

# Brent Stephens

## List of Publications by Year in descending order

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Version: 2024-02-01

64  
papers

3,588  
citations

172386

29  
h-index

138417

58  
g-index

67  
all docs

67  
docs citations

67  
times ranked

3937  
citing authors

#	ARTICLE	IF	CITATIONS
1	Ultrafine particle emissions from desktop 3D printers. <i>Atmospheric Environment</i> , 2013, 79, 334-339.	1.9	359
2	Emissions of Ultrafine Particles and Volatile Organic Compounds from Commercially Available Desktop Three-Dimensional Printers with Multiple Filaments. <i>Environmental Science &amp; Technology</i> , 2016, 50, 1260-1268.	4.6	276
3	Bacterial colonization and succession in a newly opened hospital. <i>Science Translational Medicine</i> , 2017, 9, .	5.8	248
4	Microbiology of the built environment. <i>Nature Reviews Microbiology</i> , 2018, 16, 661-670.	13.6	184
5	A model of vegetated exterior facades for evaluation of wall thermal performance. <i>Building and Environment</i> , 2013, 67, 1-13.	3.0	180
6	Mechanistic transmission modeling of COVID-19 on the <i>Diamond Princess</i> cruise ship demonstrates the importance of aerosol transmission. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	159
7	Open Source Building Science Sensors (OSBSS): A low-cost Arduino-based platform for long-term indoor environmental data collection. <i>Building and Environment</i> , 2016, 100, 114-126.	3.0	151
8	Ten questions concerning the microbiomes of buildings. <i>Building and Environment</i> , 2016, 109, 224-234.	3.0	143
9	Estimates of HVAC filtration efficiency for fine and ultrafine particles of outdoor origin. <i>Atmospheric Environment</i> , 2014, 98, 337-346.	1.9	140
10	HVAC filtration for controlling infectious airborne disease transmission in indoor environments: Predicting risk reductions and operational costs. <i>Building and Environment</i> , 2013, 70, 150-160.	3.0	134
11	The effects of climbing vegetation on the local microclimate, thermal performance, and air infiltration of four building facade orientations. <i>Building and Environment</i> , 2014, 76, 113-124.	3.0	103
12	Penetration of ambient submicron particles into single-family residences and associations with building characteristics. <i>Indoor Air</i> , 2012, 22, 501-513.	2.0	93
13	Microbial Exchange via Fomites and Implications for Human Health. <i>Current Pollution Reports</i> , 2019, 5, 198-213.	3.1	92
14	Ultrafine particle removal by residential heating, ventilating, and air-conditioning filters. <i>Indoor Air</i> , 2013, 23, 488-497.	2.0	80
15	What Have We Learned about the Microbiomes of Indoor Environments?. <i>MSystems</i> , 2016, 1, .	1.7	75
16	Measuring the Penetration of Ambient Ozone into Residential Buildings. <i>Environmental Science &amp; Technology</i> , 2012, 46, 929-936.	4.6	70
17	The Effects of Filtration on Pressure Drop and Energy Consumption in Residential HVAC Systems (RP-1299). <i>HVAC and R Research</i> , 2010, 16, 273-294.	0.9	68
18	Predictions and determinants of size-resolved particle infiltration factors in single-family homes in the U.S.. <i>Building and Environment</i> , 2014, 74, 106-118.	3.0	65

#	ARTICLE	IF	CITATIONS
19	Spatial and Temporal Variations in Indoor Environmental Conditions, Human Occupancy, and Operational Characteristics in a New Hospital Building. PLoS ONE, 2015, 10, e0118207.	1.1	54
20	Operational characteristics of residential and light-commercial air-conditioning systems in a hot and humid climate zone. Building and Environment, 2011, 46, 1972-1983.	3.0	53
21	An integrated data-driven framework for urban energy use modeling (UEUM). Applied Energy, 2019, 253, 113550.	5.1	50
22	Microbial and metabolic succession on common building materials under high humidity conditions. Nature Communications, 2019, 10, 1767.	5.8	46
23	Comparison of Test Methods for Determining the Particle Removal Efficiency of Filters in Residential and Light-Commercial Central HVAC Systems. Aerosol Science and Technology, 2012, 46, 504-513.	1.5	45
24	Elemental: An Open-Source Wireless Hardware and Software Platform for Building Energy and Indoor Environmental Monitoring and Control. Sensors, 2019, 19, 4017.	2.1	38
25	A framework for estimating the US mortality burden of fine particulate matter exposure attributable to indoor and outdoor microenvironments. Journal of Exposure Science and Environmental Epidemiology, 2020, 30, 271-284.	1.8	37
26	Predicting Concentrations of Ultrafine Particles and Volatile Organic Compounds Resulting from Desktop 3D Printer Operation and the Impact of Potential Control Strategies. Journal of Industrial Ecology, 2017, 21, S107.	2.8	36
27	Evaluating the Long-Term Health and Economic Impacts of Central Residential Air Filtration for Reducing Premature Mortality Associated with Indoor Fine Particulate Matter (PM2.5) of Outdoor Origin. International Journal of Environmental Research and Public Health, 2015, 12, 8448-8479.	1.2	35
28	Environmental Sources of Bacteria Differentially Influence Host-Associated Microbial Dynamics. MSystems, 2018, 3, .	1.7	35
29	Life-Cycle Energy Implications of Downtown High-Rise vs. Suburban Low-Rise Living: An Overview and Quantitative Case Study for Chicago. Buildings, 2015, 5, 1003-1024.	1.4	32
30	Tools to improve built environment data collection for indoor microbial ecology investigations. Building and Environment, 2014, 81, 243-257.	3.0	27
31	Evaluating a commercially available in-duct bipolar ionization device for pollutant removal and potential byproduct formation. Building and Environment, 2021, 195, 107750.	3.0	27
32	Fine and ultrafine particle removal efficiency of new residential HVAC filters. Indoor Air, 2019, 29, 656-669.	2.0	26
33	Building design and operational choices that impact indoor exposures to outdoor particulate matter inside residences. Science and Technology for the Built Environment, 2015, 21, 3-13.	0.8	25
34	A method to measure the ozone penetration factor in residences under infiltration conditions: application in a multifamily apartment unit. Indoor Air, 2016, 26, 571-581.	2.0	24
35	Indoor air quality impacts of residential mechanical ventilation system retrofits in existing homes in Chicago, IL. Science of the Total Environment, 2022, 804, 150129.	3.9	24
36	Pilot study of the vertical variations in outdoor pollutant concentrations and environmental conditions along the height of a tall building. Building and Environment, 2018, 138, 124-134.	3.0	23

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37	Modeling the impact of residential HVAC filtration on indoor particles of outdoor origin (RP-1691). <i>Science and Technology for the Built Environment</i> , 2016, 22, 431-462.	0.8	22
38	Quantifying the size-resolved dynamics of indoor bioaerosol transport and control. <i>Indoor Air</i> , 2017, 27, 977-987.	2.0	22
39	Life Satisfaction of Downtown High-Rise vs. Suburban Low-Rise Living: A Chicago Case Study. <i>Sustainability</i> , 2017, 9, 1052.	1.6	22
40	Development of a nationally representative set of combined building energy and indoor air quality models for U.S. residences. <i>Building and Environment</i> , 2018, 136, 198-212.	3.0	22
41	Using portable particle sizing instrumentation to rapidly measure the penetration of fine and ultrafine particles in unoccupied residences. <i>Indoor Air</i> , 2017, 27, 218-229.	2.0	21
42	Modeling the energy and cost impacts of excess static pressure in central forced-air heating and air-conditioning systems in single-family residences in the U.S.. <i>Energy and Buildings</i> , 2015, 107, 243-253.	3.1	19
43	Empirical Operational Energy Analysis of Downtown High-Rise vs. Suburban Low-Rise Lifestyles: A Chicago Case Study. <i>Energies</i> , 2016, 9, 445.	1.6	18
44	Optimizing Whole House Deep Energy Retrofit Packages: A Case Study of Existing Chicago-Area Homes. <i>Buildings</i> , 2015, 5, 323-353.	1.4	17
45	Predicting intraurban PM <sub>2.5</sub> concentrations using enhanced machine learning approaches and incorporating human activity patterns. <i>Environmental Research</i> , 2021, 196, 110423.	3.7	16
46	Measuring the Building Envelope Penetration Factor for Ambient Nitrogen Oxides. <i>Environmental Science &amp; Technology</i> , 2019, 53, 9695-9704.	4.6	13
47	Mobile Monitoring of Personal NO <sub>x</sub> Exposures during Scripted Daily Activities in Chicago, IL. <i>Aerosol and Air Quality Research</i> , 2017, 17, 1999-2009.	0.9	13
48	Adequate indoor air quality in nursing homes: An unmet medical need. <i>Science of the Total Environment</i> , 2021, 765, 144273.	3.9	12
49	The Hospital Microbiome Project: Meeting report for the 2nd Hospital Microbiome Project, Chicago, USA, January 15th, 2013. <i>Standards in Genomic Sciences</i> , 2013, 8, 571-579.	1.5	11
50	The impacts of duct design on life cycle costs of central residential heating and air-conditioning systems. <i>Energy and Buildings</i> , 2014, 82, 563-579.	3.1	11
51	Evaluating the Sensitivity of the Mass-Based Particle Removal Calculations for HVAC Filters in ISO 16890 to Assumptions for Aerosol Distributions. <i>Atmosphere</i> , 2018, 9, 85.	1.0	11
52	Assessing ventilation control strategies in underground parking garages. <i>Building Simulation</i> , 2021, 14, 701-720.	3.0	11
53	Emerging investigator series: primary emissions, ozone reactivity, and byproduct emissions from building insulation materials. <i>Environmental Sciences: Processes and Impacts</i> , 2019, 21, 1255-1267.	1.7	10
54	Quantitative profiling of built environment bacterial and fungal communities reveals dynamic material dependent growth patterns and microbial interactions. <i>Indoor Air</i> , 2021, 31, 188-205.	2.0	10

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55	Evaluation of an in-duct bipolar ionization device on particulate matter and gas-phase constituents in a large test chamber. <i>Building and Environment</i> , 2022, 213, 108858.	3.0	8
56	Development and evaluation of an automatic steam radiator control system for retrofitting legacy heating systems in existing buildings. <i>Energy and Buildings</i> , 2021, 251, 111344.	3.1	7
57	Optimal control of switchable ethylene-tetrafluoroethylene (ETFE) cushions for building façades. <i>Solar Energy</i> , 2021, 218, 180-194.	2.9	6
58	Updated generalized natural gas reciprocating engine part-load performance curves for cogeneration applications. <i>Science and Technology for the Built Environment</i> , 2017, 23, 1151-1158.	0.8	5
59	The Effect of Balcony Thermal Breaks on Building Thermal and Energy Performance: Field Experiments and Energy Simulations in Chicago, IL. <i>Buildings</i> , 2019, 9, 190.	1.4	5
60	Chemical composition of material extractives influences microbial growth and dynamics on wetted wood materials. <i>Scientific Reports</i> , 2020, 10, 14500.	1.6	4
61	Predicting U.S. Residential Building Energy Use and Indoor Pollutant Exposures in the Mid-21st Century. <i>Environmental Science &amp; Technology</i> , 2021, 55, 3219-3228.	4.6	4
62	Influence of environmental conditions on the dithiothreitol (DTT)-Based oxidative potential of size-resolved indoor particulate matter of ambient origin. <i>Atmospheric Environment</i> , 2021, 255, 118429.	1.9	4
63	Experimental Evaluations of the Impact of an Additive Oxidizing Electronic Air Cleaner on Particles and Gases. <i>Pollutants</i> , 2022, 2, 98-134.	1.0	4
64	Integrating Personal Air Sensor and GPS to Determine Microenvironment-Specific Exposures to Volatile Organic Compounds. <i>Sensors</i> , 2021, 21, 5659.	2.1	2