William O'Brien

List of Publications by Year
in descending order

112 papers	4,504 citations	35 h-index	64 g-index
		109264	110317
127 all docs	127 docs citations	127 times ranked	2658 citing authors

#	Article	IF	Citations
1	Occupant behavior modeling for building performance simulation: Current state and future challenges. Energy and Buildings, 2015, 107, 264-278.	3.1	611
2	Assessing gaps and needs for integrating building performance optimization tools in net zero energy buildings design. Energy and Buildings, 2013, 60, 110-124.	3.1	309
3	A critical review of observation studies, modeling, and simulation of adaptive occupant behaviors in offices. Building and Environment, 2013, 70, 31-47.	3.0	207
4	The contextual factors contributing to occupants' adaptive comfort behaviors in offices â€" A review and proposed modeling framework. Building and Environment, 2014, 77, 77-87.	3.0	204
5	Manually-operated window shade patterns in office buildings: A critical review. Building and Environment, 2013, 60, 319-338.	3.0	197
6	A critical review of field implementations of occupant-centric building controls. Building and Environment, 2019, 165, 106351.	3.0	141
7	Development and implementation of an adaptive lighting and blinds control algorithm. Building and Environment, 2017, 113, 185-199.	3.0	135
8	Introducing IEA EBC annex 79: Key challenges and opportunities in the field of occupant-centric building design and operation. Building and Environment, 2020, 178, 106738.	3.0	129
9	A review of factors affecting occupant comfort in multi-unit residential buildings. Building and Environment, 2019, 160, 106182.	3.0	88
10	Development and implementation of automated fault detection and diagnostics for building systems: A review. Automation in Construction, 2019, 104, 215-229.	4.8	86
11	Does telecommuting save energy? A critical review of quantitative studies and their research methods. Energy and Buildings, 2020, 225, 110298.	3.1	81
12	On occupant-centric building performance metrics. Building and Environment, 2017, 122, 373-385.	3.0	80
13	A review of select human-building interfaces and their relationship to human behavior, energy use and occupant comfort. Building and Environment, 2020, 178, 106920.	3.0	79
14	Comparison of machine learning models for occupancy prediction in residential buildings using connected thermostat data. Building and Environment, 2019, 160, 106177.	3.0	78
15	Implementation and comparison of existing occupant behaviour models in EnergyPlus. Journal of Building Performance Simulation, 2016, 9, 567-588.	1.0	65
16	Oh behave! Survey stories and lessons learned from building occupants in high-performance buildings. Energy Research and Social Science, 2017, 31, 11-20.	3.0	62
17	A longitudinal study of thermostat behaviors based on climate, seasonal, and energy price considerations using connected thermostat data. Building and Environment, 2018, 139, 199-210.	3.0	61
18	An international review of occupant-related aspects of building energy codes and standards. Building and Environment, 2020, 179, 106906.	3.0	59

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19	On adaptive occupant-learning window blind and lighting controls. Building Research and Information, 2014, 42, 739-756.	2.0	58
20	Modeling plug-in equipment load patterns in private office spaces. Energy and Buildings, 2016, 121, 234-249.	3.1	58
21	Review of current methods, opportunities, and challenges for in-situ monitoring to support occupant modelling in office spaces. Journal of Building Performance Simulation, 2017, 10, 444-470.	1.0	57
22	Development of an occupancy learning algorithm for terminal heating and cooling units. Building and Environment, 2015, 93, 71-85.	3.0	56
23	Simulation-aided occupant-centric building design: A critical review of tools, methods, and applications. Energy and Buildings, 2020, 224, 110292.	3.1	56
24	Development and implementation of a thermostat learning algorithm. Science and Technology for the Built Environment, 2018, 24, 43-56.	0.8	54
25	The impact of the COVID-19 on households' hourly electricity consumption in Canada. Energy and Buildings, 2021, 250, 111280.	3.1	54
26	A preliminary study of representing the inter-occupant diversity in occupant modelling. Journal of Building Performance Simulation, 2017, 10, 509-526.	1.0	52
27	Simulating occupants' impact on building energy performance at different spatial scales. Building and Environment, 2018, 132, 327-337.	3.0	48
28	International survey on current occupant modelling approaches in building performance simulation. Journal of Building Performance Simulation, 2017, 10, 653-671.	1.0	47
29	Coupling stochastic occupant models to building performance simulation using the discrete event system specification formalism. Journal of Building Performance Simulation, 2014, 7, 457-478.	1.0	44
30	Mitigating office performance uncertainty of occupant use of window blinds and lighting using robust design. Building Simulation, 2015, 8, 621-636.	3.0	44
31	The relationship between net energy use and the urban density of solar buildings. Environment and Planning B: Planning and Design, 2010, 37, 1002-1021.	1.7	42
32	Sensitivity analysis and optimization of building operations. Energy and Buildings, 2019, 199, 164-175.	3.1	40
33	Data visualization and analysis of energy flow on a multi-zone building scale. Automation in Construction, 2017, 84, 258-273.	4.8	39
34	A preliminary study of occupants' use of manual lighting controls in private offices: A case study. Energy and Buildings, 2018, 159, 572-586.	3.1	39
35	Use of dynamic occupant behavior models in the building design and code compliance processes. Energy and Buildings, 2016, 117, 260-271.	3.1	38
36	On the behavioral effects of residential electricity submetering in a heating season. Building and Environment, 2014, 81, 396-403.	3.0	37

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37	Shortest-prediction-horizon model-based predictive control for individual offices. Building and Environment, 2014, 82, 408-419.	3.0	35
38	A method to conduct longitudinal studies on indoor environmental quality and perceived occupant comfort. Building and Environment, 2019, 150, 88-98.	3.0	34
39	Is anyone home? A critical review of occupant-centric smart HVAC controls implementations in residential buildings. Building and Environment, 2021, 187, 107369.	3.0	32
40	Visualization of energy and water consumption and GHG emissions: A case study of a Canadian University Campus. Energy and Buildings, 2015, 109, 334-352.	3.1	31
41	Towards occupant-centric simulation-aided building design: a case study. Building Research and Information, 2019, 47, 866-882.	2.0	31
42	On quantifying building performance adaptability to variable occupancy. Building and Environment, 2019, 155, 257-267.	3.0	30
43	Listen to the guests: Text-mining Airbnb reviews to explore indoor environmental quality. Building and Environment, 2020, 169, 106555.	3.0	30
44	Thermal zoning and interzonal airflow in the design and simulation of solar houses: a sensitivity analysis. Journal of Building Performance Simulation, 2011, 4, 239-256.	1.0	29
45	Case study: A survey of perceived noise in Canadian multi-unit residential buildings to study long-term implications for widespread teleworking. Building Acoustics, 2021, 28, 443-460.	1.1	29
46	A data-driven study of thermostat overrides during demand response events. Energy Policy, 2021, 153, 112290.	4.2	27
47	Model-based predictive control of office window shades. Building Research and Information, 2016, 44, 445-455.	2.0	24
48	Improving occupant-related features in building performance simulation tools. Building Simulation, 2018, 11, 803-817.	3.0	21
49	Office building plug and light loads: Comparison of a multi-tenant office tower to conventional assumptions. Energy and Buildings, 2017, 153, 461-475.	3.1	20
50	Field study of thermal comfort and occupant satisfaction in Canadian condominiums. Architectural Science Review, 2017, 60, 27-39.	1.1	20
51	Energy and comfort performance benefits of early detection of building sensor and actuator faults. Building Services Engineering Research and Technology, 2018, 39, 652-666.	0.9	19
52	A review of data collection and analysis requirements for certified green buildings. Energy and Buildings, 2020, 226, 110367.	3.1	19
53	Critical review and illustrative examples of office occupant modelling formalisms. Building Services Engineering Research and Technology, 2019, 40, 732-757.	0.9	18
54	Fit-for-purpose: Measuring occupancy to support commercial building operations: A review. Building and Environment, 2022, 212, 108767.	3.0	18

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55	Control-oriented inverse modeling of the thermal characteristics in an office. Science and Technology for the Built Environment, 2016, 22, 586-605.	0.8	17
56	Do building energy codes adequately reward buildings that adapt to partial occupancy?. Science and Technology for the Built Environment, 2019, 25, 678-691.	0.8	17
57	Development of an office tenant electricity use model and its application for right-sizing HVAC equipment. Journal of Building Performance Simulation, 2019, 12, 37-55.	1.0	17
58	Sequential state prediction and parameter estimation with constrained dual extended Kalman filter for building zone thermal responses. Energy and Buildings, 2019, 183, 538-546.	3.1	17
59	Development of Sankey diagrams to visualize real HVAC performance. Energy and Buildings, 2017, 149, 282-297.	3.1	16
60	A field study on the effect of building automation on perceived comfort and control in institutional buildings. Architectural Science Review, 2020, 63, 74-86.	1.1	16
61	Exploring smart thermostat usersâ€™ schedule override behaviors and the energy consequences. Science and Technology for the Built Environment, 2021, 27, 195-210.	0.8	16
62	Occupancy and Occupantsâ€™ Actions. , 2018, , 7-38.		16
63	Development and visualization of time-based building energy performance metrics. Building Research and Information, 2019, 47, 493-517.	2.0	15
64	Current state and future challenges in building management: Practitioner interviews and a literature review. Journal of Building Engineering, 2021, 41, 102803.	1.6	15
65	Inverse model-based virtual sensors for detection of hard faults in air handling units. Energy and Buildings, 2021, 253, 111493.	3.1	15
66	Common human errors in design, installation, and operation of VAV AHU control systems â€" A review and a practitioner interview. Building and Environment, 2022, 221, 109333.	3.0	15
67	A simulation framework for predicting occupant thermal sensation in perimeter zones of buildings considering direct solar radiation and ankle draft. Building and Environment, 2020, 183, 107096.	3.0	14
68	Natural ventilation usability under climate change in Canada and the United States. Building Research and Information, 2021, 49, 367-386.	2.0	14
69	Development and evaluation of data-driven controls for residential smart thermostats. Energy and Buildings, 2021, 249, 111201.	3.1	14
70	New Insights on the Energy Impacts of Telework in Canada. Canadian Public Policy/ Analyse De Politiques, 2021, 47, 460-477.	0.8	13
71	A method to generate design-sensitive occupant-related schedules for building performance simulations. Science and Technology for the Built Environment, 2019, 25, 221-232.	0.8	12
72	Seeing is believing: an innovative approach to post-occupancy evaluation. Energy Efficiency, 2020, 13, 473-486.	1.3	12

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73	Sensing and Data Acquisition. , 2018, , 77-105.		12
74	Building energy model reduction using model-cluster-reduce pipeline. Journal of Building Performance Simulation, 2018, 11, 553-567.	1.0	11
75	Get the picture? Lessons learned from a smartphone-based post-occupancy evaluation. Energy Research and Social Science, 2019, 56, 101224.	3.0	11
76	Spatially and temporally sensitive consumption-based emission factors from mixed-use electrical grids for building electrical use. Energy and Buildings, 2020, 224, 110249.	3.1	11
77	Quantifying the impact of occupants' spatial distributions on office buildings energy and comfort performance. Energy and Buildings, 2021, 233, 110695.	3.1	10
78	A methodology to integrate maintenance management systems and BIM to improve building management. Science and Technology for the Built Environment, 2022, 28, 1097-1114.	0.8	10
79	A workflow for evaluating occupant-centric controls using building simulation. Journal of Building Performance Simulation, 2021, 14, 730-748.	1.0	9
80	Residential thermostat usability: Comparing manual, programmable, and smart devices. Building and Environment, 2021, 203, 108104.	3.0	9
81	Comparative review of occupant-related energy aspects of the National Building Code of Canada. Building and Environment, 2020, 183, 107136.	3.0	8
82	Benchmarking and visualization of building portfolios by applying text analytics to maintenance work order logs. Science and Technology for the Built Environment, 2021, 27, 756-775.	0.8	8
83	The in-situ implementation of a feature-rich thermostat: A building engineering and human factors approach to improve perceived control in offices. Building and Environment, 2021, 199, 107884.	3.0	8
84	Development and implementation of control-oriented models for terminal heating and cooling units. Energy and Buildings, 2016, 121, 78-91.	3.1	7
85	Experimental application of classification learning to generate simplified model predictive controls for a shared office heating system. Science and Technology for the Built Environment, 2019, 25, 615-628.	0.8	7
86	Evaluation of data-driven thermal models for multi-hour predictions using residential smart thermostat data. Journal of Building Performance Simulation, 2022, 15, 445-464.	1.0	7
87	Exploring the impact of office building users' modeling approaches on energy use across Canadian climates. Energy and Buildings, 2019, 197, 68-86.	3.1	6
88	Optimization of electricity use in office buildings under occupant uncertainty. Journal of Building Performance Simulation, 2020, 13, 13-25.	1.0	5
89	Some evidence of a time-varying thermal perception. Indoor and Built Environment, 2022, 31, 788-806.	1.5	5
90	In Situ Approaches to Studying Occupants. , 2018, , 129-167.		5

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91	A comprehensive simulation-based assessment of office building performance adaptability to teleworking scenarios in different Canadian climate zones. Building Simulation, 2022, 15, 995-1014.	3.0	5
92	A holistic sequential fault detection and diagnostics framework for multiple zone variable air volume air handling unit systems. Building Services Engineering Research and Technology, 2022, 43, 605-625.	0.9	5
93	Toward a user-centered built environment. Science and Technology for the Built Environment, 2020, 26, 1163-1164.	0.8	4
94	C-HVAC. , 2020, , .		4
95	Toward a standardized framework for thermal resilience modelling and its practical application to futureproofing. Science and Technology for the Built Environment, 2022, 28, 742-756.	0.8	4
96	Impact of measured data frequency on commercial building energy model calibration for retrofit analysis. Science and Technology for the Built Environment, 2022, 28, 628-644.	0.8	4
97	A virtual meter-based visualization tool to present energy flows in multiple zone variable air volume air handling unit systems. Building and Environment, 2022, 221, 109275.	3.0	4
98	Simulating energy savings potential with high-resolution daylight and occupancy sensing in open-plan offices. Journal of Building Performance Simulation, 2020, 13, 606-619.	1.0	3
99	Investigation of occupant-related energy aspects of the National Building Code of Canada: Energy use impact and potential least-cost code-compliant upgrades. Science and Technology for the Built Environment, 2021, 27, 1393-1424.	0.8	3
100	Exploring the adequacy of mechanical ventilation for acceptable indoor air quality in office buildings. Science and Technology for the Built Environment, 2022, 28, 275-288.	0.8	3
101	Living labs as an opportunity for experiential learning in building engineering education. Advanced Engineering Informatics, 2021, 50, 101440.	4.0	3
102	A data-driven workflow to improve energy efficient operation of commercial buildings: A review with real-world examples. Building Services Engineering Research and Technology, 0, , 014362442110696.	0.9	3
103	Special issue on the fundamentals of occupant behaviour research. Journal of Building Performance Simulation, 2017, 10, 439-443.	1.0	2
104	An occupant-centric method for window and shading design optimization in office buildings. Science and Technology for the Built Environment, 2021, 27, 181-194.	0.8	2
105	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
106	A probabilistic approach toward achieving net-zero energy buildings using a stochastic office tenant model. Science and Technology for the Built Environment, 2019, 25, 743-752.	0.8	1
107	Usability and comfort in Canadian offices: Interview of 170 university employees. IOP Conference Series: Materials Science and Engineering, 2019, 609, 042091.	0.3	1
108	Proxy zone-level energy use estimation in a commercial building with a variable air volume system. Journal of Building Engineering, 2021, 33, 101498.	1.6	1

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109	A review of common human errors in design, installation, and operation of multiple-zone VAV AHU systems. Journal of Physics: Conference Series, 2021, 2042, 012130.	0.3	1
110	Special issue on Simulation for Architecture and Urban Design. Simulation, 2014, 90, 855-856.	1.1	0
111	Conclusion, research needs, and future directions. , 2015, , 351-354.		0
112	Mitigating the negative impact of new buildings on existing buildingsâ€™ user comfortâ€"a case study analysis. Simulation, 0, , 003754972211010.	1.1	0