Gregor Henze

List of Publications by Year
in descending order

118 papers	4,435 citations	94269 37 h-index	114278 63 g-index
121 all docs	121 docs citations	121 times ranked	3044 citing authors

#	ARTICLE	IF	CITATIONS
1	Multimodal sensor fusion framework for residential building occupancy detection. Energy and Buildings, 2022, 258, 111828.	3.1	15
2	A high-fidelity building performance simulation test bed for the development and evaluation of advanced controls. Journal of Building Performance Simulation, 2022, 15, 379-397.	1.0	9
3	Estimating the value of jointly optimized electric power generation and end use: a study of ISO-scale load shaping applied to the residential building stock. Journal of Building Performance Simulation, 2022, 15, 507-535.	1.0	2
4	An optimization framework for the network design of advanced district thermal energy systems. Energy Conversion and Management, 2022, 266, 115839.	4.4	10
5	Development of a metamodelling framework for building energy models with application to fifth-generation district heating and cooling networks. Journal of Building Performance Simulation, 2021, 14, 203-225.	1.0	3
6	Experiment study of machine-learning-based approximate model predictive control for energy-efficient building control. Applied Energy, 2021, 288, 116648.	5.1	52
7	Development and Application of Schema Based Occupant-Centric Building Performance Metrics. Energies, 2021, 14, 3513.	1.6	3
8	Cost Analysis of Annual and Monthly Net Zero Energy Performance for Multifamily Buildings in the United States. Journal of Architectural Engineering, 2021, 27, 04021003.	0.8	3
9	Evaluation of the Passive Cooling Potential of Thermal Mass Inherent in Medium to Large Commercial Buildings. Journal of Architectural Engineering, 2021, 27, 04021007.	0.8	1
10	The effect of price-based demand response on carbon emissions in European electricity markets: The importance of adequate carbon prices. Applied Energy, 2021, 295, 117040.	5.1	68
11	Model predictive control for integrated control of air-conditioning and mechanical ventilation, lighting and shading systems. Applied Energy, 2021, 297, 117112.	5.1	41
12	A high-fidelity residential building occupancy detection dataset. Scientific Data, 2021, 8, 280.	2.4	12
13	WHISPER: Wireless Home Identification and Sensing Platform for Energy Reduction. Journal of Sensor and Actuator Networks, 2021, 10, 71.	2.3	4
14	Experimental study of model predictive control for an air-conditioning system with dedicated outdoor air system. Applied Energy, 2020, 257, 113920.	5.1	43
15	An open source analysis framework for large-scale building energy modeling. Journal of Building Performance Simulation, 2020, 13, 487-500.	1.0	7
16	Evaluation of low-exergy heating and cooling systems and topology optimization for deep energy savings at the urban district level. Energy Conversion and Management, 2020, 222, 113106.	4.4	37
17	Fifth-Generation District Heating and Cooling Substations: Demand Response with Artificial Neural Network-Based Model Predictive Control. Energies, 2020, 13, 4339.	1.6	31
18	Development and Evaluation of Occupancy-Aware HVAC Control for Residential Building Energy Efficiency and Occupant Comfort. Energies, 2020, 13, 5396.	1.6	32

#	Article	IF	Citations
19	Model predictive control with adaptive machine-learning-based model for building energy efficiency and comfort optimization. Applied Energy, 2020, 271, 115147.	5.1	147
20	Assessment of Commercial Building Lighting as a Frequency Regulation Resource. Energies, 2020, 13, 613.	1.6	3
21	MARLISA. , 2020, , .		31
22	Granger Causality Based Hierarchical Time Series Clustering for State Estimation. IFAC-PapersOnLine, 2020, 53, 524-529.	0.5	3
23	Clustering a building stock towards representative buildings in the context of air-conditioning electricity demand flexibility. Journal of Building Performance Simulation, 2019, 12, 56-67.	1.0	12
24	Interactive Buildings: A Review. Sustainability, 2019, 11, 3988.	1.6	17
25	Experimental study of a model predictive control system for active chilled beam (ACB) air-conditioning system. Energy and Buildings, 2019, 203, 109451.	3.1	28
26	Aggregation effects for microgrid communities at varying sizes and prosumer-consumer ratios. Energy Procedia, 2019, 159, 346-351.	1.8	9
27	An adaptive robust model predictive control for indoor climate optimization and uncertainties handling in buildings. Building and Environment, 2019, 163, 106326.	3.0	53
28	Quantifying the Opportunity Limits of Automatic Residential Electric Load Shaping. Energies, 2019, 12, 3204.	1.6	0
29	Development of a topology analysis tool for fifth-generation district heating and cooling networks. Energy Conversion and Management, 2019, 196, 705-716.	4.4	95
30	Integrated distribution system and urban district planning with high renewable penetrations. Wiley Interdisciplinary Reviews: Energy and Environment, 2019, 8, e339.	1.9	11
31	Occupancy sensing in buildings: A review of data analytics approaches. Energy and Buildings, 2019, 188-189, 278-285.	3.1	64
32	Multi-agent reinforcement learning for adaptive demand response in smart cities. Journal of Physics: Conference Series, 2019, 1343, 012058.	0.3	4
33	For publication in 2019 ACC A flexible framework for building occupancy detection using spatiotemporal pattern networks. , 2019, , .		4
34	CityLearn v1.0. , 2019, , .		67
35	Toward Grid-Friendly Zero-Energy Buildings. Journal of Architectural Engineering, 2018, 24, 04018007.	0.8	3
36	A state-space thermal model incorporating humidity and thermal comfort for model predictive control in buildings. Energy and Buildings, 2018, 170, 25-39.	3.1	88

#	Article	IF	Citations
37	Multivariate exploration of non-intrusive load monitoring via spatiotemporal pattern network. Applied Energy, 2018, 211, 1106-1122.	5.1	61
38	Aggregation of residential buildings for thermal building simulations on an urban district scale. Sustainable Cities and Society, 2018, 39, 537-547.	5.1	20
39	Building Energy Disaggregation using Spatiotemporal Pattern Network. , 2018, , .		1
40	Ten questions concerning future buildings beyond zero energy and carbon neutrality. Building and Environment, 2017, 119, 169-182.	3.0	70
41	Empirical Investigations of the Opportunity Limits of Automatic Residential Electric Load Shaping. , 2017, , .		3
42	A model-based decision support tool for building portfolios under uncertainty. Automation in Construction, 2017, 78, 34-50.	4.8	8
43	Energy prediction using spatiotemporal pattern networks. Applied Energy, 2017, 206, 1022-1039.	5.1	14
44	Airside Systemâ€"Type Prediction Enabled by Intelligent Pressure Independent Control Valves. Journal of Architectural Engineering, 2017, 23, 04017017.	0.8	0
45	Predictive control of residential HVAC and its impact on the grid. Part I: simulation framework and models. Journal of Building Performance Simulation, 2017, 10, 294-312.	1.0	19
46	Predictive control of residential HVAC and its impact on the grid. Part II: simulation studies of residential HVAC as a supply following resource. Journal of Building Performance Simulation, 2017, 10, 365-377.	1.0	13
47	Experimental verification of an energy consumption signal tool for operational decision support in an office building. Automation in Construction, 2016, 72, 75-92.	4.8	4
48	Ten questions concerning integrating smart buildings into the smart grid. Building and Environment, 2016, 108, 273-283.	3.0	112
49	Modelling and calibration of a high-mass historic building for reducing the prebound effect in energy assessment. Energy and Buildings, 2016, 116, 434-448.	3.1	37
50	Comparison of load shifting incentives for low-energy buildings with heat pumps to attain grid flexibility benefits. Applied Energy, 2016, 167, 80-92.	5.1	83
51	Using calibrated energy models for building commissioning and load prediction. Energy and Buildings, 2015, 92, 204-215.	3.1	22
52	Control limits for building energy end use based on frequency analysis and quantile regression. Energy Efficiency, 2015, 8, 1077-1092.	1.3	4
53	Evaluating synergistic effect of optimally controlling commercial building thermal mass portfolios. Energy, 2015, 84, 161-176.	4.5	27
54	An energy signal tool for decision support in building energy systems. Applied Energy, 2015, 138, 51-70.	5.1	17

#	ARTICLE	IF	CITATIONS
55	Dynamic frequency regulation resources of commercial buildings through combined building system resources using a supervisory control methodology. Energy and Buildings, 2015, 86, 137-150.	3.1	48
56	Optimizing commercial building participation in energy and ancillary service markets. Energy and Buildings, 2014, 81, 115-126.	3.1	80
57	Comparison of Traditional and Bayesian Calibration Techniques for Gray-Box Modeling. Journal of Architectural Engineering, 2014, 20, 04013011.	0.8	14
58	Stochastic control optimization for a mixed mode building considering occupant window opening behaviour. Journal of Building Performance Simulation, 2014, 7, 427-444.	1.0	25
59	Evaluation of commercial building demand response potential using optimal short-term curtailment of heating, ventilation, and air-conditioning loads. Journal of Building Performance Simulation, 2014, 7, 100-118.	1.0	34
60	Survey of Airflow around Multiple Buildings. American Journal of Energy Engineering, 2014, 2, 27.	0.1	0
61	Evaluation of commercial building HVAC systems as frequency regulation providers. Energy and Buildings, 2013, 67, 225-235.	3.1	84
62	Extraction of supervisory building control rules from model predictive control of windows in a mixed mode building. Journal of Building Performance Simulation, 2013, 6, 199-219.	1.0	24
63	A model predictive control optimization environment for real-time commercial building application. Journal of Building Performance Simulation, 2013, 6, 159-174.	1.0	136
64	Uncertainty quantification for combined building performance and cost-benefit analyses. Building and Environment, 2013, 62, 143-154.	3.0	64
65	Quantifying the Impact of Occupant Behavior in Mixed Mode Buildings. , 2013, , .		1
66	Model predictive control for buildings: a quantum leap?. Journal of Building Performance Simulation, 2013, 6, 157-158.	1.0	63
67	Evaluating the Tradeoffs of Occupant Comfort and Energy Savings: A Study of Window Control Sensitivity. , 2013, , .		0
68	A Comparison of Lighting Energy Modeling Methods to Simulate Annual Energy Use and Peak Demand. LEUKOS - Journal of Illuminating Engineering Society of North America, 2012, 9, 109-126.	1.5	0
69	An investigation of design parameters that affect commercial high-rise office building energy consumption and demand. Journal of Building Performance Simulation, 2012, 5, 313-328.	1.0	14
70	Evaluation of automatic priced based thermostat control for peak energy reduction under residential time-of-use utility tariffs. Energy and Buildings, 2012, 49, 99-108.	3.1	23
71	An investigation of optimal control of passive building thermal storage with real time pricing. Journal of Building Performance Simulation, 2011, 4, 91-104.	1.0	34
72	Model-predictive control of mixed-mode buildings with rule extraction. Building and Environment, 2011, 46, 428-437.	3.0	137

#	Article	IF	Citations
73	Evaluation of temperature degradation in hydraulic flow networks. Energy and Buildings, 2011, 43, 1820-1828.	3.1	27
74	Advances in Near-Optimal Control of Passive Building Thermal Storage. Journal of Solar Energy Engineering, Transactions of the ASME, 2010, 132, .	1.1	18
75	Improved airflow around multiple rows of buildings in hot arid climates. Energy and Buildings, 2010, 42, 1711-1718.	3.1	10
76	Towards Optimizing Building Energy Use to Reduce Electric System Carbon Emissions. , 2010, , .		0
77	The performance of occupancy-based lighting control systems: A review. Lighting Research and Technology, 2010, 42, 415-431.	1.2	181
78	Validating the application of occupancy sensor networks for lighting control. Lighting Research and Technology, 2010, 42, 399-414.	1.2	19
79	Performance Comparison of Control Methods for Tankless Water Heaters. HVAC and R Research, 2010, 16, 677-690.	0.9	7
80	Comparison of Short-Term Weather Forecasting Models for Model Predictive Control. HVAC and R Research, 2009, 15, 835-853.	0.9	32
81	Modeling and Optimal Control of Distributed Generation Systems for Demand and Energy Management. , 2009, , .		1
82	Analysis of Thermal Energy Storage for a Pharmaceutical CompanyAnalyse eines thermischen Energiespeichers für ein pharmazeutisches Unternehmen. Automatisierungstechnik, 2009, 57, 443-451.	0.4	0
83	Development of a Model Predictive Controller for Tankless Water Heaters. HVAC and R Research, 2009, 15, 3-23.	0.9	16
84	Sensor Networks for Lighting Control. , 2009, , .		0
85	The Application of Sensor Networks to Lighting Control. LEUKOS - Journal of Illuminating Engineering Society of North America, 2009, 5, 313-325.	1.5	14
86	Analytical Methods for Application to Sensor Networks for Lighting Control. LEUKOS - Journal of Illuminating Engineering Society of North America, 2009, 5, 297-311.	1.5	6
87	Technical Research Needs for Sustainable Buildings: Results from a Multidisciplinary NSF Workshop. Journal of Green Building, 2009, 4, 101-112.	0.4	1
88	Primary energy and comfort performance of ventilation assisted thermo-active building systems in continental climates. Energy and Buildings, 2008, 40, 99-111.	3.1	90
89	Optimal design and operation of a thermal storage system for a chilled water plant serving pharmaceutical buildings. Energy and Buildings, 2008, 40, 1004-1019.	3.1	51
90	Evaluation of Reinforcement Learning for Optimal Control of Building Active and Passive Thermal Storage Inventory. Journal of Solar Energy Engineering, Transactions of the ASME, 2007, 129, 215-225.	1.1	41

#	ARTICLE	IF	CITATIONS
91	Sensitivity Analysis of Optimal Building Thermal Mass Control. Journal of Solar Energy Engineering, Transactions of the ASME, 2007, 129, 473-485.	1.1	25
92	Impact of adaptive comfort criteria and heat waves on optimal building thermal mass control. Energy and Buildings, 2007, 39, 221-235.	3.1	42
93	Experimental analysis of simulated reinforcement learning control for active and passive building thermal storage inventory. Energy and Buildings, 2006, 38, 148-161.	3.1	80
94	Experimental analysis of simulated reinforcement learning control for active and passive building thermal storage inventory. Energy and Buildings, 2006, 38, 142-147.	3.1	91
95	Building occupancy detection through sensor belief networks. Energy and Buildings, 2006, 38, 1033-1043.	3.1	228
96	Survey of Sustainable Building Design Practices in North America, Europe, and Asia. Journal of Architectural Engineering, 2006, 12, 33-62.	0.8	78
97	Experimental Analysis of Model-Based Predictive Optimal Control for Active and Passive Building Thermal Storage Inventory. HVAC and R Research, 2005, 11, 189-213.	0.9	151
98	Parametric Analysis of Active and Passive Building Thermal Storage Utilization*. Journal of Solar Energy Engineering, Transactions of the ASME, 2005, 127, 37-46.	1.1	36
99	Energy and Cost Minimal Control of Active and Passive Building Thermal Storage Inventory. Journal of Solar Energy Engineering, Transactions of the ASME, 2005, 127, 343-351.	1.1	42
100	Sensitivity Analysis of Optimal Building Thermal Mass Control. , 2005, , .		3
101	Statistical Analysis of Neural Networks as Applied to Building Energy Prediction. Journal of Solar Energy Engineering, Transactions of the ASME, 2004, 126, 592-600.	1.1	56
102	Impact of Forecasting Accuracy on Predictive Optimal Control of Active and Passive Building Thermal Storage Inventory. HVAC and R Research, 2004, 10, 153-178.	0.9	58
103	Development of a thermal energy storage model for EnergyPlus. Energy and Buildings, 2004, 36, 807-814.	3.1	35
104	Evaluation of optimal control for active and passive building thermal storage. International Journal of Thermal Sciences, 2004, 43, 173-183.	2.6	243
105	Trade-Off Between Energy Consumption and Utility Cost in the Optimal Control of Active and Passive Building Thermal Storage Inventory. , 2004, , .		1
106	Effect of Design Parameters on the Performance of Thermal Energy Storage Systems. , 2004, , .		0
107	Guidelines for improved performance of ice storage systems. Energy and Buildings, 2003, 35, 111-127.	3.1	73
108	Impact of real-time pricing rate uncertainty on the annual performance of cool storage systems. Energy and Buildings, 2003, 35, 313-325.	3.1	18

#	Article	IF	Citations
109	Adaptive Optimal Control of a Grid-Independent Photovoltaic System. Journal of Solar Energy Engineering, Transactions of the ASME, 2003, 125, 34-42.	1.1	35
110	Evaluation of Reinforcement Learning Control for Thermal Energy Storage Systems. HVAC and R Research, 2003, 9, 259-275.	0.9	68
111	Parametric Study of a Simplified Ice Storage Model Operating Under Conventional and Optimal Control Strategies*. Journal of Solar Energy Engineering, Transactions of the ASME, 2003, 125, 2-12.	1.1	10
112	An Overview of Optimal Control for Central Cooling Plants with Ice Thermal Energy Storage. Journal of Solar Energy Engineering, Transactions of the ASME, 2003, 125, 302-309.	1.1	25
113	Economic Analysis of Thermal Energy Storage Systems. Journal of Architectural Engineering, 2002, 8, 133-141.	0.8	1
114	Building Energy Management as Continuous Quality Control Process. Journal of Architectural Engineering, 2001, 7, 97-106.	0.8	6
115	Ice Storage System Controls for the Reduction of Operating Cost and Energy Use. Journal of Solar Energy Engineering, Transactions of the ASME, 1998, 120, 275-281.	1.1	30
116	A Simulation Environment for the Analysis of Ice Storage Controls. HVAC and R Research, 1997, 3, 128-148.	0.9	39
117	Development of a Predictive Optimal Controller for Thermal Energy Storage Systems. HVAC and R Research, 1997, 3, 233-264.	0.9	127
118	Heuristics for the Optimal Control of Thermal Energy Storage. , 1996, , 183-201.		2