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## Five most significant publications, doctoral thesis and book chapters

- 2016** S. Coccolo, **J. Kämpf**, J.-L. Scartezzini, D. Pearlmutter, *Outdoor human comfort and thermal stress: A comprehensive review on models and standards*, PhD thesis, Urban Climate 18, 33-57, 2016, <https://doi.org/10.1016/j.uclim.2016.08.004>.
- N. Mohajeri, G. Upadhyay, A. Gudmundsson, D. Assouline, **J. Kämpf**, J.-L. Scartezzini, Effects of urban compactness on solar energy potential, Renewable Energy 93, 469-482, 2016, <https://doi.org/10.1016/j.renene.2016.02.053>.
- 2011** **J. Kämpf**, chapters' author in *Computer Modelling for Sustainable Urban Design: Physical Principles, Methods and Applications*. Edited by D. Robinson, published by Earthscan (Taylor & Francis Group). ISBN: 9781844076796, <http://dx.doi.org/10.4324/9781849775403>.
- 2009** **J. Kämpf**, *On the Modelling and Optimisation of Urban Energy Fluxes*, PhD thesis, Solar Energy and Building Physics Laboratory, EPFL, n°4548, 2009, <http://dx.doi.org/10.5075/epfl-thesis-4548>.
- 2010** **J. Kämpf**, M. Montavon, J. Bunyesc, R. Bolliger, and D. Robinson. *Optimisation of buildings' solar irradiation availability*. Solar Energy, 84(4):596-603, 2010, <http://dx.doi.org/10.1016/j.solener.2009.07.013>.
- J. Kämpf**, M. Wetter, and D. Robinson. *A comparison of global optimisation algorithms with standard benchmark functions and real-world applications using EnergyPlus*. Journal of Building Performance Simulation, 3(2):103-120, 2010, <http://dx.doi.org/10.1080/19401490903494597>.
- 2007** **J. Kämpf** and D. Robinson. *A simplified thermal model to support analysis of urban resource flows*. Energy & Buildings, 39(4):445-453, 2007, <http://dx.doi.org/10.1016/j.enbuild.2006.09.002>.

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## Peer Reviewed Journal Articles

- 2023** A.D. Dilsiz, K.E. Nweye, A.J. Wu, **J.H. Kämpf**, F. Biljecki, Z. Nagy. *How spatio-temporal resolution impacts urban energy calibration*. Energy and Buildings 113175. <https://doi.org/10.1016/j.enbuild.2023.113175>
- F. Battini, G.F. Pernigotto, F. Morandi, A. Gasparella, **J.H. Kämpf**. *Assessment of Subsidization Strategies for Multi-Objective Optimization of Energy Efficiency Measures for Building Renovation at District Scale*. Energies 16, 5780. <https://doi.org/10.3390/en16155780>
- M. Bilardo, **J.H. Kämpf**, E. Fabrizio. *From Zero Energy to Zero Power Buildings: a new paradigm for a sustainable transition of the building stock*. Sustainable Cities and Society 105136. <https://doi.org/10.1016/j.scs.2023.105136>
- G. Lamberti, R. Boggetti, **J.H. Kämpf**, F. Fantozzi, F. Leccese, G. Salvadori. *Development and comparison of adaptive data-driven models for thermal comfort assessment and control*. Total Environment Research Themes 8, 100083. <https://doi.org/10.1016/j.totert.2023.100083>
- 2022** A. Demir Dilsiz, K. Ng, **J. Kämpf**, and Z. Nagy. *Ranking Parameters in Urban Energy Models for Various Building Forms and Climates Using Sensitivity Analysis*. Building Simulation, 24 December 2022. <https://doi.org/10.1007/s12273-022-0961-5>.
- C. Basurto, M. Papinutto, M. Colombo, R. Boggetti, K. Reutter, J. Nembrini, **J. H. Kämpf**, *Integrating daylight with general and task lighting: a longitudinal in-the-wild study in individual and open space working areas*, Solar Energy Advances, 2022, 100027, ISSN 2667-1131, <https://doi.org/10.1016/j.seja.2022.100027>.
- M. Pappinutto, R. Boggetti, M. Colombo, C. Basurto, K. Reutter, D. Lalanne, **J. Kämpf** and J. Nembrini, *Saving energy by maximising daylight and minimising the impact on occupants: an automatic lighting system approach*, Energy and Buildings, Volume 268, 1<sup>st</sup> August 2022, <https://doi.org/10.1016/j.enbuild.2022.112176>.
- 2021** F. Haneef, G. Pernigotto, A. Gasparella and **J. Kämpf**, *Application of Urban Scale Energy Modelling and Multi-Objective Optimization Techniques for Building Energy Renovation at District Scale*, Sustainability, 13(20), 2021, <https://doi.org/10.3390/su132011554>
- P. Florio, G. Peronato, A.T.D. Perera, A. Di Blasi, K. H. Poon, **J. H. Kämpf**, *Designing and assessing solar energy neighborhoods from visual impact*, Sustainable Cities and Society, Volume 71, 2021, 102959, ISSN 2210-6707, <https://doi.org/10.1016/j.scs.2021.102959>.
- V. Todeschi, R. Boggetti, **J.H. Kämpf**, G. Mutani, *Evaluation of Urban-Scale Building Energy-Use Models and Tools—Application for the City of Fribourg, Switzerland*, Sustainability 2021, 13, 1595. <https://doi.org/10.3390/su13041595>.
- 2020** K.H. Poon, **J.H. Kämpf**, S.E.R. Tay, N.H. Wong, T.G. Reindl, *Parametric study of URBAN morphology on building solar energy potential in Singapore context*, in: Urban Climate, Volume 33, 2020. <https://doi.org/10.1016/j.uclim.2020.100624>.
- 2019** Y. Wu, **J. H. Kämpf**, J.-L. Scartezzini, *Performance assessment of the BTDF data compression based on wavelet transforms in daylighting simulation*, Solar Energy, Volume 190, 2019, Pages 329-336, ISSN 0038-092X, <https://doi.org/10.1016/j.solener.2019.07.096>.
- Y. Wu, **J. Kämpf** and J. -L. Scartezzini, *Daylighting simulation for external Venetian blinds based on HDR sky luminance monitoring with matrix algebraic approach*, in: Energy Procedia, 158:2677-2682, 2019. <http://dx.doi.org/10.1016/j.egypro.2019.02.021>.
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J. R. Vázquez-Canteli, S. Ulyanin, **J. Kämpf**, Z. Nagy, *Fusing TensorFlow with building energy simulation for intelligent energy management in smart cities*, Sustainable Cities and Society, Volume 45, 2019, Pages 243-257, ISSN 2210-6707, <https://doi.org/10.1016/j.scs.2018.11.021>.

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S. Coccolo, D. Pearlmutter, **J. Kämpf**, J.-L. Scartezzini, *Thermal Comfort Maps to estimate the impact of urban greening on the outdoor human comfort*, Urban Forestry & Urban Greening, Volume 35, 2018, Pages 91-105, ISSN 1618-8667, <https://doi.org/10.1016/j.ufug.2018.08.007>.

S. Coccolo, **J. Kämpf**, D. Mauree, J.-L. Scartezzini, *Cooling potential of greening in the urban environment, a step further towards practice*, In Sustainable Cities and Society, Volume 38, 2018, Pages 543-559, ISSN 2210-6707, <https://doi.org/10.1016/j.scs.2018.01.019>.

A. Figueiredo, **J. Kämpf**, R. Vicente, R. Oliveira, T. Silva, *Comparison between monitored and simulated data using evolutionary algorithms: Reducing the performance gap in dynamic building simulation*, In Journal of Building Engineering, Volume 17, May 2018, Pages 96-106, ISSN 2352-7102, <https://doi.org/10.1016/j.jobbe.2018.02.003>.

**2017**

C. Miller, D. Thomas, **J. Kämpf**, A. Schlueter, *Urban and building multiscale co-simulation: case study implementations on two university campuses*, In Journal of Building Performance Simulation, 2017, Pages 1-13, <https://doi.org/10.1080/19401493.2017.1354070>.

A. Figueiredo, R. Vicente, J. Lapa, C. Cardoso, F. Rodrigues, **J. Kämpf**, *Indoor thermal comfort assessment using different constructive solutions incorporating PCM*, In Applied Energy, Volume 208, 2017, Pages 1208-1221, ISSN 0306-2619, <https://doi.org/10.1016/j.apenergy.2017.09.032>.

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Y. Wu, **J. H. Kämpf**, J.-L. Scartezzini, *Characterization of a quasi-real-time lighting computing system based on HDR imaging*, In Energy Procedia, Volume 122, 2017, Pages 649-654, ISSN 1876-6102, <https://doi.org/10.1016/j.egypro.2017.07.364>.

S. Coccolo, D. Mauree, E. Naboni, **J. Kämpf** and J.-L. Scartezzini. *On the impact of the wind speed on the outdoor human comfort: a sensitivity analysis*, in Energy Procedia, vol. 122, p. 481-486, 2017, <http://dx.doi.org/10.1016/j.egypro.2017.07.297>.

D. Mauree, S. Coccolo, **J. Kämpf** and J.-L. Scartezzini. *Multi-scale modelling to evaluate building energy consumption at the neighbourhood scale*, in PLOS ONE, vol. 12, num. 9, p. e0183437, 2017, <http://dx.doi.org/10.1371/journal.pone.0183437>.

- C. Basurto, **J. Kämpf**, J.-L. Scartezzini, *Multi-criteria analysis for the integrated performance assessment of complex fenestration systems*, Building Research and Information, Pages 1-17, <http://dx.doi.org/10.1080/09613218.2016.1235911>.
- 2016** S. Coccolo, **J. Kämpf**, J.-L. Scartezzini, D. Pearlmutter, *Outdoor human comfort and thermal stress: A comprehensive review on models and standards*, Urban Climate, Volume 18, 2016, Pages 33-57, <http://dx.doi.org/10.1016/j.uclim.2016.08.004>.
- N. Mohajeri, G. Upadhyay, A. Gudmundsson, D. Assouline, **J. Kämpf**, J.-L. Scartezzini, *Effects of urban compactness on solar energy potential*, Renewable Energy, Volume 93, August 2016, Pages 469-482, ISSN 0960-1481, <http://dx.doi.org/10.1016/j.renene.2016.02.053>.
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- A. Figueiredo, **J. Kämpf**, Romeu Vicente, *Passive house optimization for Portugal: Overheating evaluation and energy performance*, Energy and Buildings, Volume 118, 15 April 2016, Pages 181-196, ISSN 0378-7788, <http://dx.doi.org/10.1016/j.enbuild.2016.02.034>.
- 2015** C. Basurto, **J. Kämpf** and J.-L. Scartezzini. *Annual Performance Assessment of Complex Fenestration Systems in Sunny Climates Using Advanced Computer Simulations*, in Journal of Daylighting, vol. 2, p. 32-43, 2015, <http://dx.doi.org/10.15627/jd.2015.6>.
- S. Coccolo, **J. Kämpf**, J.-L. Scartezzini, *The EPFL Campus in Lausanne: New Energy Strategies for 2050*, Energy Procedia, Volume 78, 2015, Pages 3174-3179, ISSN 1876-6102, <http://dx.doi.org/10.1016/j.egypro.2015.11.776>.
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- 2013** D. Perez, **J. Kämpf**, and J.-L. Scartezzini, *Urban area energy flow microsimulation for planning support: a calibration and verification study*. International Journal on Advances in Systems and Measurements, issn 1942-261x, vol. 6, no. 3 & 4, year 2013, 260:271, [http://www.ariajournals.org/systems\\_and\\_measurements/](http://www.ariajournals.org/systems_and_measurements/)
- 2010** S. Wittkopf, L. Oliver Grobe, D. Geisler-Moroder, R. Compagnon, **J. Kämpf**, F. Linhart and J.-L. Scartezzini. *Ray tracing study for non-imaging daylight collectors*. Solar Energy, 84 (6):986-996, 2010. <http://dx.doi.org/10.1016/j.solener.2010.03.008>.
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- 2009** **J. Kämpf** and D. Robinson. *A hybrid CMA-ES and HDE optimisation algorithm with application to solar energy potential*. Applied Soft Computing, 9(2):738-745, 2009. <http://dx.doi.org/10.1016/j.asoc.2008.09.009>.
- 2008** K. Thielemans, C. Morel, M. Jacobson, **J. Kämpf**, and S. Mustafovic. *Normalisation of Histogrammed List Mode Data*. Nuclear Science, IEEE Transaction, 55(1, Part 2):543-551, 2008. <http://dx.doi.org/10.1109/TNS.2007.914207>.

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<http://dx.doi.org/10.1016/j.solener.2007.01.011>.

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<http://dx.doi.org/10.1016/j.enbuild.2006.09.002>.



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## Peer Reviewed Conference Proceedings

- 2023** R. Boghetti, G. Peronato, **J.H. Kämpf**. *Verification of PyDHN - a Python library for the thermo-hydraulic simulation of district heating networks - through the DESTEST*, in: Proceedings of Building Simulation 2023: 18th Conference of IBPSA, Building Simulation. IBPSA, Bruges, Belgium, pp. 3062–3069. <https://doi.org/10.26868/25222708.2023.1592>
- M. Tognoli, G. Peronato, **J.H. Kämpf**. *A Machine Learning Model for the Prediction of Building Hourly Heating Demand from CityGML Files: Training Workflow and Deployment as an API*, in: Proceedings of Building Simulation 2023: 18th Conference of IBPSA, Building Simulation. IBPSA, Bruges, Belgium, pp. 2932–2939. <https://doi.org/10.26868/25222708.2023.1570>
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- M. Papinutto, M. Colombo, R. Boghetti, C. Basurto, K. Reutter, D. Lalanne, **J.H. Kämpf**, J. Nembrini. *Enhancing user acceptance in automated systems with human-centric lighting: the role of visual comfort, personality, and preference*. J. Phys.: Conf. Ser. 2600, 112004. <https://doi.org/10.1088/1742-6596/2600/11/112004>
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- 2022** G. Cillari, F. Fantozzi, A. Franco, and **J. Kaempf**. *Towards Energy Hubs: An Innovative Geographic Information System Based Approach for Cluster Definition*. In ICREC 2022 Conference Proceedings, edited by Energy Reports. Elsevier, 2022.
- G. Peronato, **J.H. Kämpf**, *DHgeN: Automated Generation of District Heating Network Layouts for Feasibility Studies*, in: EuroSun 2022 Proceedings. Presented at the EuroSun 2022, Kassel, Germany, <https://proceedings.ises.org/paper/eurosun2022/eurosun2022-0177-Peronato.pdf>
- 2021** G. Peronato, R. Boghetti, **J. Kämpf**, *A machine-learning model for the prediction of aggregated building heating demand from pan-European land-use maps*, in: Journal of Physics: Conference Series, CISBAT 2021, Lausanne (Switzerland), 2021, <http://doi.org/10.1088/1742-6596/2042/1/012019>
- C. Basurto, R. Boghetti, M. Colombo, M. Papinutto, J. Nembrini and **J. H. Kämpf**, *Implementation of machine learning techniques for the quasi real-time blind and electric lighting optimization in a controlled experimental facility*, in: Journal of Physics: Conference Series, CISBAT 2021, Lausanne (Switzerland), 2021, <http://doi.org/10.1088/1742-6596/2042/1/012112>
- C. Dromart, L. Puthod, **J. H. Kämpf**, D. von Gunten, *District heating network modelling for future integration of solar thermal energy*, in: Journal of Physics: Conference Series, CISBAT 2021, Lausanne (Switzerland), 2021, <http://doi.org/10.1088/1742-6596/2042/1/012089>
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- 2020** C. Basurto-Davila, **J. H. Kämpf**, *An integrated and strategic evaluation of automated blind controls to achieve energy and occupant's comfort objectives*, in: Proceedings of Building Simulation and Optimisation 2020 Conference, IBPSA England's First Virtual Conference, 2020, [http://www.ibpsa.org/proceedings/BSO2020/BSOV2020\\_Basurto.pdf](http://www.ibpsa.org/proceedings/BSO2020/BSOV2020_Basurto.pdf).

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J. Nembrini, **J. Kämpf**, M. Pappinutto and D. Lalanne, *A smart luminaire in an office environment: impact on light distribution, user interactions and comfort*, in: Journal of Physics: Conference Series, IOP Publishing Ltd, 2019. <http://dx.doi.org/10.1088/1742-6596/1343/1/012164>.

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G. Mutani, V. Todeschi, **J. Kämpf**, V. Coors and M. Fitzky, *Building energy consumption modeling at urban scale: three case studies in Europe for residential buildings*, 2018 IEEE International Telecommunications Energy Conference (INTELEC), Turin, 2018, pp. 1-8. <http://dx.doi.org/10.1109/INTLEC.2018.8612382>.

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