



CBE Publications & Report List October 2022

Papers that summarize research by CBE and affiliated institutions have appeared in the following journals, trade magazines, and conference proceedings. Many of these publications are also available from the eScholarship Repository, online at http://escholarship.org/uc/cedr_cbe.

2022

Li, J., S. Zuraimi, S. Schiavon, M.P. Wan, J. Xiong, and K.W. Tham. 2022. Diurnal trends of indoor and outdoor fluorescent biological aerosol particles in a tropical urban area. *Science of the Total Environment* 848, 157811. November. <https://doi.org/10.1016/j.scitotenv.2022.157811>
<https://escholarship.org/uc/item/00g3d5g0> **NEW**

Kent, M., N.K. Huynh, S. Schiavon, and S. Selkowitz. 2022. Using support vector machine to detect desk illuminance sensor blockage for closed-loop daylight harvesting. *Energy and Buildings* 274: 112443. November. <https://doi.org/10.1016/j.enbuild.2022.112443> **NEW**

Wu, Z., N. Li, and S. Schiavon. 2022. Experimental evaluation of thermal comfort, SBS symptoms and physiological responses in a radiant ceiling cooling environment under temperature step-changes. *Building and Environment* 224: 109512. October. <https://doi.org/10.1016/j.buildenv.2022.109512> **NEW**

Nazarian, N., E.S. Krayenhoff, B. Bechtel, D.M. Hondula, R. Paolini, J. Vanos, T. Cheung, et al. 2022. Integrated assessment of urban overheating impacts on human life. *Earth's Future*, 10, e2022EF002682. August. <https://doi.org/10.1029/2022EF002682> **NEW**

Roa, C.D., P. Raftery, R. Singla, M. Pritoni, and T. Peffer. 2022. Detecting passing valves at scale across different buildings and systems: a brick enabled and mortar tested application. In *Climate Solutions: Efficiency, Equity, and Decarbonization*. August. <https://doi.org/10.20357/B7VP5H> <https://escholarship.org/uc/item/4xq5b54t> **NEW**

Lamon, E., P. Raftery, and S. Schiavon. 2022. Boiler retrofits and decarbonization in existing buildings: HVAC designer interviews. Prepared for *California Energy Commission*. Accepted for publication in *ACEEE Summer Study on Energy Efficiency in Buildings*, Panel 5. August. <https://escholarship.org/uc/item/6k4369zv>

Roa, C.D., P. Raftery, R. Sun, L. Paul, A.K. Prakash, M. Pritoni, G. Fierro, and T. Peffer. 2022. Towards a Stronger Foundation: Digitizing Commercial Buildings with Brick to Enable Portable Advanced Applications. In *Climate Solutions: Efficiency, Equity, and Decarbonization*. August. <https://doi.org/10.20357/B7ZG6R> <https://www.osti.gov/biblio/1888244> **NEW**

Sultan, Z., J. Li, J. Pantelic, and S. Schiavon. 2022. Indoor air pollution of outdoor origin: Mitigation using portable air cleaners in Singapore office building. *Aerosol and Air Quality Research* 22 (10): 220204. July. <https://doi.org/10.4209/aaqr.220204> **NEW**

Dong, B., Y. Liu, W. Mu, et al. 2022. A global building occupant behavior database. *Scientific Data* 9 (1): 369. June. <https://doi.org/10.1038/s41597-022-01475-3> Data available at <https://doi.org/10.6084/m9.figshare.16920118.v6> <https://ashraeobdatabase.com> **NEW**

Porras-Salazar, J.A., S. Schiavon, and K.W. Tham. 2022. Effects of IAQ on office work performance. *Handbook of Indoor Air Quality*. June. <https://doi.org/10.1007/978-981-10-5155-5> **NEW**

Kent, M.G. and S. Schiavon. 2022. Predicting window view preferences using the environmental information criteria. *LEUKOS*. May. <https://doi.org/10.1080/15502724.2022.2077753> <https://escholarship.org/uc/item/7rv6936v> **NEW**

Arens, E. and H. Zhang. 2022. Mainstreaming Personal Comfort Systems (PCS). *Buildings and Cities* [commentary]. May. <https://www.buildingsandcities.org/insights/commentaries/mainstreaming-personal-comfort-systems.html>

Ko, W.H., S. Schiavon, S. Altomonte, M. Andersen, A. Batool, W. Browning, G. Burrell, et al. 2022. Window view quality: why it matters and what we should do. *LEUKOS*, Volume 18. May. <https://www.tandfonline.com/doi/full/10.1080/15502724.2022.2055428> **NEW**

Cheung, T., L. Graham, and S. Schiavon. 2022. Impacts of life satisfaction, job satisfaction, and the big five personality traits on satisfaction with the indoor environment. *Building and Environment*, Volume 212. March. <https://doi.org/10.1016/j.buildenv.2022.108783> <https://escholarship.org/uc/item/84r525hj>

Sun, R.J., C. Duarte Roa, P. Raftery, and G. Fierro. 2022. Enabling portable and reproducible long-term thermal comfort evaluation with brick schema and mortar testbed. *ASHRAE 2022 Annual Conference*. January. <https://escholarship.org/uc/item/5640w8m0>

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Luo, M., H. Zhang, Z. Wang, E. Arens, W. Chen, F. Bauman, P. Raftery. 2021. Ceiling-fan-integrated air-conditioning: thermal comfort evaluations. *Buildings and Cities* 2(1), 928–51. December. <https://doi.org/10.5334/bc.137>

He, Y., T. Parkinson, E. Arens, H. Zhang, N. Li, J. Peng, J. Elson, and C. Maranville. 2021. Creating alliesthesia in cool environments using personal comfort systems. *Building and Environment*, Volume 209. December. <https://doi.org/10.1016/j.buildenv.2021.108642> <https://escholarship.org/uc/item/35k2c351>

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- Parkinson, T., S. Schiavon, R. de Dear, and G. Brager. 2021. Overcooling of offices reveals gender inequity in thermal comfort. *Nature Scientific Reports*, Volume 11, Issue 1. December. <https://doi.org/10.1038/s41598-021-03121-1> <https://escholarship.org/uc/item/5rk4b607>
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- Dawe, M., C. Karmann, S. Schiavon, and F. Bauman. 2021. Field evaluation of thermal and acoustical comfort in eight North-American buildings using embedded radiant systems. *PLOS ONE*, Volume 16, Issue 10. October. <https://doi.org/10.1371/journal.pone.0258888> <https://escholarship.org/uc/item/24k6q5zg>
- Tartarini, F., S. Schiavon, O. Jay, E. Arens, and C. Huizenga. 2021. Application of Gagge's energy balance model to determine humidity-dependent temperature thresholds for healthy adults using electric fans during heatwaves. *Building and Environment*. October. <https://doi.org/10.1016/j.buildenv.2021.108437> <https://escholarship.org/uc/item/5th5s8qb>
- Yoon, N., Lee, S.H., Arens, E., Zhang, Hui., Levinson, R. Assessing performance of passive or low-energy resilient cooling technologies for pre-1980 medium office buildings in Phoenix, Arizona and Chicago, Illinois. Proceedings of the 17th IBPSA Conference Bruges, Belgium, Sept. 1-3, 2021 2903-2910 <https://doi.org/10.26868/25222708.2021.31098>
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- Miller, D., P. Raftery, M. Nakajima, S. Salo, L. Graham, T. Peffer, M. Delgado, H. Zhang, G. Brager, D. Douglass-Jaimes, G. Paliaga, S. Cohn, M. Greene, and A. Brooks. 2021. Cooling energy savings and occupant feedback in a two year retrofit evaluation of 99 automated ceiling fans staged with air conditioning. *Energy and Buildings*, Volume 251. August. <https://doi.org/10.1016/j.enbuild.2021.111319> <https://escholarship.org/uc/item/7752j100>

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- Altomonte, S., J. Allen, P. Bluysen, G. Brager, L. Heschong, A. Loder, S. Schiavon, J. Veitch, L. Wang, and P. Wargocki. 2020. Ten questions concerning well-being in the built environment. *Building and Environment*, 180: 106949. August. <https://doi.org/10.1016/j.buildenv.2020.106949>
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