

William O'Brien

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

112
papers

3,090
citations

31
h-index

53
g-index

127
ext. papers

3,724
ext. citations

4.7
avg, IF

6.18
L-index

#	Paper	IF	Citations
112	Occupant behavior modeling for building performance simulation: Current state and future challenges. <i>Energy and Buildings</i> , 2015 , 107, 264-278	7	477
111	Assessing gaps and needs for integrating building performance optimization tools in net zero energy buildings design. <i>Energy and Buildings</i> , 2013 , 60, 110-124	7	253
110	A critical review of observation studies, modeling, and simulation of adaptive occupant behaviors in offices. <i>Building and Environment</i> , 2013 , 70, 31-47	6.5	173
109	The contextual factors contributing to occupants' adaptive comfort behaviors in offices [A review and proposed modeling framework. <i>Building and Environment</i> , 2014 , 77, 77-87	6.5	161
108	Manually-operated window shade patterns in office buildings: A critical review. <i>Building and Environment</i> , 2013 , 60, 319-338	6.5	150
107	Development and implementation of an adaptive lighting and blinds control algorithm. <i>Building and Environment</i> , 2017 , 113, 185-199	6.5	98
106	A critical review of field implementations of occupant-centric building controls. <i>Building and Environment</i> , 2019 , 165, 106351	6.5	78
105	A review of factors affecting occupant comfort in multi-unit residential buildings. <i>Building and Environment</i> , 2019 , 160, 106182	6.5	64
104	Introducing IEA EBC annex 79: Key challenges and opportunities in the field of occupant-centric building design and operation. <i>Building and Environment</i> , 2020 , 178, 106738	6.5	62
103	On occupant-centric building performance metrics. <i>Building and Environment</i> , 2017 , 122, 373-385	6.5	59
102	Implementation and comparison of existing occupant behaviour models in EnergyPlus. <i>Journal of Building Performance Simulation</i> , 2016 , 9, 567-588	2.8	56
101	On adaptive occupant-learning window blind and lighting controls. <i>Building Research and Information</i> , 2014 , 42, 739-756	4.3	53
100	A preliminary study of representing the inter-occupant diversity in occupant modelling. <i>Journal of Building Performance Simulation</i> , 2017 , 10, 509-526	2.8	49
99	Oh behave! Survey stories and lessons learned from building occupants in high-performance buildings. <i>Energy Research and Social Science</i> , 2017 , 31, 11-20	7.7	49
98	Modeling plug-in equipment load patterns in private office spaces. <i>Energy and Buildings</i> , 2016 , 121, 234-249	4.9	45
97	Development of an occupancy learning algorithm for terminal heating and cooling units. <i>Building and Environment</i> , 2015 , 93, 71-85	6.5	44
96	A review of select human-building interfaces and their relationship to human behavior, energy use and occupant comfort. <i>Building and Environment</i> , 2020 , 178, 106920	6.5	44

95	Review of current methods, opportunities, and challenges for in-situ monitoring to support occupant modelling in office spaces. <i>Journal of Building Performance Simulation</i> , 2017 , 10, 444-470	2.8	44
94	Comparison of machine learning models for occupancy prediction in residential buildings using connected thermostat data. <i>Building and Environment</i> , 2019 , 160, 106177	6.5	42
93	Development and implementation of automated fault detection and diagnostics for building systems: A review. <i>Automation in Construction</i> , 2019 , 104, 215-229	9.6	41
92	Simulating occupants' impact on building energy performance at different spatial scales. <i>Building and Environment</i> , 2018 , 132, 327-337	6.5	41
91	A longitudinal study of thermostat behaviors based on climate, seasonal, and energy price considerations using connected thermostat data. <i>Building and Environment</i> , 2018 , 139, 199-210	6.5	41
90	The Relationship between Net Energy Use and the Urban Density of Solar Buildings. <i>Environment and Planning B: Planning and Design</i> , 2010 , 37, 1002-1021		41
89	Mitigating office performance uncertainty of occupant use of window blinds and lighting using robust design. <i>Building Simulation</i> , 2015 , 8, 621-636	3.9	39
88	Coupling stochastic occupant models to building performance simulation using the discrete event system specification formalism. <i>Journal of Building Performance Simulation</i> , 2014 , 7, 457-478	2.8	39
87	An international review of occupant-related aspects of building energy codes and standards. <i>Building and Environment</i> , 2020 , 179, 106906	6.5	38
86	Development and implementation of a thermostat learning algorithm. <i>Science and Technology for the Built Environment</i> , 2018 , 24, 43-56	1.8	36
85	International survey on current occupant modelling approaches in building performance simulation—Isabella Gaetani, Sara Gilani, and Salvatore Carlucci contributed equally to this work. View all notes. <i>Journal of Building Performance Simulation</i> , 2017 , 10, 653-671	2.8	36
84	Use of dynamic occupant behavior models in the building design and code compliance processes. <i>Energy and Buildings</i> , 2016 , 117, 260-271	7	35
83	On the behavioral effects of residential electricity submetering in a heating season. <i>Building and Environment</i> , 2014 , 81, 396-403	6.5	33
82	Shortest-prediction-horizon model-based predictive control for individual offices. <i>Building and Environment</i> , 2014 , 82, 408-419	6.5	33
81	Does telecommuting save energy? A critical review of quantitative studies and their research methods. <i>Energy and Buildings</i> , 2020 , 225, 110298	7	31
80	A preliminary study of occupants' use of manual lighting controls in private offices: A case study. <i>Energy and Buildings</i> , 2018 , 159, 572-586	7	30
79	Data visualization and analysis of energy flow on a multi-zone building scale. <i>Automation in Construction</i> , 2017 , 84, 258-273	9.6	28
78	Towards occupant-centric simulation-aided building design: a case study. <i>Building Research and Information</i> , 2019 , 47, 866-882	4.3	26

77	A method to conduct longitudinal studies on indoor environmental quality and perceived occupant comfort. <i>Building and Environment</i> , 2019 , 150, 88-98	6.5	26
76	Thermal zoning and interzonal airflow in the design and simulation of solar houses: a sensitivity analysis. <i>Journal of Building Performance Simulation</i> , 2011 , 4, 239-256	2.8	23
75	Visualization of energy and water consumption and GHG emissions: A case study of a Canadian University Campus. <i>Energy and Buildings</i> , 2015 , 109, 334-352	7	22
74	Simulation-aided occupant-centric building design: A critical review of tools, methods, and applications. <i>Energy and Buildings</i> , 2020 , 224, 110292	7	22
73	Sensitivity analysis and optimization of building operations. <i>Energy and Buildings</i> , 2019 , 199, 164-175	7	21
72	On quantifying building performance adaptability to variable occupancy. <i>Building and Environment</i> , 2019 , 155, 257-267	6.5	19
71	Field study of thermal comfort and occupant satisfaction in Canadian condominiums. <i>Architectural Science Review</i> , 2017 , 60, 27-39	2.6	19
70	Model-based predictive control of office window shades. <i>Building Research and Information</i> , 2016 , 44, 445-455	4.3	18
69	Office building plug and light loads: Comparison of a multi-tenant office tower to conventional assumptions. <i>Energy and Buildings</i> , 2017 , 153, 461-475	7	16
68	Improving occupant-related features in building performance simulation tools. <i>Building Simulation</i> , 2018 , 11, 803-817	3.9	16
67	Critical review and illustrative examples of office occupant modelling formalisms. <i>Building Services Engineering Research and Technology</i> , 2019 , 40, 732-757	2.3	15
66	Listen to the guests: Text-mining Airbnb reviews to explore indoor environmental quality. <i>Building and Environment</i> , 2020 , 169, 106555	6.5	15
65	Control-oriented inverse modeling of the thermal characteristics in an office. <i>Science and Technology for the Built Environment</i> , 2016 , 22, 586-605	1.8	15
64	Do building energy codes adequately reward buildings that adapt to partial occupancy?. <i>Science and Technology for the Built Environment</i> , 2019 , 25, 678-691	1.8	14
63	Development of Sankey diagrams to visualize real HVAC performance. <i>Energy and Buildings</i> , 2017 , 149, 282-297	7	13
62	Development of an office tenant electricity use model and its application for right-sizing HVAC equipment. <i>Journal of Building Performance Simulation</i> , 2019 , 12, 37-55	2.8	12
61	Energy and comfort performance benefits of early detection of building sensor and actuator faults. <i>Building Services Engineering Research and Technology</i> , 2018 , 39, 652-666	2.3	11
60	Sequential state prediction and parameter estimation with constrained dual extended Kalman filter for building zone thermal responses. <i>Energy and Buildings</i> , 2019 , 183, 538-546	7	11

59	The impact of the COVID-19 on households' hourly electricity consumption in Canada.. <i>Energy and Buildings</i> , 2021 , 250, 111280	7	11
58	Occupancy and Occupants Actions 2018 , 7-38		10
57	A method to generate design-sensitive occupant-related schedules for building performance simulations. <i>Science and Technology for the Built Environment</i> , 2019 , 25, 221-232	1.8	9
56	Sensing and Data Acquisition 2018 , 77-105		9
55	Development and visualization of time-based building energy performance metrics. <i>Building Research and Information</i> , 2019 , 47, 493-517	4.3	9
54	Is anyone home? A critical review of occupant-centric smart HVAC controls implementations in residential buildings. <i>Building and Environment</i> , 2021 , 187, 107369	6.5	9
53	Case study: A survey of perceived noise in Canadian multi-unit residential buildings to study long-term implications for widespread teleworking. <i>Building Acoustics</i> , 1351010X2199374	1	9
52	Building energy model reduction using model-cluster-reduce pipeline. <i>Journal of Building Performance Simulation</i> , 2018 , 11, 553-567	2.8	9
51	A field study on the effect of building automation on perceived comfort and control in institutional buildings. <i>Architectural Science Review</i> , 2020 , 63, 74-86	2.6	8
50	A review of data collection and analysis requirements for certified green buildings. <i>Energy and Buildings</i> , 2020 , 226, 110367	7	8
49	Get the picture? Lessons learned from a smartphone-based post-occupancy evaluation. <i>Energy Research and Social Science</i> , 2019 , 56, 101224	7.7	7
48	Building performance optimization of net zero-energy buildings 2015 , 175-206		7
47	A simulation framework for predicting occupant thermal sensation in perimeter zones of buildings considering direct solar radiation and ankle draft. <i>Building and Environment</i> , 2020 , 183, 107096	6.5	7
46	Development and implementation of control-oriented models for terminal heating and cooling units. <i>Energy and Buildings</i> , 2016 , 121, 78-91	7	7
45	Exploring the impact of office building users' modeling approaches on energy use across Canadian climates. <i>Energy and Buildings</i> , 2019 , 197, 68-86	7	6
44	Seeing is believing: an innovative approach to post-occupancy evaluation. <i>Energy Efficiency</i> , 2020 , 13, 473-486	3	6
43	Exploring smart thermostat users' schedule override behaviors and the energy consequences. <i>Science and Technology for the Built Environment</i> , 2021 , 27, 195-210	1.8	6
42	Comparative review of occupant-related energy aspects of the National Building Code of Canada. <i>Building and Environment</i> , 2020 , 183, 107136	6.5	5

41	Quantifying the impact of occupants' spatial distributions on office buildings energy and comfort performance. <i>Energy and Buildings</i> , 2021 , 233, 110695	7	5
40	Experimental application of classification learning to generate simplified model predictive controls for a shared office heating system. <i>Science and Technology for the Built Environment</i> , 2019 , 25, 615-628	1.8	4
39	Spatially and temporally sensitive consumption-based emission factors from mixed-use electrical grids for building electrical use. <i>Energy and Buildings</i> , 2020 , 224, 110249	7	4
38	A data-driven study of thermostat overrides during demand response events. <i>Energy Policy</i> , 2021 , 153, 112290	7.2	4
37	The in-situ implementation of a feature-rich thermostat: A building engineering and human factors approach to improve perceived control in offices. <i>Building and Environment</i> , 2021 , 199, 107884	6.5	4
36	New Insights on the Energy Impacts of Telework in Canada. <i>Canadian Public Policy/ Analyse De Politiques</i> , 2021 , 47, 460-477	2.5	4
35	Inverse model-based virtual sensors for detection of hard faults in air handling units. <i>Energy and Buildings</i> , 2021 , 253, 111493	7	4
34	Comfort considerations in Net ZEBs: theory and design 2015 , 75-106		2
33	Net ZEB design processes and tools 2015 , 107-174		2
32	Load matching, grid interaction, and advanced control 2015 , 207-240		2
31	Fit-for-purpose: Measuring occupancy to support commercial building operations: A review. <i>Building and Environment</i> , 2022 , 212, 108767	6.5	2
30	Introduction to Occupant Research Approaches 2018 , 107-127		2
29	In Situ Approaches to Studying Occupants 2018 , 129-167		2
28	Optimization of electricity use in office buildings under occupant uncertainty. <i>Journal of Building Performance Simulation</i> , 2020 , 13, 13-25	2.8	2
27	Simulating energy savings potential with high-resolution daylight and occupancy sensing in open-plan offices. <i>Journal of Building Performance Simulation</i> , 2020 , 13, 606-619	2.8	2
26	A workflow for evaluating occupant-centric controls using building simulation. <i>Journal of Building Performance Simulation</i> , 1-19	2.8	2
25	Benchmarking and visualization of building portfolios by applying text analytics to maintenance work order logs. <i>Science and Technology for the Built Environment</i> , 2021 , 27, 756-775	1.8	2
24	Natural ventilation usability under climate change in Canada and the United States. <i>Building Research and Information</i> , 2021 , 49, 367-386	4.3	2

23	Evaluation of data-driven thermal models for multi-hour predictions using residential smart thermostat data. <i>Journal of Building Performance Simulation</i> ,1-20	2.8	2
22	Current state and future challenges in building management: Practitioner interviews and a literature review. <i>Journal of Building Engineering</i> , 2021 , 41, 102803	5.2	2
21	Residential thermostat usability: Comparing manual, programmable, and smart devices. <i>Building and Environment</i> , 2021 , 203, 108104	6.5	2
20	Development and evaluation of data-driven controls for residential smart thermostats. <i>Energy and Buildings</i> , 2021 , 249, 111201	7	2
19	A probabilistic approach toward achieving net-zero energy buildings using a stochastic office tenant model. <i>Science and Technology for the Built Environment</i> , 2019 , 25, 743-752	1.8	1
18	C-HVAC 2020 ,		1
17	Usability and comfort in Canadian offices: Interview of 170 university employees. <i>IOP Conference Series: Materials Science and Engineering</i> , 2019 , 609, 042091	0.4	1
16	An occupant-centric method for window and shading design optimization in office buildings. <i>Science and Technology for the Built Environment</i> , 2021 , 27, 181-194	1.8	1
15	Some evidence of a time-varying thermal perception. <i>Indoor and Built Environment</i> ,1420326X2110345	1.8	1
14	Exploring the adequacy of mechanical ventilation for acceptable indoor air quality in office buildings. <i>Science and Technology for the Built Environment</i> ,1-17	1.8	1
13	A Methodology to Integrate Maintenance Management Systems and BIM to Improve Building Management. <i>Science and Technology for the Built Environment</i> ,1-20	1.8	1
12	A comprehensive simulation-based assessment of office building performance adaptability to teleworking scenarios in different Canadian climate zones.. <i>Building Simulation</i> , 2021 , 15, 1-20	3.9	1
11	A review of common human errors in design, installation, and operation of multiple-zone VAV AHU systems. <i>Journal of Physics: Conference Series</i> , 2021 , 2042, 012130	0.3	0
10	Living labs as an opportunity for experiential learning in building engineering education. <i>Advanced Engineering Informatics</i> , 2021 , 50, 101440	7.4	0
9	Investigation of occupant-related energy aspects of the National Building Code of Canada: Energy use impact and potential least-cost code-compliant upgrades. <i>Science and Technology for the Built Environment</i> ,1-19	1.8	0
8	A data-driven workflow to improve energy efficient operation of commercial buildings: A review with real-world examples. <i>Building Services Engineering Research and Technology</i> ,014362442110696	2.3	0
7	Impact of measured data frequency on commercial building energy model calibration for retrofit analysis. <i>Science and Technology for the Built Environment</i> ,1-17	1.8	0
6	Net ZEB case studies 2015 , 241-350		

- 5 Modeling and design of Net ZEBs as integrated energy systems **2015**, 9-74
- 4 Conclusion, research needs, and future directions **2015**, 351-354
- 3 A preliminary scenario analysis of the impacts of teleworking on energy consumption and greenhouse gas (GHG) emissions. *Journal of Physics: Conference Series*, **2021**, 2069, 012077 0.3
- 2 Proxy zone-level energy use estimation in a commercial building with a variable air volume system. *Journal of Building Engineering*, **2021**, 33, 101498 5.2
- 1 Toward a standardized framework for thermal resilience modelling and its practical application to futureproofing. *Science and Technology for the Built Environment*, 1-15 1.8