# CBE Publications & Report List
# October 2025

*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.*

## 2026

Xiong, J., Cheung, T., Fukawa, Y., Noelle, N., Parkinson, T., Kim, J., Tanabe, S., de Dear, R., & Schiavon, S. (2026). Measuring what matters: A benchmarking system for occupant satisfaction with workspace environments. *Building and Environment*, *287*, 113783. https://doi.org/10.1016/j.buildenv.2025.113783 ***NEW***

Yan, H., Guo, Y., Zhang, H., Schiavon, S., Sun, R., Zhao, S., Sun, Z., & Shi, F. (2026). Effects of intermittent cooling on human thermophysiological and perceptual responses in a non-steady-state thermal environment. *Building and Environment*, *287*, 113751. https://doi.org/10.1016/j.buildenv.2025.113751 ***NEW***

## 2025

Chen, X., Lv, G., Zhuang, X., Duarte, C., Schiavon, S., & Geyer, P. (2025). *Integrating symbolic neural networks with building physics: A study and proposal*. https://doi.org/10.1016/j.jobe.2025.113033 ***NEW***

Flagner, S., Schiavon, S., Kok, N., Fuerst, F., Licina, D., Loder, A., Rahman, S. A., Scheer, F. A. J. L., Wang, L., Weeldreyer, G., & Pallubinsky, H. (2025). Ten questions concerning the economics of indoor environmental quality in buildings. *Building and Environment*, *282*, 113227. https://doi.org/10.1016/j.buildenv.2025.113227 ***NEW***

Gomes, V., & Roberts, M. (2025). Teaching Life Cycle Assessment: An Accessible Approach for Future Architects and Building Professionals. *Graz Architecture Magazine*, *21*, 136–157. https://escholarship.org/uc/item/2k407592 ***NEW***

Kim, J., Kral, K., Ko, W. H., Kent, M., Schiavon, S., & Dogan, T. (2025). *Window View Satisfaction Assessment Method: A Comparison of Physical Space, Virtual Reality, and Digital Image*. https://doi.org/10.1080/15502724.2025.2528893 ***NEW***

Li, Y., Wang, X., Zhu, X., Gao, Y., Zhang, H., Arens, E., & Zhai, Y. (2025). Age-related variations in metabolic rates during daily activities in Chinese children and adolescents. *Energy and Buildings*, *345*, 116055. https://doi.org/10.1016/j.enbuild.2025.116055 ***NEW***

Mihalcin, E., Schiavon, S., & Ravanelli, N. (2025). Examining the physiological strain with electric fans during high indoor heat stress. *Building and Environment*, *282*, 113261. https://doi.org/10.1016/j.buildenv.2025.113261 ***NEW***

Raftery, P., Cheng, H., Yim, P., & Marrone, J. (2025). Deep Decarbonization Redesign of Commercial Office Buildings. *ASHRAE Journal*, *67*(9), 62–64. https://www.proquest.com/scholarly-journals/deep-decarbonization-redesign-commercial-office/docview/3249298252/se-2 ***NEW***

Rey-Álvarez, B., Sánchez-Montañés, B., Roberts, M., & García-Martínez, A. (2025). Human Toxicity of Building Materials and the Application of the Taxonomy Principle in Green Public Procurement: The Life Cycle Assessment as a Tool. *Circular Economy and Sustainability*. https://doi.org/10.1007/s43615-025-00637-w ***NEW***

Rupp, R. F., Kim, J., Toftum, J., Brager, G., & de Dear, R. (2025). Ten questions concerning the application of adaptive thermal comfort in mixed-mode buildings. *Building and Environment*, *284*, 113490. https://doi.org/10.1016/j.buildenv.2025.113490 ***NEW***

Ryuzaki, H., Ozeki, Y., Nomoto, A., Miura, R., Shindo, K., Moriya, Y., Hiruma, H., & Tanabe, S. (2025). Effect of Low-E glass on local skin temperature and thermal sensation in vehicle cabins under cold winter environments. *Indoor Environments*, *2*(3), 100108. https://doi.org/10.1016/j.indenv.2025.100108 ***NEW***

Shen, Y., Benke, B., Roberts, M., Carlisle, S., Chafart, M., & Simonen, K. (2025). A novel whole-life carbon assessment of thirty buildings in California. *Journal of Building Engineering*, *110*, 113074. https://doi.org/10.1016/j.jobe.2025.113074 ***NEW***

Wang, Y., Raftery, P., Duarte, C., Singla, R., Jayarathne, T., & Fong, C. (2025). Simulation-Based evaluation of Cost-Responsive supply air temperature control strategy for office buildings across different climates. *Energy and Buildings*, *338*, 115665. https://doi.org/10.1016/j.enbuild.2025.115665 ***NEW***

Xiao, Y., Lv, Y., Chen, S., Parkinson, T., Wu, J., Kim, J., Luo, J., Lei, H., Gao, Y., & Xiong, J. (2025). Understanding window operating behaviours in residential settings: A comparison between Brisbane and Hangzhou. *Building and Environment*, *283*, 113327. https://doi.org/10.1016/j.buildenv.2025.113327 ***NEW***

Zhao, S., Yang, L., Gao, S., Yan, H., Zhang, H., Arens, E., Liu, S., & Zhai, Y. (2025). Influencing factors of metabolic rates and their implications in thermal comfort research. *Energy and Buildings*, *339*, 115777. https://doi.org/10.1016/j.enbuild.2025.115777 ***NEW***

Zou, A., Duarte Roa, C., Raftery, P., Schiavon, S., & Brager, G. (2025). *Commercial Building HVAC Functional Performance Test Automation Using Brick Metadata Schema*. https://escholarship.org/uc/item/31g1r9bf ***NEW***

Xu, X., Zhang, H., Schiavon, S., Lian, Z., Parkinson, T., & Lo, J. C. (2025). The effects of personal comfort systems on sleep: A systematic review. *Renewable and Sustainable Energy Reviews*, 213, 115474. https://doi.org/10.1016/j.rser.2025.115474

Tartarini, F., & Schiavon, S. (2025). Comparative analysis of PMV Models accuracy implemented in the ISO 7730: 2005 and ASHRAE 55: 2023. *Building and Environment,* 275, 112766. https://doi.org/10.1016/j.buildenv.2025.112766

Roberts, M., Ouellet-Plamondon, C., & Raftery, P. (2025). Embodied carbon in mechanical, electrical, and plumbing systems: A critical literature review. *Building and Environment*, 275, 112823. https://doi.org/10.1016/j.buildenv.2025.112823

Aijazi, A., Schiavon, S., & Callaway, D. (2025). Building and occupant characteristics as predictors of temperature-related health hazards in American homes. *Building and Environment*, 275, 112805. https://doi.org/10.1016/j.buildenv.2025.112805

Cascione, V., Roberts, M., Allen, S., Charbel, C., Maskell, D., Dams, B., Shea, A., Walker, P., & Emmitt, S. (2025). Evaluating environmental impacts of bio-based insulation materials through scenario-based and dynamic life cycle assessment. *The International Journal of Life Cycle Assessment*, 30(4), 601–620. https://doi.org/10.1007/s11367-024-02425-4

Duarte Roa, C., Raftery, P., Schiavon, S., & Bauman, F. (2025). How high can You Go: Determining the warmest supply water temperature for high thermal mass radiant cooling systems under thermal comfort constraints. *Energy and Buildings*, 331, 115387. https://doi.org/10.1016/j.enbuild.2025.115387

Sun, R., Schiavon, S., Brager, G., Yan, H., & Parkinson, T. (2025). Causal effects estimation: Using natural experiments in observational field studies in building science. *Indoor Environments*, 2(1), 100080. https://doi.org/10.1016/j.indenv.2025.100080

Zou, A., Duarte Roa, C., & Schiavon, S. (2025). Quantifying Office Building HVAC Marginal Operating Carbon Emissions and Load Shift Potential: A Case Study in California. https://escholarship.org/uc/item/6nx97049

Nambiar, C., Schiavon, S., Brager, G., & Rosenberg, S. (2025). Assessing thermal comfort and participation in residential demand flexibility programs. *Energy and Buildings*, 328, 115153. https://doi.org/10.1016/j.enbuild.2024.115153

Lv, G., Duarte Roa, C., Zhao, K., & Ge, J. (2025). Energy Flexibility and Sensitivity Analysis of High Thermal Mass Radiant Terminals. https://escholarship.org/uc/item/3c2958x1

Jiang, H., Wang, Y., Huizenga, C., Duarte Roa, C., Raftery, P., Schiavon, S., & Brager, G. (2025). Assessing Overheating Risk and Energy Impacts in California's Residential Buildings. https://escholarship.org/uc/item/1876400c

Lamberti, V., & Lehrer, D. (2025). Mapping Advanced Facades. In U. Berardi (Ed.), Multiphysics and Multiscale Building Physics (pp. 284–289). *Springer Nature*. https://doi.org/10.1007/978-981-97-8313-7_39

## 2024

Um, C. Y., Russell, M., Delp, W. W., Schiavon, S., Singer, B. C., & Sohn, M. D. (2024). *Field demonstration of a tracer method to track simulated exhaled air trajectories and mixing in three connected rooms with upper-room GUV*. https://escholarship.org/uc/item/5rg8307n ***NEW***

Kou, A., & Roberts, M. (2024). *Assessment of Embodied Water Impacts for Landscape Architecture Strategies: A Life Cycle Assessment Approach*. https://escholarship.org/uc/item/9q76p6bw ***NEW***

Arens, E. A., & Zhang, H. (2024). *Ceiling fan airflow diffuser apparatus* (United States Patent No. US12180976B2). https://patents.google.com/patent/US12180976B2/en

Raftery, P., Zou, A., Parkinson, T., & Hancock, G. (2024). Reliably estimating the impact of an active control strategy in a building. *Journal of Building Engineering*, 98, 111134. https://doi.org/10.1016/j.jobe.2024.111134

Li, P., Zhao, X., Wang, S., Parkinson, T., de Dear, R., & Shi, X. (2024). Evidence-based strategies for optimizing long-term temperature monitoring in offices. *Indoor Environments*, 1(4), 100059. https://doi.org/10.1016/j.indenv.2024.100059

Wendler, P., Raftery, P., & Cheng, H. (2024). Results from Lab Testing: Rethinking VAV Hot Water Terminal Unit Design. *ASHRAE*, 66(12). https://escholarship.org/uc/item/6n39m6h8

Huizenga, C., Zhang, H., Schiavon, S., Kwong, L. (Layla) H., Brager, G., Arens, E., Duarte Roa, C., Exss, K., Lehrer, D., Luna-Navarro, A., Nomoto, A., Ouellet-Plamondon, C., Raftery, P., Sun, R., Thero, R., & Wang, Y. (2024). Establishing Maximum Safe Indoor Temperatures for U.S. Residential Buildings. https://escholarship.org/uc/item/2bt19287

Chen, X., Lv, G., Zhuang, X., Duarte, C., Schiavon, S., & Geyer, P. (2024). Integrating Symbolic Neural Networks with Building Physics: A Study and Proposal (No. arXiv:2411.00800). arXiv. https://doi.org/10.48550/arXiv.2411.00800

Lamberti, V., Lehrer, D., Betti, G., Carlucci, F., & Fiorito, F. (2024). The Development of an Advanced Facade Map: An Evolving Resource for Documenting Case Studies. *Sustainability*, 16(23), Article 23. https://doi.org/10.3390/su162310405

Kramer, T., Schiavon, S., & Garcia-Hansen, V. (2024). Spatial Thermal Autonomy (sTA): A New Metric for Enhancing Building Design Towards Comfort, Heat Resilience and Energy Autonomy. https://escholarship.org/uc/item/9pj5g228

Aijazi, A., Parkinson, T., Zhang, H., & Schiavon, S. (2024). Passive and low-energy strategies to improve sleep thermal comfort and energy resilience during heat waves and cold snaps. *Scientific Reports*, *14*(1), 12568. https://doi.org/10.1038/s41598-024-62377-5

André, M., Schiavon, S., & Lamberts, R. (2024). Implementation of desk fans in open office: Lessons learned and guidelines from a field study. *Building and Environment*, *259*, 111681. https://doi.org/10.1016/j.buildenv.2024.111681

Arens, E. A., Ghahramani, A., Peffer, T., Raftery, P., Zhang, H., & Anderson, M. P. (2024). *Ultrasonic anemometers systems for sensing air flows in rooms and ducts* (United States Patent No. US11994532B2). https://patents.google.com/patent/US11994532B2/en

Belyamani, M. A., Hurley, R. F., Djamasbi, S., Somasse, G. B., Strauss, S., Zhang, H., Smith, M. J., Van Dessel, S., & Liu, S. (2024). Local wearable cooling may improve thermal comfort, emotion, and cognition. *Building and Environment*, *254*, 111367. https://doi.org/10.1016/j.buildenv.2024.111367

Benke, B., Roberts, M., Lewis, M., Shen, Y., Carlisle, S., Chafart, M., & Simonen, K. (2024). *The California Carbon Report Summary: Six Key Takeaways for Policymakers*. http://hdl.handle.net/1773/51415

Benke, B., Roberts, M., Shen, Y., Carlisle, S., Chafart, M., & Simonen, K. (2024). *The California Carbon Report: An Analysis of the Embodied and Operational Carbon Impacts of 30 Buildings*. http://hdl.handle.net/1773/51287

Cheng, H., Raftery, P., & Wendler, P. (2024). Re-optimizing Optimal Start and Morning Warmup. *ASHRAE Journal*, *66*(8). https://escholarship.org/uc/item/6zw3x4rt

Cheng, H., Wendler, P., & Raftery, P. (2024). *Hot Water Heating: Design and Retrofit Guide*. https://escholarship.org/uc/item/8m88d92j

Duarte Roa, C., Raftery, P., Webster, B., Hu, X., & Ackerly, K. (2024). *The Villages at 995 East Santa Clara St, San Jose: Energy & Emission Report*. https://escholarship.org/uc/item/5w54k5cn

Duarte Roa, C., Webster, B., Hu, X., Ackerly, K., Merkel, G. G., & Raftery, P. (2024). *Harmonized Resilience at Roosevelt Village: How Futuristic Grid-Interactivity and Resilience Come Together in Senior Affordable Housing*. https://escholarship.org/uc/item/8tq4k81m

Institute of Building Research & Innovation, Holzer, P., Abhishek, G., Arens, E., Attia, S., Corrado, V., Gupta, R., Hamdy, M., Homaei, S., Laouadi, A., Levinson, R., Selkowitz, S., Sengupta, A., Sodagar, B., Wang, L. (Leon), Zinzi, M., Stern, P., & Czarnecki, P. (2024). *International Energy Agency—Resilient Cooling of Buildings—Key Performance Indicators Report (Annex 80)*. Institute of Building Research & Innovation. https://doi.org/10.52776/RHET5776

Katia, R., Raftery, P., Duarte, C., & Wang, Y. (2024). *Load Shifting and Enhancing Energy Savings with Dynamic Ventilation Strategies in Multi-Family Residential Buildings*. https://escholarship.org/uc/item/2cx301jq

Kent, M. G., Parkinson, T., & Schiavon, S. (2024). Indoor environmental quality in WELL-certified and LEED-certified buildings. *Scientific Reports*, *14*(1), 15120. https://doi.org/10.1038/s41598-024-65768-w

Ko, W. H., Burgess, I., Schiavon, S., Chung, S. T. L., MacNaughton, P., & Um, C. Y. (2024). Assessing the impact of glazing and window shade systems on view clarity. *Scientific Reports*, *14*(1), 18392. https://doi.org/10.1038/s41598-024-69026-x

Levinson, R., Kim, D., Goudey, H., Chen, S., Zhang, H., Ghahramani, A., Huizenga, C., He, Y., Nomoto, A., Arens, E., Álvarez Suárez, A., Ritter, D., Tarin, M., & Prickett, R. (2024). Hot, cold, or just right? An infrared biometric sensor to improve occupant comfort and reduce overcooling in buildings via closed-loop control. *Energy and Buildings*, *312*, 114063. https://doi.org/10.1016/j.enbuild.2024.114063

Li, J., Pantelic, J., Merchant, C. B., Chen, K. W., Izuhara, I., Yuki, R., Meggers, F. M., & Schiavon, S. (2024). Comparison of the environmental, energy, and thermal comfort performance of air and radiant cooling systems in a zero-energy office building in Singapore. *Energy and Buildings*, *318*, 114487. https://doi.org/10.1016/j.enbuild.2024.114487

Li, J., Zuraimi, S., & Schiavon, S. (2024). Should we use ceiling fans indoors to reduce the risk of transmission of infectious aerosols? *Indoor Environments*, *1*(3), 100039. https://doi.org/10.1016/j.indenv.2024.100039

Porras-Salazar, J. A., Tartarini, F., & Schiavon, S. (2024). The effect of indoor temperature on work performance of fifty-eight people in a simulated office environment. *Building and Environment*, *263*, 111813. https://doi.org/10.1016/j.buildenv.2024.111813

Raftery, P., Cheng, H., & Wendler, P. (2024). *Are we prioritizing the right thing? Cutting carbon emissions in California's large office buildings before installing a heat pump*. https://escholarship.org/uc/item/9cd4c4zt

Raftery, P., Singla, R., Cheng, H., & Paliaga, G. (2024). Insights from hydronic heating systems in 259 commercial buildings. *Energy and Buildings*, *321*, 114543. https://doi.org/10.1016/j.enbuild.2024.114543

Roberts, M., & Thibaudeau, P. (2024). Soil carbon sequestration in building life cycle assessment: Offsetting measure or site impact. *IOP Conference Series: Earth and Environmental Science*, *1363*(1), 012061. https://doi.org/10.1088/1755-1315/1363/1/012061

Russell, D., & Lamberti, V. (2024, August 15). *Mapping Advanced Facades: Creating a Building Taxonomy and Documenting Global Case Studies*. Facade Tectonics Institute. https://www.facadetectonics.org/papers/mapping-advanced-facades

Sultan, Z., Li, J., Pantelic, J., & Schiavon, S. (2024). Particle characterization in commercial buildings: A cross-sectional study in 40 offices in Singapore. *Science of The Total Environment*, *927*, 172126. https://doi.org/10.1016/j.scitotenv.2024.172126

Sultan, Z., Luhung, I., Aung, N. W., Uchida, A., Natarajan, A., Puramadathil, S., Li, J., Schuster, S., & Schiavon, S. (2024). Effectiveness of triethylene glycol disinfection on airborne MS2 bacteriophage under diverse building operational parameters. *Indoor Environments*, *1*(3), 100042. https://doi.org/10.1016/j.indenv.2024.100042

Sun, R., Schiavon, S., Brager, G., Arens, E., Zhang, H., Parkinson, T., & Zhang, C. (2024). Causal thinking: Uncovering hidden assumptions and interpretations of statistical analysis in building science. *Building and Environment*, *259*, 111530. https://doi.org/10.1016/j.buildenv.2024.111530

Watanabe, Y., Nomoto, A., Parkinson, T., Fukawa, Y., Ryuzaki, H., Moriya, Y., Nitta, Y., Miura, R., Oiwake, M., Ozeki, Y., de Dear, R., & Tanabe, S. (2024). Thermal perception of infrared radiation applied at different wavelengths to distal body segments in neutral and cool ambient environments. *Building and Environment*, *262*, 111783. https://doi.org/10.1016/j.buildenv.2024.111783

Zhang, H., Zhang, H., Arens, E., Jin, L., He, Y., Zhou, E., Zhou, L., & Hu, J. (2024). A study of the inhibitory effect and mechanism of airflow regarding mould on building surfaces. *Frontiers of Architectural Research*, *13*(5), 1067–1078. https://doi.org/10.1016/j.foar.2024.03.007

Chang, S. and Schiavon, S. Impact of Window vs Windowless Exam Rooms on Cognitive Performance: A Field Study During a University Exam. 2024. *PLEA 2024.* Accepted for publication. https://escholarship.org/uc/item/59w0x77k

Belyamani, M.A., Hurley, R.F., Djamasbi, S., Somasse, G.B., Strauss, S., Zhang, H., Smith, M.J., Van Dessel, S., and Liu, S. 2024. Local wearable cooling may improve thermal comfort, emotion, and cognition. *Building and Environment*, Vol. 254. https://doi.org/10.1016/j.buildenv.2024.111367

Greer, F., Raftery, P., and Horvath, A. 2024. Considerations for estimating operational greenhouse gas emissions in whole building life-cycle assessments. *Building and Environment*, Vol. 254. April. https://doi.org/10.1016/j.buildenv.2024.111383

Levinson, R., Kim, D., Goudey, H., Chen, S., Zhang, H., Ghahramani, A., Huizenga, C., He, Y., Nomoto, A., Arens, E., Álvarez Suárez, A., Ritter, D., Tarin, M., and Prickett, R. 2024. Hot, cold, or just right? An infrared biometric sensor to improve occupant comfort and reduce overcooling in buildings via closed-loop control. *Energy and Buildings*, In Press, Journal Pre-proof. March. https://doi.org/10.1016/j.enbuild.2024.114063

Nomoto, A., Ozeki, Y., Oiwake, M., Hisayama, R., Ogawa, Y., Akimoto, M., and Tanabe, S. 2024 Quantitative analysis of wavelength dependence of thermal perception. *Indoor Environments*, Vol. 1, Issue 1. March. https://doi.org/10.1016/j.indenv.2023.100003

Chen, X., Sun, R., Saluz, U., Schiavon, S., and Geyer, P. Using causal inference to avoid fallouts in data-driven parametric analysis: A case study in the architecture, engineering, and construction industry. *Developments in the Built Environment*, Vol. 17. March. https://doi.org/10.1016/j.dibe.2023.100296

Wendler, P., Raftery, P., and Cheng, H. 2024. Units: Temperature Stratification, Performance at Low Hot Water Supply Temperature, and Myths from the Field. *ASHRAE Transactions 2023*, Vol. 129 Issue Part 1, 8p. January. https://escholarship.org/uc/item/6b9590qr

Vernon, D., McMurry, R., and Raftery, P. 2024. Heating Hot Water Distribution Heat Losses: Detailed Measurement. *ASHRAE Transactions*, 2024, Vol. 130 Issue Part 1, 8p. January. http://escholarship.org/uc/item/7n6893n6

Das, H.P., Lin, Y.W., Agwan, U., Spangher, L., Devonport, A., Yang, Y., Drgoňa, J., Chong, A., Schiavon, S., and Spanos, C.J. 2024. Machine Learning for Smart and Energy-Efficient Buildings. *Environmental Data Science*, 2024 Volume 3, e1. January. https://doi.org/10.1017/eds.2023.43

## 2023

Thawer, M. and Raftery, P. 2023. Screening Method to Identify High VAV Minimum Airflow Rates and Retrofit Opportunities. *ASHRAE Winter Meeting, Chicago.* ASHRAE Transactions 2024, Vol. 130 Issue Part 1, 8p. December. https://escholarship.org/uc/item/6gz10718

Betti, G., Tartarini, F., Nguyen, C., & Schiavon, S. 2023. CBE Clima Tool: A free and open-source web application for climate analysis tailored to sustainable building design. *Building Simulation*, Vol. 17, pp. 493–508. December. https://doi.org/10.1007/s12273-023-1090-5

Nomoto, A., Kim, D., Zhang, H., He, Y., Huizenga, C., Arens, E., Prickett, R., Swaminathan, S., and Levinson, R. 2023. Field Study of Thermal Infrared Sensing for Office Temperature Control. *2023 ASHRAE Annual Conference.* December. https://escholarship.org/uc/item/69r9q3kg

Greer, F., Raftery, P., Brager, G., and Horvath, A. 2023. A perspective on tools for assessing the building sector's greenhouse gas emissions and beyond. *Environmental Research: Infrastructure and Sustainability*, Volume 3, Number 4. November. https://doi.org/10.1088/2634-4505/ad064d

Gao, S., Yang, L., Li, Y., Liu, S., Zhang, H., Arens, E., and Zhai, Y. 2023. Gender and age effects on metabolic rates of office work, housework, and different walking speeds. *Energy and Buildings.* Volume 298. November. https://doi.org/10.1016/j.enbuild.2023.113551

Tartarini, F., Frei, M., Schiavon, S., Chua, Y.X., and Miller, C. 2023. Cozie Apple: An iOS mobile and smartwatch application for environmental quality satisfaction and physiological data collection. *Journal of Physics: Conference Series* Volume 2600, Health & productivity. November. https://doi.org/10.1088/1742-6596/2600/14/142003

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Sultan, Z., Jia, H., and Schiavon, S. 2023. Energy Performance Assessment of COVID-19 Building Recommendations in Singapore. *Proceedings of the 5th International Conference on Building Energy and Environment.* pp 1767–1776. September. https://doi.org/10.1007/978-981-19-9822-5_184

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Duarte, C., Raftery, P., Prakash, A., and Peffer, T. 2023. Field Demonstration of the Brick Ontology to Scale up the Deployment of ASHRAE Guideline 36 Control Sequence. *ASHRAE Transactions*. https://escholarship.org/uc/item/5zt2d66r

Kent, M.G., Huynh, N.K., Mishra, A.K., Tartarini, F., Schiavon, S., et al. 2023. Energy Savings and Thermal Comfort in a Zero Energy Office Building with Fans in Singapore. *Building and Environment* 243, 110674. September. https://doi.org/10.1016/j.buildenv.2023.110674 https://escholarship.org/uc/item/894361mc

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