

Journal Articles (HQP indicated with [†] sign)

1. Abuimara, T.[†], O'Brien, W., and Gunay, H.B., (under-review). Quantifying occupants' impact during simulation aided design: a case study. *Building Research and Information*.
2. Hobson, B.[†], Lowcay, D.[†], Ashouri, A., and Newsham, G., (under-review). Opportunistic occupancy-count estimation using sensor fusion: A case study. *Building and Environment*.
3. Ouf, M.[†], O'Brien W., and Gunay, H.B., (accepted). On quantifying building performance adaptability to variable occupancy. *Building and Environment*.
4. O'Brien, W. and Gunay, H.B., (accepted). Do building energy codes adequately reward buildings that adapt to partial occupancy? *Science and Technology for the Built Environment*.
5. Gunay, H.B., Ouf, M.[†], Newsham, G., and O'Brien, W., (under-review). Sensitivity analysis and optimization of building operations. *Energy and Buildings*.
6. Gunay, H.B., Shen, W., and Newsham, G., 2019. Data analytics to improve building performance: a critical review. *Automation in Construction*, 97, 96-109.
7. Gunay, H.B., Ashouri, A., and Shen, W. (accepted). Detection and interpretation of anomalies in building energy use through inverse modelling. *Science and Technology for the Built Environment*.
8. Gunay, H.B., Ashouri, A., Shen, W., Newsham, G., and O'Brien, W., (accepted). Floor level occupancy count estimation: an exploratory data analysis. *ASHRAE Transactions*.
9. Gunay, H.B., Shen, W., and Ashouri, A., (accepted). Load forecasting and near-optimal sequencing of chillers and boilers in a central heating and cooling plant to increase energy efficiency. *ASHRAE Transactions*.
10. Ouf, M.[†], O'Brien, W., and Gunay, H.B., (accepted). A method to generate design-sensitive occupant-related schedules for building performance simulations. *Science and Technology for the Built Environment*.
11. D'Oca, S., Gilani, S., Gunay, H.B., and O'Brien, W., (accepted). Critical review and illustrative examples of offices occupant modelling formalisms. *Building Services Engineering Research and Technology*.
12. O'Brien, W., Abdelalim, A., and Gunay, H.B. 2019. Development of an office tenant electricity use model and its application for right-sizing HVAC equipment. *Journal of Building Performance Simulation*, 12, 37-55.
13. Gunay, H.B., Shen, W., Newsham, G., and Ashouri, A., 2018. Modelling and analysis of unsolicited temperature setpoint change requests in office buildings. *Building and Environment*, 133, 203-212.

14. Gunay, H.B., Shen, W., and Yang, C., 2019. Text-mining building maintenance work-orders to extract component-level fault frequency information. *Buildings Research and Information*, 47, 518-533.
15. Gunay, H.B., Shen, W., Huchuk, B., Yang, C., Bucking, S., and O'Brien, W., 2018. On the energy and comfort performance benefits of early detection of building sensor and actuator faults. *Building Services Engineering Research and Technology*, 39, 652-666
16. Shi, S.[†], O'Brien, W., and Gunay, H.B., 2018. Development of a distributed building fault detection, diagnostic and evaluation system. *ASHRAE Transactions*, 124.
17. Ouf, M.[†], O'Brien, W., and Gunay, H.B., 2018. Improving occupant-related features in building performance simulation tools. *Building Simulation*, 11, 803-817.
18. Gunay, H.B., Shen, W., Yang, C., Huchuk B., and Shi Z., 2018. A preliminary study on text-mining operator logbooks to develop a fault-frequency model. *ASHRAE Transactions*, 124, 171-184.
19. Gilani, S.[†], O'Brien, W., and Gunay, H.B., 2018. Simulating occupants' impact on building energy performance at different spatial scales. *Building and Environment*, 132, 327-337.
20. Yang, C., Shen, W., Chen, Q., and Gunay, H.B., 2018. A practical solution for HVAC prognostics: Failure mode and effects analysis in building maintenance. *Journal of Building Engineering*, 15, 26-32.
21. Gunay, H.B., Shen, W., and Yang, C., 2017. Blackbox modeling of central heating and cooling plant equipment performance. *Science and Technology for the Built Environment*, 0, 1-14.
22. Gunay, H.B., Shen, W., and Yang, C., 2017. Characterization of a building's operation using automation data: a review and case study. *Building and Environment*, 118, pp.196-210.
23. Gunay H.B., O'Brien W., Beausoleil-Morrison I., and Bursill J., 2017. Development and implementation of a thermostat learning algorithm. *Science and Technology for the Built Environment*, 24, pp.43-56.
24. Gunay, H.B., Shen, W., and Newsham, G., 2017. Inverse blackbox modeling of the heating and cooling load in office buildings. *Energy and Buildings*, 142, pp.200-210.
25. Gunay, H.B., O'Brien, W., Beausoleil-Morrison, I., and Gilani, S., 2017. Development and implementation of an adaptive lighting and blinds control algorithm. *Building and Environment*, 113, pp.185-199.
26. Shen, W., Newsham, G., and Gunay, H.B., 2017. Leveraging existing occupancy-related data for optimal control of commercial office buildings: A review. *Advanced Engineering Informatics*.

27. O'Brien, W., Gunay, H.B., Tahmasebi, F., and Mahdavi, A., 2016. A preliminary study of representing the inter-occupant diversity in occupant modelling. *Journal of Building Performance Simulation*, pp.1-18.
28. Gunay, H.B., O'Brien, W., and Beausoleil-Morrison, I., 2016. Implementation and comparison of existing occupant behaviour models in EnergyPlus. *Journal of Building Performance Simulation*, 9(6), pp.567-588.
29. Gunay, H.B., O'Brien, W., and Beausoleil-Morrison, I., 2016. Control-oriented inverse modeling of the thermal characteristics in an office. *Science and Technology for the Built Environment*, 22(5), pp.586-605.
30. Gunay, H.B., O'Brien, W., Beausoleil-Morrison, I., Bisailon, P., and Shi, Z., 2016. Development and implementation of control-oriented models for terminal heating and cooling units. *Energy and Buildings*, 121, pp.78-91.
31. Gunay, H.B., O'Brien, W., Beausoleil-Morrison, I., and Gilani, S., 2016. Modeling plug-in equipment load patterns in private office spaces. *Energy and Buildings*, 121, pp.234-249.
32. Huchuk, B., Gunay, H.B., O'Brien, W., and Cruickshank, C.A., 2016. Model-based predictive control of office window shades. *Building Research & Information*, 44(4), pp.445-455.
33. Gilani, S., O'Brien, W., Gunay, H.B., and Carrizo, J.S., 2016. Use of dynamic occupant behavior models in the building design and code compliance processes. *Energy and Buildings*, 117, pp.260-271.
34. Gunay, H.B., O'Brien, W., Beausoleil-Morrison, I., and Bursill, J., 2016. Implementation of an adaptive occupancy and building learning temperature setback algorithm. *ASHRAE Transactions*, 122, p.179.
35. O'Brien, W., and Gunay, H.B., 2015. Mitigating office performance uncertainty of occupant use of window blinds and lighting using robust design. *Building Simulation*, 8, pp. 621-636.
36. Gunay, H.B., O'Brien, W., and Beausoleil-Morrison, I., 2015. Development of an occupancy learning algorithm for terminal heating and cooling units. *Building and Environment*, 93, pp.71-85.
37. Yan, D., O'Brien, W., Hong, T., Feng, X., Gunay, H.B., Tahmasebi, F., and Mahdavi, A., 2015. Occupant behavior modeling for building performance simulation: Current state and future challenges. *Energy and Buildings*, 107, pp.264-278.
38. Gunay, H.B., Isgor, O.B., and Ghods, P., 2014. Kinetics of passivation and chloride-induced depassivation of iron in simulated concrete pore solutions using electrochemical quartz crystal nanobalance. *Corrosion*, 71(5), pp.615-627.
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41. Gunay, H.B., O'Brien, W., Beausoleil-Morrison, I., Goldstein, R., Breslav, S., and Khan, A., 2014. Coupling stochastic occupant models to building performance simulation using the discrete event system specification formalism. *Journal of Building Performance Simulation*, 7, pp.457-478.
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43. O'Brien, W., and Gunay, H.B., 2014. The contextual factors contributing to occupants' adaptive comfort behaviors in offices—A review and proposed modeling framework. *Building and Environment*, 77, pp.77-87.
44. Gunay, H.B., O'Brien, W., and Beausoleil-Morrison, I., 2013. A critical review of observation studies, modeling, and simulation of adaptive occupant behaviors in offices. *Building and Environment*, 70, pp.31-47.
45. Bonany, J.E., Van Geel, P.J., Gunay, H.B., and Isgor, O.B., 2013. Simulating waste temperatures in an operating landfill in Québec, Canada. *Waste Management & Research*, 31, pp.692-699.
46. Bonany, J.E., Van Geel, P.J., Gunay, H.B., and Isgor, O.B., 2013. Heat budget for a waste lift placed under freezing conditions at a landfill operated in a northern climate. *Waste management*, 33(5), pp.1215-1228.
47. Gunay, H.B., Ghods, P., Isgor, O.B., Carpenter, G.J., and Wu, X., 2013. Characterization of atomic structure of oxide films on carbon steel in simulated concrete pore solutions using EELS. *Applied Surface Science*, 274, pp.195-202.