâ€™economic performance of the building-integrated photovoltaic blind. Applied Energy, 2017, 194, 467-480.	5.1	33
38	Development of a prediction model for the cost saving potentials in implementing the building energy efficiency rating certification. Applied Energy, 2017, 189, 257-270.	5.1	32
39	A finite element model for estimating the techno-economic performance of the building-integrated photovoltaic blind. Applied Energy, 2016, 179, 211-227.	5.1	31
40	A novel real-time method for HVAC system operation to improve indoor environmental quality in meeting rooms. Building and Environment, 2018, 144, 365-385.	3.0	30
41	Integrated CO <sub>2</sub> , cost, and schedule management system for building construction projects using the earned value management theory. Journal of Cleaner Production, 2015, 103, 275-285.	4.6	29
42	Advanced Strategies for Net-Zero Energy Building: Focused on the Early Phase and Usage Phase of a Buildingâ€™s Life Cycle. Sustainability, 2017, 9, 2272.	1.6	29
43	A program-level management system for the life cycle environmental and economic assessment of complex building projects. Environmental Impact Assessment Review, 2015, 54, 9-21.	4.4	28
44	Framework for the analysis of the low-carbon scenario 2020 to achieve the national carbon Emissions reduction target: Focused on educational facilities. Energy Policy, 2014, 73, 356-367.	4.2	27
45	Estimation of the Available Rooftop Area for Installing the Rooftop Solar Photovoltaic (PV) System by Analyzing the Building Shadow Using Hillshade Analysis. Energy Procedia, 2016, 88, 408-413.	1.8	27
46	A Preliminary Study on the 2-axis Hybrid Solar Tracking Method for the Smart Photovoltaic Blind. Energy Procedia, 2016, 88, 484-490.	1.8	27
47	An estimation methodology for the dynamic operational rating of a new residential building using the advanced case-based reasoning and stochastic approaches. Applied Energy, 2015, 150, 308-322.	5.1	26
48	A dynamic energy performance curve for evaluating the historical trends in the energy performance of existing buildings using a simplified case-based reasoning approach. Energy and Buildings, 2015, 92, 338-350.	3.1	24
49	An integrated multi-objective optimization model for determining the optimal solution in the solar thermal energy system. Energy, 2016, 102, 416-426.	4.5	23
50	Toward productivity in future construction: mapping knowledge and finding insights for achieving successful offsite construction projects. Journal of Computational Design and Engineering, 2021, 8, 1-14.	1.5	23
51	An economic impact analysis of residential progressive electricity tariffs in implementing the building-integrated photovoltaic blind using an advanced finite element model. Applied Energy, 2017, 202, 259-274.	5.1	21
52	A BREAK-EVEN ANALYSIS AND IMPACT ANALYSIS OF RESIDENTIAL SOLAR PHOTOVOLTAIC SYSTEMS CONSIDERING STATE SOLAR INCENTIVES. Technological and Economic Development of Economy, 2018, 24, 358-382.	2.3	20
53	A Lagrangian finite element model for estimating the heating and cooling demand of a residential building with a different envelope design. Applied Energy, 2015, 142, 66-79.	5.1	19
54	A novel estimation approach for the solar radiation potential with its complex spatial pattern via machine-learning techniques. Renewable Energy, 2019, 133, 575-592.	4.3	19

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55	An Economic and Environmental Assessment Model for Selecting the Optimal Implementation Strategy of Fuel Cell Systemsâ€”A Focus on Building Energy Policy. <i>Energies</i> , 2014, 7, 5129-5150.	1.6	18
56	Zoningâ€”Based Vertical Transportation Optimization for Workers at Peak Time in a Skyscraper Construction. <i>Computer-Aided Civil and Infrastructure Engineering</i> , 2016, 31, 826-845.	6.3	18
57	Improvements of the operational rating system for existing residential buildings. <i>Applied Energy</i> , 2017, 193, 112-124.	5.1	18
58	Establishment of a base price for the Solar Renewable Energy Credit (SREC) from the perspective of residents and state governments in the United States. <i>Renewable and Sustainable Energy Reviews</i> , 2017, 75, 1066-1080.	8.2	18
59	Multi-criteria decision support system of the photovoltaic and solar thermal energy systems using the multi-objective optimization algorithm. <i>Science of the Total Environment</i> , 2019, 659, 1100-1114.	3.9	18
60	A decision support system for determining the optimal size of a new expressway service area: Focused on the profitability. <i>Decision Support Systems</i> , 2014, 67, 9-20.	3.5	17
61	Development of the life-cycle economic and environmental assessment model for establishing the optimal implementation strategy of the rooftop photovoltaic system. <i>Technological and Economic Development of Economy</i> , 2015, 24, 27-47.	2.3	17
62	Framework for Approaching the Minimum CV(RMSE) using Energy Simulation and Optimization Tool. <i>Energy Procedia</i> , 2016, 88, 265-270.	1.8	17
63	The optimal photovoltaic system implementation strategy to achieve the national carbon emissions reduction target in 2030: Focused on educational facilities. <i>Energy and Buildings</i> , 2016, 119, 101-110.	3.1	17
64	An integrated model for estimating the techno-economic performance of the distributed solar generation system on building facades: Focused on energy demand and supply. <i>Applied Energy</i> , 2018, 228, 1071-1090.	5.1	16
65	A Prototype Design and Development of the Smart Photovoltaic System Blind Considering the Photovoltaic Panel, Tracking System, and Monitoring System. <i>Applied Sciences (Switzerland)</i> , 2017, 7, 1077.	1.3	15
66	An Environmental and Economic Assessment for Selecting the Optimal Ground Heat Exchanger by Considering the Entering Water Temperature. <i>Energies</i> , 2015, 8, 7752-7776.	1.6	14
67	Theory of an Intelligent Planning Unit for the Complex Built Environment. <i>Journal of Management in Engineering - ASCE</i> , 2017, 33, 04016046.	2.6	14
68	Infrastructure asset management system for bridge projects in South Korea. <i>KSCE Journal of Civil Engineering</i> , 2013, 17, 1551-1561.	0.9	13
69	A simplified estimation model for determining the optimal rooftop photovoltaic system for gable roofs. <i>Energy and Buildings</i> , 2017, 151, 320-331.	3.1	13
70	A model for determining the optimal lease payment in the solar lease business for residences and third-party companies â€” With focus on the region and on multi-family housing complexes. <i>Renewable and Sustainable Energy Reviews</i> , 2018, 82, 824-836.	8.2	13
71	Integrated Approach to Evaluating the Effect of Indoor CO2 Concentration on Human Cognitive Performance and Neural Responses in Office Environment. <i>Journal of Management in Engineering - ASCE</i> , 2022, 38, .	2.6	13
72	Development of an integrated multi-objective optimization model for determining the optimal solar incentive design. <i>International Journal of Energy Research</i> , 2017, 41, 1749-1766.	2.2	12

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73	Improving the prediction performance of the finite element model for estimating the technical performance of the distributed generation of solar power system in a building facade. Applied Energy, 2018, 215, 41-53.	5.1	12
74	EEG-Based Circumplex Model of Affect for Identifying Interindividual Differences in Thermal Comfort. Journal of Management in Engineering - ASCE, 2022, 38, .	2.6	12
75	Performance Optimization Studies on Heating, Cooling and Lighting Energy Systems of Buildings during the Design Stage: A Review. Sustainability, 2021, 13, 9815.	1.6	11
76	Framework for the validation of simulation-based productivity analysis: focused on curtain wall construction process. Journal of Civil Engineering and Management, 2016, 23, 163-172.	1.9	10
77	A Preliminary Study for Determining Photovoltaic Panel for a Smart Photovoltaic Blind Considering Usability and Constructability Issues. Energy Procedia, 2016, 88, 363-367.	1.8	10
78	Estimating the Loss Ratio of Solar Photovoltaic Electricity Generation through Stochastic Analysis. Journal of Construction Engineering and Project Management, 2013, 3, 23-34.	0.6	9
79	DEVELOPMENT OF A DYNAMIC INCENTIVE AND PENALTY PROGRAM FOR IMPROVING THE ENERGY PERFORMANCE OF EXISTING BUILDINGS. Technological and Economic Development of Economy, 2018, 24, 295-317.	2.3	8
80	Development of the hybrid model for estimating the undisturbed ground temperature using the finite element method and geostatistical technique. Energy and Buildings, 2017, 152, 162-174.	3.1	7
81	Embodied and Operational CO2 Emissions of the Elementary School Buildings in Different Climate Zones. KSCE Journal of Civil Engineering, 2020, 24, 1037-1048.	0.9	6
82	Automated Generation of Precast Concrete Slab Stacks for Transportation in Offsite Construction Projects. Journal of Construction Engineering and Management - ASCE, 2022, 148, .	2.0	6
83	Mapping the Rescue Equipment Mobilization Potential: Decision Support Tool for Emergency Management. Journal of Management in Engineering - ASCE, 2017, 33, 04017037.	2.6	5
84	DEVELOPMENT OF THE MONTHLY AVERAGE DAILY SOLAR RADIATION MAP USING A-CBR, FEM, AND KRIGING METHOD. Technological and Economic Development of Economy, 2018, 24, 489-512.	2.3	5
85	Integrated approach to evaluating the impact of feed-in tariffs on the life cycle economic performance of photovoltaic systems in China: A case study of educational facilities. Energy, 2022, 254, 124302.	4.5	5
86	A scalable platform for investigating the space-specific features of the temporal energy usage pattern and saving potential with real-time bigdata. Journal of Cleaner Production, 2021, 314, 128028.	4.6	4
87	A Techno-Economic Feasibility Analysis of Mono-Si and Poly-Si Photovoltaic Systems in the Rooftop Area of Commercial Building under the Feed-In Tariff Scheme. Sustainability, 2021, 13, 4709.	1.6	3
88	A Conceptual Framework for an Intelligent Planning Unit for the Complex Built Environment. Procedia Engineering, 2016, 161, 269-274.	1.2	1
89	Dynamic analysis of the urban-based low-carbon policy using system dynamics: Focused on housing and green space. , 2015, , .		0
90	Energy Efficiency in the Building Sector: The Effect of Residential Progressive Electricity Tariffs on the Economic Performance of the Building-Integrated Photovoltaic Blind. Green Energy and Technology, 2018, , 793-808.	0.4	0