

# Dirk Saelens

## List of Publications by Year in Descending Order

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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.

77  
papers

1,665  
citations

21  
h-index

39  
g-index

84  
ext. papers

1,994  
ext. citations

5.9  
avg, IF

5.43  
L-index

| #  | Paper  | IF   | Citations |
|----|--|------|-----------|
| 77 | Time-dependent solar aperture estimation of a building: Comparing grey-box and white-box approaches. <i>Renewable and Sustainable Energy Reviews</i> , <b>2022</b> , 161, 112337                                 | 16.2 | 1         |
| 76 | Patient well-being, adaptation of and to indoor conditions, and hospital room design: two mixed methods case studies. <i>Building Research and Information</i> , <b>2022</b> , 50, 105-133                       | 4.3  | 2         |
| 75 | Demonstration of an MPC framework for all-air systems in non-residential buildings. <i>Building and Environment</i> , <b>2022</b> , 109053   | 6.5  | 1         |
| 74 | Estimating dynamic solar gains from on-site measured data: An ARX modelling approach. <i>Applied Energy</i> , <b>2022</b> , 321, 119278  | 10.7 | 0         |
| 73 | A probabilistic approach to include the overall efficiency of gas-fired heating systems in urban building energy modelling. <i>Journal of Physics: Conference Series</i> , <b>2021</b> , 2069, 012105            | 0.3  | 0         |
| 72 | Comparing statistical modeling techniques for heat loss coefficient estimation using in-situ data. <i>Journal of Physics: Conference Series</i> , <b>2021</b> , 2069, 012101                                     | 0.3  | 3         |
| 71 | Performance of building integrated photovoltaic facades: Impact of exterior convective heat transfer. <i>Applied Energy</i> , <b>2021</b> , 287, 116538  | 10.7 | 5         |
| 70 | A probabilistic building characterization method for district energy simulations. <i>Energy and Buildings</i> , <b>2021</b> , 230, 110566  | 7    | 7         |
| 69 | Simulating building integrated photovoltaic facades: Comparison to experimental data and evaluation of modelling complexity. <i>Applied Energy</i> , <b>2021</b> , 281, 116032                                   | 10.7 | 10        |
| 68 | Analysing modelling challenges of smart controlled ventilation systems in educational buildings. <i>Journal of Building Performance Simulation</i> , <b>2021</b> , 14, 116-131                                   | 2.8  | 2         |
| 67 | Impact of residential low-carbon technologies on low-voltage grid reinforcements. <i>Applied Energy</i> , <b>2021</b> , 297, 117057  | 10.7 | 1         |
| 66 | Implementation of MPC for an all-air system in an educational building. <i>E3S Web of Conferences</i> , <b>2021</b> , 246, 11007   | 0.5  |           |
| 65 | Identification of the Building Envelope Performance of a Residential Building: A Case Study. <i>Energies</i> , <b>2020</b> , 13, 2469  | 3.1  | 4         |
| 64 | A physics-based high-resolution BIPV model for building performance simulations. <i>Solar Energy</i> , <b>2020</b> , 204, 585-599  | 6.8  | 13        |
| 63 | Aggregating set-point temperature profiles for archetype-based: simulations of the space heat demand within residential districts. <i>Journal of Building Performance Simulation</i> , <b>2020</b> , 13, 285-300 | 2.8  | 3         |
| 62 | Comfort requirements versus lived experience: combining different research approaches to indoor environmental quality. <i>Architectural Science Review</i> , <b>2020</b> , 63, 316-324                           | 2.6  | 11        |
| 61 | Electrical system architectures for building-integrated photovoltaics: A comparative analysis using a modelling framework in Modelica. <i>Applied Energy</i> , <b>2020</b> , 261, 114247                         | 10.7 | 7         |

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| 60 | Assessment of data analysis methods to identify the heat loss coefficient from on-board monitoring data. <i>Energy and Buildings</i> , <b>2020</b> , 209, 109706   | 7    | 9  |
| 59 | A building clustering approach for urban energy simulations. <i>Energy and Buildings</i> , <b>2020</b> , 208, 109671   | 7    | 16 |
| 58 | Analysis of the influence of the definition of the interior dwelling temperature on the characterization of the heat loss coefficient via on-board monitoring. <i>Energy and Buildings</i> , <b>2020</b> , 215, 109860   | 7    | 6  |
| 57 | Understanding the behaviour of naturally-ventilated BIPV modules: A sensitivity analysis. <i>Renewable Energy</i> , <b>2020</b> , 161, 133-148   | 8.1  | 11 |
| 56 | Analysis of Building Parameter Uncertainty in District Heating for Optimal Control of Network Flexibility. <i>Energies</i> , <b>2020</b> , 13, 6220  | 3.1  | 3  |
| 55 | Embedded BIPV module-level DC/DC converters: Classification of optimal ratings. <i>Renewable Energy</i> , <b>2020</b> , 146, 880-889   | 8.1  | 14 |
| 54 | Sensitivity of Characterizing the Heat Loss Coefficient through On-Board Monitoring: A Case Study Analysis. <i>Energies</i> , <b>2019</b> , 12, 3322   | 3.1  | 9  |
| 53 | Comparison of model identification techniques for MPC in all-air HVAC systems in an educational building. <i>E3S Web of Conferences</i> , <b>2019</b> , 111, 01053   | 0.5  | 3  |
| 52 | Automated grey box model implementation using BIM and Modelica. <i>Energy and Buildings</i> , <b>2019</b> , 188-189, 209-225   | 7    | 17 |
| 51 | Towards metamodeling the neighborhood-level grid impact of low-carbon technologies. <i>Energy and Buildings</i> , <b>2019</b> , 194, 273-288   | 7    | 5  |
| 50 | Mapping the pitfalls in the characterisation of the heat loss coefficient from on-board monitoring data using ARX models. <i>Energy and Buildings</i> , <b>2019</b> , 197, 214-228   | 7    | 4  |
| 49 | Towards the characterization of the heat loss coefficient via on-board monitoring: Physical interpretation of ARX model coefficients. <i>Energy and Buildings</i> , <b>2019</b> , 195, 180-194   | 7    | 9  |
| 48 | Modeling and validation of a DC/DC power converter for building energy simulations: Application to BIPV systems. <i>Applied Energy</i> , <b>2019</b> , 240, 646-665  | 10.7 | 16 |
| 47 | Assessing scalability of a low-voltage distribution grid co-simulation through functional mock-up interface. <i>Journal of Building Performance Simulation</i> , <b>2019</b> , 12, 637-649   | 2.8  | 2  |
| 46 | IBPSA Project 1: BIM/GIS and Modelica framework for building and community energy system design and operation [Ongoing developments, lessons learned and challenges. <i>IOP Conference Series: Earth and Environmental Science</i> , <b>2019</b> , 323, 012114 | 0.3  | 8  |
| 45 | Evaluation of a Simplified Calculation Approach for Final Heating Energy Use in Non-residential Buildings. <i>Energy, Environment, and Sustainability</i> , <b>2019</b> , 139-164  | 0.8  |    |
| 44 | A combined scientometric and conventional literature review to grasp the entire BIM knowledge and its integration with energy simulation. <i>Journal of Building Engineering</i> , <b>2019</b> , 22, 513-527   | 5.2  | 28 |
| 43 | Energy flexible buildings: An evaluation of definitions and quantification methodologies applied to thermal storage. <i>Energy and Buildings</i> , <b>2018</b> , 166, 372-390  | 7    | 93 |

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| 42 | Implementation and verification of the IDEAS building energy simulation library. <i>Journal of Building Performance Simulation</i> , <b>2018</b> , 11, 669-688  | 2.8  | 45 |
| 41 | Optimal operation of building microgrids [Comparison with mixed-integer linear and continuous non-linear programming approaches. <i>COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering</i> , <b>2018</b> , 37, 603-616 | 0.7  |    |
| 40 | An automated IFC-based workflow for building energy performance simulation with Modelica. <i>Automation in Construction</i> , <b>2018</b> , 91, 166-181   | 9.6  | 40 |
| 39 | Reliability Comparison of a DC-DC Converter Placed in Building-Integrated Photovoltaic Module Frames <b>2018</b> ,  |      | 4  |
| 38 | An auto-deployed model-based fault detection and diagnosis approach for Air Handling Units using BIM and Modelica. <i>Automation in Construction</i> , <b>2018</b> , 96, 508-526  | 9.6  | 15 |
| 37 | Impact of building geometry description within district energy simulations. <i>Energy</i> , <b>2018</b> , 158, 1060-1069  | 7.9  | 18 |
| 36 | Heat pump and PV impact on residential low-voltage distribution grids as a function of building and district properties. <i>Applied Energy</i> , <b>2017</b> , 192, 268-281   | 10.7 | 54 |
| 35 | Generic characterization method for energy flexibility: Applied to structural thermal storage in residential buildings. <i>Applied Energy</i> , <b>2017</b> , 198, 192-202  | 10.7 | 89 |
| 34 | Model selection for continuous commissioning of HVAC-systems in office buildings: A review. <i>Renewable and Sustainable Energy Reviews</i> , <b>2017</b> , 76, 673-686   | 16.2 | 25 |
| 33 | Economic impact of persistent sensor and actuator faults in concrete core activated office buildings. <i>Energy and Buildings</i> , <b>2017</b> , 142, 111-127  | 7    | 21 |
| 32 | Experimental analysis of indoor temperature of residential buildings as an input for building simulation tools. <i>Energy Procedia</i> , <b>2017</b> , 132, 123-128   | 2.3  | 3  |
| 31 | A simulation exercise to improve building energy performance characterization via on-board monitoring. <i>Energy Procedia</i> , <b>2017</b> , 132, 969-974  | 2.3  | 7  |
| 30 | Metamodeling energy indicators in neighborhoods with growing deployment of heat pumps and rooftop photovoltaics. <i>Energy Procedia</i> , <b>2017</b> , 132, 555-560  | 2.3  | 1  |
| 29 | Impact of spatial accuracy on district energy simulations. <i>Energy Procedia</i> , <b>2017</b> , 132, 561-566  | 2.3  | 6  |
| 28 | Modelling uncertainty in district energy simulations by stochastic residential occupant behaviour. <i>Journal of Building Performance Simulation</i> , <b>2016</b> , 9, 431-447   | 2.8  | 50 |
| 27 | CO2-abatement cost of residential heat pumps with active demand response: demand- and supply-side effects. <i>Applied Energy</i> , <b>2015</b> , 156, 490-501   | 10.7 | 45 |
| 26 | The definition of representative boundary conditions for Flemish schools for use in energy assessment methods. <i>Energy and Buildings</i> , <b>2015</b> , 87, 1-13   | 7    | 3  |
| 25 | Impact of the Heat Emission System on the Identification of Grey-box Models for Residential Buildings. <i>Energy Procedia</i> , <b>2015</b> , 78, 3300-3305   | 2.3  | 4  |

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| 24 | Reprint of Assessment of approaches for modeling louver shading devices in building energy simulation programs <i>Energy and Buildings</i> , <b>2014</b> , 68, 799-810   | 7    | 9   |
| 23 | Quality of grey-box models and identified parameters as function of the accuracy of input and observation signals. <i>Energy and Buildings</i> , <b>2014</b> , 82, 263-274   | 7    | 114 |
| 22 | Rule-based demand-side management of domestic hot water production with heat pumps in zero energy neighbourhoods. <i>Journal of Building Performance Simulation</i> , <b>2014</b> , 7, 271-288                                   | 2.8  | 46  |
| 21 | Potential of structural thermal mass for demand-side management in dwellings. <i>Building and Environment</i> , <b>2013</b> , 64, 187-199  | 6.5  | 123 |
| 20 | Evaluation of the accuracy of the implementation of dynamic effects in the quasi steady-state calculation method for school buildings. <i>Energy and Buildings</i> , <b>2013</b> , 65, 173-184                                   | 7    | 11  |
| 19 | Numerical study of convection during night cooling and the implications for convection modeling in Building Energy Simulation models. <i>Energy and Buildings</i> , <b>2013</b> , 64, 41-52                                      | 7    | 13  |
| 18 | Assessment of approaches for modeling louver shading devices in building energy simulation programs. <i>Energy and Buildings</i> , <b>2013</b> , 60, 286-297   | 7    | 27  |
| 17 | Assessing electrical bottlenecks at feeder level for residential net zero-energy buildings by integrated system simulation. <i>Applied Energy</i> , <b>2012</b> , 96, 74-83  | 10.7 | 135 |
| 16 | Assessment of the physical part of the temperature takeback for residential retrofits. <i>Energy and Buildings</i> , <b>2012</b> , 52, 112-121   | 7    | 21  |
| 15 | Numerical sensitivity study of transient surface convection during night cooling. <i>Energy and Buildings</i> , <b>2012</b> , 53, 85-95  | 7    | 14  |
| 14 | Feasibility assessment of passive cooling for office buildings in a temperate climate through uncertainty analysis. <i>Building and Environment</i> , <b>2012</b> , 56, 95-107   | 6.5  | 20  |
| 13 | Grid impact indicators for active building simulation <b>2011</b> ,  |      | 16  |
| 12 | Energy and comfort performance of thermally activated building systems including occupant behavior. <i>Building and Environment</i> , <b>2011</b> , 46, 835-848  | 6.5  | 77  |
| 11 | Coupling of dynamic building simulation with stochastic modelling of occupant behaviour in offices $\square$ a review-based integrated methodology. <i>Journal of Building Performance Simulation</i> , <b>2011</b> , 4, 339-358 | 2.8  | 83  |
| 10 | Integrating occupant behaviour in the simulation of coupled electric and thermal systems in buildings <b>2011</b> ,  |      | 2   |
| 9  | The Impact of Load Profile on the Grid-Interaction of Building Integrated Photovoltaic (BIPV) Systems in Low-Energy Dwellings. <i>Journal of Green Building</i> , <b>2010</b> , 5, 137-147                                       | 1.3  | 11  |
| 8  | Strategies to improve the energy performance of multiple-skin facades. <i>Building and Environment</i> , <b>2008</b> , 43, 638-650   | 6.5  | 67  |
| 7  | The inlet temperature as a boundary condition for multiple-skin facade modelling. <i>Energy and Buildings</i> , <b>2004</b> , 36, 825-835  | 7    | 42  |

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| 6 | Energy Performance Assessment of Multiple-Skin Facades. <i>HVAC and R Research</i> , <b>2003</b> , 9, 167-185   | 54    |
| 5 | Experimental Evaluation of Airflow in Naturally Ventilated Active Envelopes. <i>Journal of Thermal Envelope and Building Science</i> , <b>2001</b> , 25, 101-127                        | 16    |
| 4 | Quantifying Uncertainty Propagation For The District Energy Demand Using Realistic Variations On Input Data   | 2     |
| 3 | Towards a DESTEST: a District Energy Simulation Test Developed in IBPSA Project 1   | 2     |
| 2 | Performance of BIPV modules under different climatic conditions. <i>WEENTECH Proceedings in Energy</i> , 1076-115   | 1     |
| 1 | Discrepancies between predicted and actual indoor environmental (dis)comfort: the role of hospitalized patients' adaptation strategies. <i>Building Research and Information</i> , 1-18 | 4-3 1 |