



CBE Publications & Report List November 2021

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, on-line at http://escholarship.org/uc/cedr_cbe.

2021

Kent, M., T. Parkinson, J. Kim, and S. Schiavon. 2021. A data-driven analysis of occupant workspace dissatisfaction. *Building and Environment*, Volume 205. November.

<https://doi.org/10.1016/j.buildenv.2021.108270> <https://escholarship.org/uc/item/9r901701>

NEW

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> **NEW**

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>

NEW

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> **NEW**

Porras-Salazar, JA., S. Schiavon, P. Wargocki, T. Cheung, and KW. Tham. 2021. Meta-analysis of 35 studies examining the effect of indoor temperature on office work performance. *Building and Environment*, Volume 203. June. Open Access. <https://doi.org/10.1016/j.buildenv.2021.108037>

NEW

Tran, P., M. Adam, KW. Tham, S. Schiavon, J. Pantelic, P. Linden, E. Sofianopoulou, C. Sekhar, D. Cheong, and R. Balasubramanian. 2021. Assessment and mitigation of personal exposure to particulate air pollution in cities: An exploratory study. *Sustainable Cities and Society*, Volume 72. May.

<https://doi.org/10.1016/j.scs.2021.103052> <https://escholarship.org/uc/item/3tm9n180> **NEW**

Mishra, A.K., S. Schiavon, P. Wargocki, and K. Wai Tham. 2021. Respiratory performance of humans exposed to moderate levels of carbon dioxide. *Indoor Air*. May.

<https://doi.org/10.1111/ina.12823> <https://escholarship.org/uc/item/8qj5v8d1> **NEW**

Luo, M., H. Zhang, P. Raftery, L. Zhou, T. Parkinson, E. Arens, Y. He, and E. Present. 2021. Detailed measured air speed distribution in four commercial buildings with ceiling fans. *Building and Environment*, Volume 200, ISSN 0360-1323. May.

<https://doi.org/10.1016/j.buildenv.2021.107979> <https://escholarship.org/uc/item/3ts5528s>
NEW

Parkinson, T., H. Zhang, E. Arens, Y. He, R. de Dear, J. Elson, A. Parkinson, C. Maranville, and A. Wang. 2021. Predicting thermal pleasure experienced in dynamic environments from simulated cutaneous thermoreceptor activity. *Indoor Air*. May.

<https://doi.org/10.1111/ina.12859> <https://escholarship.org/uc/item/1xd8n2t0> **NEW**

Xu, Y., P. Raftery, and S. Schiavon. 2021. Capturing energy savings from correcting VAV box minimums on campus. Masters of Science Thesis. Department of Architecture, University of California, Berkeley. May. <https://escholarship.org/uc/item/6zt4k0hd> **NEW**

Graham, L., T. Parkinson, and S. Schiavon. 2021. Lessons learned from 20 years of CBE's occupant surveys. *Building and Cities*, Volume 2, Issue 1, pages 166-184. February.

<https://doi.org/10.5334/bc.76>

2020

Tartarini, F., S. Schiavon, T. Cheung, and T. Hoyt. 2020. CBE thermal comfort tool: Online tool for thermal comfort calculations and visualizations. *SoftwareX*, 12:100563.

<https://doi.org/10.1016/j.softx.2020.100563>

Tartarini, F. and S. Schiavon. 2020. Pythermalcomfort: A python package for thermal comfort research. *SoftwareX*, 12:100578. <https://doi.org/10.1016/j.softx.2020.100578>

Gall, E., A. Mishra, J. Li, S. Schiavon, and A. Lauguerre. 2020. Impact of cognitive tasks on co2 and isoprene emissions from humans. *Environmental Science & Technology*, Volume 55, Pages 139-148. December. <https://doi.org/10.1021/acs.est.0c03850>

https://pdxscholar.library.pdx.edu/mengin_fac/324/

Lassen, N., F. Goia, S. Schiavon, and J. Pantelic. 2020. Field investigations of a smiley-face polling station for recording occupant satisfaction with indoor climate. *Building and Environment*. Volume 185. November. <https://doi.org/10.1016/j.buildenv.2020.107266>

He, Y., E. Arens, N. Li, Z. Wang, H. Zhang, Y. A, and C. Yuan. 2020. Modeling solar radiation on a human body indoors by a novel mathematical model. *Building and Environment*, Volume 187. November. <https://doi.org/10.1016/j.buildenv.2020.107421>

<https://escholarship.org/uc/item/78f0b543>

- Tartarini, F. and S. Schiavon. 2020. Skin temperature sampling period for longitudinal thermal comfort studies. *Proceedings of the Indoor Air 2020*. November. <https://escholarship.org/uc/item/9jn57924>
- Cheung, T., S. Schiavon, L. Graham, and K. Tham. 2020. Occupant satisfaction with the indoor environment in seven commercial buildings in Singapore. *Building and Environment*. November. <https://doi.org/10.1016/j.buildenv.2020.107443> <https://escholarship.org/uc/item/43k2z2zx>
- Ko, W., M. Kent, S. Schiavon, B. Levitt, and G. Betti. 2020. A window view quality assessment framework. *CBE Report*. October. <https://escholarship.org/uc/item/5ft4f88r> **NEW**
- Duarte Roa, C., S. Schiavon, and T. Parkinson. 2020. Targeted occupant surveys: A novel method to effectively relate occupant feedback with environmental conditions. *Building and Environment*, Volume 184. October. <https://doi.org/10.1016/j.buildenv.2020.107129> <https://escholarship.org/uc/item/9sj1c34p>
- He, Y., N. Li, H. Zhang, Y. Han, J. Lu, and L. Zhou. 2020. Air-conditioning use behaviors when elevated air movement is available. *Energy and Buildings*, Volume 225. October. <https://doi.org/10.1016/j.enbuild.2020.110370> <http://escholarship.org/uc/item/9np5x6cv>
- Li, P., T. Parkinson, S. Schiavon, T. Froese, R. de Dear, A. Rysanek, and S. Staub-French. 2020. Improved long-term thermal comfort indices for continuous monitoring. *Energy and Buildings*, Volume 224. October. <https://doi.org/10.1016/j.enbuild.2020.110270> <https://escholarship.org/uc/item/9h55w20w>
- Quintana, M., S. Schiavon, K.W. Tham, and M. Clayton. 2020. Balancing thermal comfort datasets: We GAN but should we? *Proceedings of the ACM BuildSys '20 Conference*, Yokohama, Japan. September. <http://arxiv.org/abs/2009.13154v1>
- Kent, M. and S. Schiavon. 2020. Evaluation of the effect of landscape distance seen in window views on visual satisfaction. *Building and Environment*. August. <https://doi.org/10.1016/j.buildenv.2020.107160> <https://escholarship.org/uc/item/6gd9t8pj>
- Lehrer, D., E. Arens, H. Zhang, and D. Fannon. 2020. Prototyping solutions to improve comfort and enable HVAC energy savings. *Proceedings, ACEEE 2020 Summer Study on Energy Efficiency in Buildings*. August. <https://escholarship.org/uc/item/0h64g14s>
- Altomonte, S., J. Allen, P. Bluysen, G. Brager, L. Hescong, 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>
- Liu, S., Z. Wang, S. Schiavon, Y. He, M. Luo, H. Zhang, and E. Arens. 2020. Predicted percentage dissatisfied with vertical temperature gradient. *Energy and Buildings*, 220. August. <https://doi.org/10.1016/j.enbuild.2020.110085> <https://escholarship.org/uc/item/0s76t57k>

Duarte Roa, C. 2020. Design and control of high thermal mass radiant systems. Doctor of Philosophy Dissertation. Dept. of Architecture, University of California, Berkeley
<https://escholarship.org/uc/item/82t6n3xr>

Kent, M., T. Cheung, J. Li, and S. Schiavon. 2020. Experimental evaluation of visual flicker caused by ceiling fans. *Building and Environment*. Volume 182, Pages 1-14. July.
<https://doi.org/10.1016/j.buildenv.2020.107060> <https://escholarship.org/uc/item/3wj1f6xj>

Rafsanjani, H. N., A. Ghahramani, A. H. Nabizadeh. 2020. iSEA: IoT-based smartphone energy assistant for prompting energy-aware behaviors in commercial buildings. *Applied Energy*, 266. May. <https://escholarship.org/uc/item/34w088fp> <https://doi.org/10.1016/j.apenergy.2020.114892>

Ko, W., S. Schiavon, H. Zhang, L. Graham, G. Brager, I. Mauss, and Y. Lin. 2020. The impact of a view from a window on thermal comfort, emotion, and cognitive performance. *Building and Environment*. May. <https://doi:10.1016/j.buildenv.2020.106779>
<https://escholarship.org/uc/item/09b861jb>

Lipczynska, A., A. Mishra, and S. Schiavon. 2020. Experimental evaluation of the effect of body mass on thermal comfort perception. *11th Windsor Conference on Thermal Comfort*, pages 403-415. May. <https://escholarship.org/uc/item/2hf4r1pg>

Li, J., M. Wan, S. Schiavon, K. Tham, S. Zuraimi, J. Xiong, M. Fang, and E. Gall. 2020. Size-resolved dynamics of indoor and outdoor fluorescent biological aerosol particles in a bedroom: A one-month case study in singapore. *Indoor Air*, Volume 30, Issue 5, Pages 942-954. April.
<http://doi.org/10.1111/ina.12678> <https://escholarship.org/uc/item/6rh0c245>

Raftery, P., D. Miller, H. Zhang, T. Pepper, G. Brager, L.T. Graham, E. Present, E. Arens, D. Douglas-Jaimes, G. Paliaga, A. Brooks, S. Cohn, and M. Greene. 2020. Integrating Smart Ceiling Fans and Communicating Thermostats to Provide Energy-Efficient Comfort. Final report to California Energy Commission. April. <https://escholarship.org/uc/item/91z0m3xw>

Ghahramani, A., P. Galicia, D. Lehrer, Z. Varghese, Z. Wang, and Y. Pandit. 2020. Artificial Intelligence for Efficient Thermal Comfort Systems: Requirements, Current Applications and Future Directions. *Frontiers in Built Environment*. April. <https://doi.org/10.3389/fbuil.2020.00049>
<https://escholarship.org/uc/item/75j1m967>

Arens, E., D. Heinzerling, S. Liu, G. Paliaga, A. Pande, S. Schiavon, Y. Zhai, and H. Zhang. 2020. Advances to ASHRAE Standard 55 to encourage more effective building practice. Proceedings of Windsor Conference 2020: Resilient Comfort, London, April 13-16.
<https://escholarship.org/uc/item/5ww2c38p>

Schweiker, M., A. André, F. Al-Atrash, H. Al-Khatri, R.R. Alprianti, H. Alsaad, R. Amin, et al. 2020. Evaluating assumptions of scales for subjective assessment of thermal environments – Do laypersons perceive them the way, we researchers believe? *Energy and Buildings*, 211: 109761. March. <https://doi.org/10.1016/j.enbuild.2020.109761>

- Raftery, P., and D. Douglass-Jaimes. 2020. Ceiling Fan Design Guide. CBE Report. March. <https://escholarship.org/uc/item/6s44510d>
- Arens, E., A. Ghahramani, R. Przybyla, M. Andersen, S. Min, T. Peffer, P. Raftery, M. Zhu, V. Luu, and H. Zhang. 2020. Measuring 3D indoor air velocity via an inexpensive low-power ultrasonic anemometer. *Energy and Buildings*, 211. March. <https://doi.org/10.1016/j.enbuild.2020.109805> <https://escholarship.org/uc/item/43c525tg>
- Chen, W., H. Zhang, E. Arens, M. Luo, Z. Wang, L. Jin, J. Liu, F. Bauman, and P. Raftery. 2020. Ceiling-fan-integrated air conditioning: airflow and temperature characteristics of a sidewall-supply jet interacting with a ceiling fan. *Building and Environment*, Volume 171. March. <https://doi.org/10.1016/j.buildenv.2020.106660> <https://escholarship.org/uc/item/8cj7n6ps>
- Parkinson, T., P. Raftery, and E. Present. 2020. Spatial uniformity of thermal comfort from ceiling fans blowing upwards. *Proceedings of ASHRAE Winter Conference*. February. <https://escholarship.org/uc/item/5fs9q6fq>
- Kent, M., S. Schiavon, and J. Jakubiec. 2020. A dimensionality reduction method to select the most representative daylight illuminance distributions. *Journal of Building Performance Simulation*, Volume 13, Issue 1. January. <https://doi.org/10.1080/19401493.2019.1711456> <https://escholarship.org/uc/item/04x6v86j>
- Parkinson, T., R. de Dear, and G. Brager. 2020. Nudging the adaptive thermal comfort model. *Energy and Buildings*, Vol 206. January. <https://doi.org/10.1016/j.enbuild.2019.109559> <https://escholarship.org/uc/item/0080620p>
- Fierro, G., M. Pritoni, M. AbdelBaky, P. Raftery, T. Peffer, G. Thomson, and D. Culler. 2020. Mortar: An open testbed for portable building analytics (journal extension). *ACM Transactions on Sensor Networks*. January. <https://doi.org/10.1145/3366375>
- Rafsanjani, H., and A. Ghahramani. 2020. Towards utilizing internet of things (IoT) devices for understanding individual occupants' energy usage of personal and shared appliances in office buildings. *Journal of Building Engineering*, Vol. 27. January. <https://doi.org/10.1016/j.jobe.2019.100948> <https://escholarship.org/uc/item/07v2s2xm>
- Wang, Z., K. Warren, M. Luo, X. He, H. Zhang, E. Arens, W. Chen, Y. He, Y. Hu, L. Jin, S. Liu, D. Cohen-Tanugi, and M. Smith. 2020. Evaluating the comfort of thermally dynamic wearable devices. *Energy and Buildings*, Vol. 167. January. <https://doi.org/10.1016/j.buildenv.2019.106443> <https://escholarship.org/uc/item/7rf7z7k1>
- Luo, M., Z. Wang, H. Zhang, E. Arens, D. Filingeri, L. Jin, A. Ghahramani, W. Chen, Y. He, and B. Si. 2020. High-density thermal sensitivity maps of the human body. *Building and Environment*, Vol 167. January. <https://doi.org/10.1016/j.buildenv.2019.106435> <https://escholarship.org/uc/item/3kq5p62q>

Zhai, Y.C., S. Zhao, Y. Gao, W. Song, L. Yang, H. Zhang, and E. Arens. 2020. Preferred temperatures with and without air movement during moderate exercise. *Energy and Buildings*, Volume 207, 109565, ISSN 0378-7788. January. <https://doi.org/10.1016/j.enbuild.2019.109565>

2019

Schweiker, M., et al 95 authors. 2019. The Scales Project, a Cross-National Dataset on the Interpretation of Thermal Perception Scales. *Scientific Data*, 6 (1): 1–10. November. <https://doi.org/10.1038/s41597-019-0272-6>

Zhai, Y., F. Miao, L. Yang, S. Zhao, H. Zhang, and E. Arens. 2019. Using personally controlled air movement to improve comfort after simulated summer commute. *Building and Environment*, Vol. 165. November. <https://doi.org/10.1016/j.buildenv.2019.106329>
<https://escholarship.org/uc/item/4px750ms>

Yang, B., A. Melikov, A. Kabanshi, C. Zhang, F. Bauman, G. Cao, H. Awbi, H. Wigo, J. Niu, K. Cheong, K. Tham, M. Sandberg, P. Nielsen, R. Kosonen, R. Yao, S. Kato, S. Sekhar, S. Schiavon, T. Karimipannah, X. Li, and Z. Lin. 2019. A review of advanced air distribution methods- theory, practice, limitations, and solutions. *Energy and Buildings*, Vol. 202. November. <https://doi.org/10.1016/j.enbuild.2019.109359> <https://escholarship.org/uc/item/85x6r3ww>

Zhai Y., A. Honnekeri, M. Pigman, M. Fountain, H. Zhang, X. Zhou, and E. Arens. 2019. Use of adaptive control and its effects on human comfort in a naturally ventilated office in Alameda, California. *Energy and Buildings*, Vol. 203, 13 pp. November. <https://doi.org/10.1016/j.enbuild.2019.109435> <https://escholarship.org/uc/item/9nv63029>

Rafsanjani, H., and A. Ghahramani. 2019. Extracting occupants' energy-use patterns from wi-fi networks in office buildings. *Journal of Building Engineering*. November. <https://doi.org/10.1016/j.jobe.2019.100864> <https://escholarship.org/uc/item/4db8s3nr>

Pantelic, J., M. Dawe, and D. Licina. 2019. Use of IoT sensing and occupant surveys for determining the resilience of buildings to forest fire generated pm2.5. *PLOS ONE*. October. <https://doi.org/10.1371/journal.pone.0223136>

Woolley, J., S. Schiavon, F. Bauman, and P. Raftery. 2019. Side-by-side laboratory comparison of radiant and all-air cooling: how natural ventilation cooling and heat gain characteristics impact space heat extraction rates and daily thermal energy use. *Energy and Buildings*, Vol 200. October. <https://doi.org/10.1016/j.enbuild.2019.07.020> <https://escholarship.org/uc/item/4w94k709>

Aijazi, A., R. Best, and S. Schiavon. 2019. Optimizing energy conservation measures in a grocery store using present and future weather files. *Proceedings of the International Building Performance Simulation Association*, Volume 16. September. <https://escholarship.org/uc/item/2j83q6pb>

- Pantelic, J., S. Liu, L. Pistore, D. Licina, M. Vannucci, S. Sadrizadeh, A. Ghahramani, B. Gilligan, E. Sternberg, K. Kampschroer, and S. Schiavon. 2019. Personal CO₂ cloud: Laboratory measurements of metabolic CO₂ inhalation zone concentration and dispersion in a typical office desk setting. *Journal of Exposure Science & Environmental Epidemiology*, 1–10. August. <https://doi.org/10.1038/s41370-019-0179-5>
- Pei, G., D. Rim, S. Schiavon, and M. Vannucci. 2019. Effect of sensor position on the performance of CO₂-based demand control ventilation. *Energy and Buildings*. August. <https://doi.org/10.1016/j.enbuild.2019.109358> <http://escholarship.org/uc/item/8n23p8c4>
- Liu, S., S. Schiavon, H. Das, M. Jin, and C. Spanos. 2019. Personal thermal comfort models with wearable sensors. *Building and Environment*. August. <https://doi.org/10.1016/j.buildenv.2019.106281> <https://escholarship.org/uc/item/3fb0p5gk>
- Wang, Z., H. Yu, M. Luo, Z. Wang, H. Zhang, and Y. Jiao. 2019. Predicting older people's thermal sensation in building environment through a machine learning approach: Modelling, interpretation, and application. *Building and Environment*. August. <https://doi.org/10.1016/j.buildenv.2019.106231> <https://escholarship.org/uc/item/9wq674bp>
- Ghahramani, A., M. Zhu, R. Przybyla, M. Andersen, P. Galicia, T. Peffer, H. Zhang, and E. Arens. 2019. Measuring air speed with a low-power MEMS ultrasonic anemometer via adaptive phase tracking. *IEEE Sensors Journal*, 1-10. June. <http://dx.doi.org/10.1109/JSEN.2019.2920648> <https://escholarship.org/uc/item/8kf1c11k>
- Dawe, M. 2019. Field evaluation of occupant satisfaction and energy performance in eight LEED-certified buildings using radiant systems. Master of Science Thesis. Dept. of Architecture, University of California, Berkeley. June. <https://escholarship.org/uc/item/6d95z6sw>
- Dawe, M., P. Raftery, J. Woolley, S. Schiavon, and F. Bauman. 2019. Comparison of mean radiant and air temperatures in mechanically-conditioned commercial buildings from over 200,000 field and laboratory measurements. Submitted to *Energy and Buildings*. June. <https://doi.org/10.1016/j.enbuild.2019.109582> <https://escholarship.org/uc/item/2sn4v9xr>
- Zhai, Y., S. Zhao, L. Yang, N. Wei, Q. Xu, H. Zhang, and E. Arens. 2019. Transient human thermophysiological and comfort responses indoors after simulated summer commutes. *Building and Environment*, Vol. 157. June. <https://doi.org/10.1016/j.buildenv.2019.04.023> <https://escholarship.org/uc/item/9z94n7mg>
- Raftery, P., J. Fizer, W. Chen, Y. He, H. Zhang, E. Arens, S. Schiavon, and G. Paliaga. 2019. Ceiling fans: Predicting indoor air speeds based on full laboratory measurements. *Building and Environment* 155, 210-223. May. <https://doi.org/10.1016/j.buildenv.2019.03.040> <https://escholarship.org/uc/item/4p479663>
- Soebarto, V., H. Zhang, and S. Schiavon. 2019. A thermal comfort environmental chamber study of older and younger people. *Building and Environment* 155, 1-14. May. <https://doi.org/10.1016/j.buildenv.2019.03.032> <https://escholarship.org/uc/item/00h9x985>

Arens, E. and H. Zhang. U.S. Patent No. 10,279,646, Issued on May 7, 2019: "Ventilated Seatbelt for Efficient Cooling and Heating of Vehicle Passengers". Application No.: 15/133,425, Filing Date: October 10, 2014. UC Berkeley Case No.: BK-2010-079-2.

Bauman, F., P. Raftery, S. Schiavon, C. Karmann, J. Pantelic, C. Duarte, J. Woolley, M. Dawe, L.T. Graham, D. Miller, H. Cheng, J. Feng, D. Heinzerling, C. Higgins, K. Carbonnier, G. Paliaga, A. Pande, and F. Farahmand. 2019. Optimizing Radiant Systems for Energy Efficiency and Comfort. Final report to the California Energy Commission. April.
<https://escholarship.org/uc/item/6qx027rh>

He, Y., W. Chen, Z. Wang, and H. Zhang. 2019. Review of fan-use rates in field studies and their effects on thermal comfort, energy conservation, and human productivity. *Energy and Buildings*, vol. 194. April. <https://doi.org/10.1016/j.enbuild.2019.04.015>
<https://escholarship.org/uc/item/7hx9338z>

Zani, A., H. D. Richardson, A. Tono, S. Schiavon, and E. Arens. 2019. A simulation-based design analysis for the assessment of indoor comfort under the effect of solar radiation. Symposium on Simulation for Architecture and Urban Design, Georgia Tech, Atlanta, USA, April 7th-9th.
<https://escholarship.org/uc/item/5vb3x9d6>

Cheung, T., S. Schiavon, T. Parkinson, P. Li, and G. Brager. 2019. Analysis of the accuracy on PMV – PPD model using the ASHRAE Global Thermal Comfort Database II. *Building and Environment*. April. <https://doi.org/10.1016/j.buildenv.2019.01.055>
<https://escholarship.org/uc/item/2kd0135t>

Kent, M. G., S. A. Fotios, and C. T. Cheung. 2019. Stimulus range bias leads to different settings when using luminance adjustment to evaluate discomfort due to glare. *Building and Environment* 153, 281-287. April. <https://doi.org/10.1016/j.buildenv.2018.12.061>
<https://escholarship.org/uc/item/0zp9j294>

Li, P., T. Parkinson, G. Brager, S. Schiavon, T. C. T. Cheung, and T. Froese. 2019. A data-driven approach to defining acceptable temperature ranges in buildings. *Building and Environment*. April. <https://escholarship.org/uc/item/4qm4c7bk>

Paliaga, G., H. Zhang, T. Hoyt, and E. Arens. 2019. Eliminating Overcooling Discomfort While Saving Energy. *ASHRAE Journal*. April.
http://www.nxtbook.com/nxtbooks/ashrae/ashraejournal_201904/index.php#/16
<https://escholarship.org/uc/item/5t665086>

Wang, H., H. Zhang, X. Hu, M. Luo, G. Wang, X. Li, and Y. Zhu. 2019. Measurement of airflow pattern induced by ceiling fan with quad-view colour sequence particle streak velocimetry. *Building and Environment* 152, 122-134. April. <https://doi.org/10.1016/j.buildenv.2019.02.015>
<https://escholarship.org/uc/item/2v88v264>

Zhou, X., Y. Liu, M. Luo, L. Zhang, Q. Zhang, and X. Zhang. 2019. Thermal comfort under radiant asymmetries of floor cooling system in 2 h and 8 h exposure durations. *Energy and Buildings* 188-189, 98-110. April. <https://doi.org/10.1016/j.enbuild.2019.02.009>
<https://escholarship.org/uc/item/8h49f5vr>

Ghahramani, A., J. Pantelic, M. Vannucci, L. Pistore, S. Liu, B. Gillian, S. Alyasin, E. Arens, K. Kampshire, and E. Sternberg. 2019. Personal CO₂ bubble: Context-dependent variations and wearable sensors usability. *Journal of Building Engineering* 22, 295-304. March. <https://doi.org/10.1016/j.jobbe.2018.11.015> <https://escholarship.org/uc/item/2hc0396w>

Wang, Z., T. Parkinson, P. Li, B. Lin, and T. Hong. 2019. The Squeaky wheel: Machine learning for anomaly detection in subjective thermal comfort votes. *Building and Environment* 151, 219-227. March. <https://doi.org/10.1016/j.buildenv.2019.01.050>
<https://escholarship.org/uc/item/3z1242jb>

Wang, Z., H. Yu, Y. Jiao, X. Chu, and M. Luo. 2019. Chinese older people's subjective and physiological responses to moderate cold and warm temperature steps. *Building and Environment* 149, 526-536. February. <https://doi.org/10.1016/j.buildenv.2018.12.058>
<https://escholarship.org/uc/item/3jq272rk>

Parkinson, T., A. Parkinson, and R. de Dear. 2019. Continuous IEQ monitoring system: Performance specifications and thermal comfort classification. *Building and Environment* 149, 241-252. February. <https://doi.org/10.1016/j.buildenv.2018.12.016>
<https://escholarship.org/uc/item/83b6q521>

Parkinson, T., A. Parkinson, and R. de Dear. 2019. Continuous IEQ monitoring system: Context and development. *Building and Environment* 149, 15-25. February. <https://doi.org/10.1016/j.buildenv.2018.12.010> <https://escholarship.org/uc/item/6pn5z6fc>

Kim, J., F. Bauman, P. Raftery, E. Arens, H. Zhang, G. Fierro, M. Andersen, and D. Culler. 2019. Occupant comfort and behavior: High-resolution data from a 6-month field study of personal comfort systems with 37 real office workers. *Building and Environment* 148, 348-360. January. <https://doi.org/10.1016/j.buildenv.2018.11.012> <https://escholarship.org/uc/item/9vv4z3gg>

Present, E., P. Raftery, G. Brager, and L. Graham. 2019. Ceiling Fans in Commercial Buildings: In Situ Airspeeds & Practitioner Experience. *Building and Environment* 147, 241-257. January. <https://doi.org/10.1016/j.buildenv.2018.10.012> <https://escholarship.org/uc/item/84h3z7nx>

2018

Pantelic, J., S. Schiavon, B. Ning, E. Burdakakis, P. Raftery, and F. Bauman. 2018. Full scale laboratory experiment on the cooling capacity of a radiant floor system. *Energy and Buildings*, Volume 170, 134-144. <https://doi.org/10.1016/j.enbuild.2018.03.002>
<https://escholarship.org/uc/item/77w894k2>

- Woolley, J., F. Bauman, C. Duarte, P. Raftery, and J. Pantelic. 2018. Cooling Load and Design Sizing Report. Appendix H, Final Report to California Energy Commission. December. <https://escholarship.org/uc/item/1x58x5gc>
- Aijazi, A. and G. Brager. 2018. Sensitivity of passive design strategies to climate change. *Proceedings of the 34th International Conference on Passive and Low Energy Architecture*, 268-274. December. <https://escholarship.org/uc/item/0s43g082>
- Feng, J. D., H. Cheng, F. Bauman, P. Raftery, S. Schiavon, J. Pantelic, J. Woolley, and C. Duarte. 2018. Codes and standards report. December. <https://escholarship.org/uc/item/7st6c08f>
- Kent, M. G. 2018. The importance of window view: Using an exploratory factor analysis to uncover the underlying latent dimensions. CBE Internal Report. <https://escholarship.org/uc/item/4mj1b1vz>
- Kent, M. G., T. Cheung, S. Altomonte, S. Schiavon, and A. Lipczyńska. 2018. A Bayesian method of evaluating discomfort due to glare: The effect of order bias from a large glare source. *Building and Environment*, 146: 258-267. December. <https://doi.org/10.1016/j.buildenv.2018.10.005> <https://escholarship.org/uc/item/64w1z6zw>
- Feng, J. D. and H. Cheng. 2018. Comparison of construction and energy costs for radiant vs. VAV systems in the California Bay Area. November. <https://escholarship.org/uc/item/13h9z4gg>
- Fierro, G., M. Pritoni, M. AbdelBaky, P. Raftery, T. Peffer, G. Thomson, and D. Culler. 2018. Mortar: An Open testbed for portable building analytics. *5th ACM International Conference on Systems for Energy-Efficient Built Environments*. November. <https://doi.org/10.1145/3276774.3276796>
- Ghahramani, A., J. Pantelic, C. Lindberg, M. Mehl, K. Srinivasan, B. Gilligan, and E. Arens. 2018. Learning occupants' workplace interactions from wearable and stationary ambient sensing systems. *Applied Energy*, 230: 42-51. November. <https://doi.org/10.1016/j.apenergy.2018.08.096>
- Ko, W. H, S. Schiavon, G. Brager, and B. Levitt. 2018. Ventilation, thermal and luminous autonomy metrics for an integrated design process. *Building and Environment*, 145. November. <https://doi.org/10.1016/j.buildenv.2018.08.038> <http://escholarship.org/uc/item/81t2t9vd>
- Raftery, P., A. Geronazzo, H. Cheng, and G. Paliaga. 2018. Quantifying energy losses in hot water reheat systems. *Energy and Buildings*, 179: 183-199. November. <https://doi.org/10.1016/j.enbuild.2018.09.020> <https://escholarship.org/uc/item/3qs8f8qx>
- Zhai Y. C., M. H. Li, S. Gao, L. Yang, H. Zhang, E. Arens, and Y. Gao. 2018. Indirect calorimetry on the metabolic rate of sitting, standing, and walking office activities. *Building and Environment*, 145: 77-84. November. <https://doi.org/10.1016/j.buildenv.2018.09.011>
- Aijazi, A. and G. Brager. 2018. A conversation on adaptation in the built environment. *ASHRAE Journal*, 60(10). October. <https://escholarship.org/uc/item/70w098tb>

- Aijazi, A. and G. Brager. 2018. Understanding climate change impacts on building energy use. *ASHRAE Journal*, 60(10). October. <https://escholarship.org/uc/item/0pc847pb>
- Luo, M., E. Arens, H. Zhang, A. Gharamani, and Z. Wang. 2018. Thermal comfort evaluated for combinations of energy-efficient personal heating and cooling devices. *Building and Environment*. October. www.escholarship.org/uc/item/3nv907j1
<https://doi.org/10.1016/j.buildenv.2018.07.008>
- Woolley, J., S. Schiavon, F. Bauman, P. Raftery, and J. Pantelic. 2018. Side-by-side laboratory comparison of space heat extraction rates and thermal energy use for radiant and all-air systems. *Energy and Buildings*, 176: 139-150. October. www.escholarship.org/uc/item/65w8v0rt
<https://doi.org/10.1016/j.enbuild.2018.06.018>
- Jia R., B. Jin, M. Jin, Y. Zhou, I. C. Konstantakopoulos, H. Zou, J. Kim, D. Li, W. Gu, R. Arghandeh, P. Nuzzo, S. Schiavon, A. L. Sangiovanni-Vincentelli, and J. C. Spanos. 2018. Design automation for smart building systems. *Proceedings of the IEEE*, 6(9): 1680-1699. September.
<https://doi.org/10.1109/JPROC.2018.2856932> <https://escholarship.org/uc/item/54r6027g>
- Filingeri D., H. Zhang, and E. Arens. 2018. Thermosensory micromapping of warm and cold sensitivity across glabrous and hairy skin of male and female hands and feet. *Journal of Applied Physiology*, 125: 723–736. September. <https://doi.org/10.1152/jappphysiol.00158.2018>
<https://escholarship.org/uc/item/0bs743x8>
- Zani, A., A. Mainini, J. Cadena, S. Schiavon, and E. Arens. 2018. A new modeling approach for the assessment of the effect of solar radiation on indoor thermal comfort. *Proceedings of 2018 Building Performance Analysis Conference and SimBuild*, Chicago, September 26.
<https://escholarship.org/uc/item/2jx680d7>
- Paliaga, G., F. Farahmand, and J. Woolley. 2018. Current practice for design and control of high thermal mass radiant cooling systems, and opportunities for future improvements. *Proceedings of ACEEE Summer Study on Energy Efficiency in Buildings*. August.
<https://escholarship.org/uc/item/4qg9276c>
- Ghahramani, A., K. Dutta, and B. Becerik-Gerber. 2018. Energy trade off analysis of optimized daily temperature setpoints. *Journal of Building Engineering*, Volume 19. September.
<https://doi.org/10.1016/j.jobbe.2018.06.012> <https://escholarship.org/uc/item/8wq4s5wm>
- Liu, S., A. Lipczynska, S. Schiavon, and E. Arens. 2018. Detailed experimental investigation of air speed field induced by ceiling fans. *Building and Environment*, 142: 342-360. September.
<https://doi.org/10.1016/j.buildenv.2018.06.037> <https://escholarship.org/uc/item/2mk3n264>
- Luo, M., Z. Wang, G. Brager, B. Cao, and Y. Zhu. 2018. Indoor climate experience, migration, and thermal comfort expectation in buildings. *Building and Environment*, 141: 262-272. August.
<https://doi.org/10.1016/j.buildenv.2018.05.04> <https://escholarship.org/uc/item/7tg2r8v3>

Waltner, M. and A. Aijazi. 2018. Designing for the future: Are today's building codes locking in the wrong strategies by using past climate data? *ACEEE 2018 Summer Study on Energy Efficiency in Buildings Proceedings*, 5-1 - 5-13. <https://escholarship.org/uc/item/1885072n>

Arens, E., D. Heinzerling, and G. Paliaga. 2018. Sunlight and indoor thermal comfort. *ASHRAE Journal*. July, 12-21. <https://escholarship.org/uc/item/9gc4z8z6>

Gao, S., Y. Zhai, L. Yang, H. Zhang, and Y. Gao. 2018. Preferred temperature with standing and treadmill workstations. *Building and Environment*, 138: 63-73. June. <https://doi.org/10.1016/j.buildenv.2018.04.027> <https://escholarship.org/uc/item/6c27x0m9>

Földvary Licina, V., T. Cheung, H. Zhang, R. de Dear, T. Parkinson, E. Arens, C. Chun, S. Schiavon, M. Luo, G. Brager, P. Li, S. Kaam, M. A. Adebamowo, M. M. Andamon, F. Babich, C. Bouden, H. Bukovianska, C. Candido, et al. 2018. Development of the ASHRAE Global Thermal Comfort Database II. *Building and Environment*. June. <https://doi.org/10.1016/j.buildenv.2018.06.022> <https://escholarship.org/uc/item/0dh6c67d>

Kim, J. 2018. Advancing comfort technology and analytics to personalize thermal experience in the built environment. Doctor of Philosophy Dissertation. Dept. of Architecture, University of California, Berkeley. <https://escholarship.org/uc/item/58m331fr>

Landsman, J., G. Brager, and M. Doctor-Pingel. 2018. Performance, prediction, optimization, and user behavior of night ventilation. *Energy & Buildings* 166, 60-72. May. <https://doi.org/10.1016/j.enbuild.2018.01.026> <https://escholarship.org/uc/item/9jk1d795>

Lipczynska, A., S. Schiavon, and L. Graham. 2018. Thermal comfort and self-reported productivity in an office with ceiling fans in the tropics. *Building and Environment*, 135: 202-212. May. <https://doi.org/10.1016/j.buildenv.2018.03.013> <https://escholarship.org/uc/item/80b3458w>

Liu, S., M. Jin, H. P. Das, C. J. Spanos, and S. Schiavon. 2018. Personal thermal comfort models based on physiological parameters measured by wearable sensors. *Proceedings of 10th Windsor Conference*. Windsor, UK. April 12-15th.

Kim, J., S. Schiavon, and G. Brager. 2018. Personal comfort models – a new paradigm in thermal comfort for intelligent environmental control. *Proceedings of 10th Windsor Conference*. Windsor, UK. April 12-15th.

Fugiglando, U., D. Santucci, I. Bojic, P. Santi, T. C. T. Cheung, S. Schiavon, and C. Ratti. 2018. Developing personal thermal comfort models for the control of HVAC in cars using field data. *Proceedings of 10th Windsor Conference*. Windsor, UK. April 12-15th.

Karmann, C., S. Schiavon, and E. Arens. 2018. Percentage of commercial buildings showing at least 80% occupant satisfied with their thermal comfort. *Proceedings of 10th Windsor Conference*. Windsor, UK. April 12-15th. <https://escholarship.org/uc/item/89m0z34x>

- Liu, S., L. Yin, S. Schiavon, W. K. Ho, and L. Keck Voon. 2018. Coordinate control of air movement for optimal thermal comfort. Accepted for publication in *Science and Technology for the Built Environment*. April. <https://doi.org/10.1080/23744731.2018.1452508>
<https://escholarship.org/uc/item/0m91d1t2>
- Luo, M., Z. Wang, K. Ke, B. Cao, Y. Zhai, and X. Zhou. 2018. Human metabolic rate and thermal comfort in buildings: The problem and challenge. *Building and Environment*, 131: 44-52. March. <https://doi.org/10.1016/j.buildenv.2018.01.005> <https://escholarship.org/uc/item/0x58c3k8>
- Ghahramani, A., G. Castro, S. A. Karvigh, and B. Becerik-Gerber. 2018. Towards unsupervised learning of thermal comfort using infrared thermography. *Applied Energy*, 21: 41-49. February. <https://doi.org/10.1016/j.apenergy.2017.11.021> <https://escholarship.org/uc/item/5xd3h77n>
- Chen, W., S. Liu, Y. Gao, H. Zhang, E. Arens, L. Zhao, and J. Liu. 2018. Experimental and numerical investigations of indoor air movement distribution with an office ceiling fan. *Building and Environment*, 130: 14–26. February. <https://doi.org/10.1016/j.buildenv.2017.12.016>
- Kim, J., Y. Zhou, S. Schiavon, P. Raftery, and G. Brager. 2018. Personal comfort models: Predicting individuals' thermal preference using occupant heating and cooling behavior and machine learning. *Building and Environment* 129, 96-106. February. <https://doi.org/10.1016/j.buildenv.2017.12.011> <https://escholarship.org/uc/item/54n6b7m3>
- Duarte, C., P. Raftery, S. Schiavon, and F. Bauman. 2018. How high can you go? Determining the highest supply temperature for high thermal mass radiant cooling systems in California. Accepted for publication in *Proceedings of 4th International Conference on Building Energy Environment (COBEE 2018)*. Melbourne, Australia, February 5-9th. <https://escholarship.org/uc/item/0s06q03g>
- Pantelic, J., E. Teitelbaum, M. Bozlar, S. Kim, and F. Meggers. 2018. Development of moisture absorber based on hydrophilic nonporous membrane mass exchanger and alkoxyated siloxane liquid desiccant. *Energy and Buildings* 160, 34-43. February. <https://doi.org/10.1016/j.enbuild.2017.10.093>
- Kim, J., S. Schiavon, and G. Brager. 2018. Personal comfort models—A new paradigm in thermal comfort for occupant-centric environmental control. *Building and Environment* 132, 114-124. January. <https://doi.org/10.1016/j.buildenv.2018.01.023>
<https://escholarship.org/uc/item/18d174zs>
- Jin, M. S. Liu, S. Schiavon, and C. Spanos. 2018. Automated mobile sensing: Towards high-granularity agile indoor environmental quality monitoring. *Building and Environment* 127, 268-276. January. <https://doi.org/10.1016/j.buildenv.2017.11.003>
<https://escholarship.org/uc/item/1kj1v33r>
- Raftery, P., L. Shuyang, B. Jin, M. Ting, G. Paliaga, and H. Cheng. 2018. Evaluation of a cost-responsive supply air temperature reset strategy in an office building. *Energy and Buildings* 158, 356-370. January. <https://doi.org/10.1016/j.enbuild.2017.10.017>
<https://escholarship.org/uc/item/1fk2m3v6>

Karmann, C., F. Bauman, P. Raftery, S. Schiavon, and M. Koupriyanov. 2018. Effect of acoustical clouds coverage and air movement on radiant chilled ceiling cooling capacity. *Energy and Buildings* 158, 939-949. January. <https://doi:10.1016/j.enbuild.2017.10.046>
www.escholarship.org/uc/item/80h2t038

Tang, H., P. Raftery, X. Liu, S. Schiavon, J. Woolley, and F. S. Bauman. 2018. Performance analysis of pulsed flow control method for radiant slab system. *Building and Environment*, 127: 107–119. January. <https://doi.org/10.1016/j.buildenv.2017.11.004>
<https://escholarship.org/uc/item/31s4x6jr>

2017

Karmann, C., S. Schiavon, L. Graham, P. Raftery, and F. Bauman. 2017. Comparing temperature and acoustic satisfaction in 60 radiant and all-air buildings. *Building and Environment*, 126. December. <https://doi:10.1016/j.buildenv.2017.10.024>
www.escholarship.org/uc/item/3nh8q2bk

Dennis, A. 2017. Global trends in thermal comfort in air conditioned and naturally ventilated offices in six climates. Master of Science Thesis. Dept. of Architecture, University of California, Berkeley. www.escholarship.org/uc/item/203955bs

Altomonte, S., S. Schiavon, M. Kent, and G. Brager. 2017. Indoor environmental quality and occupant satisfaction in green-certified buildings. *Building Research & Information*. November. <http://dx.doi.org/10.1080/09613218.2018.1383715>

Jin, M., S. Liu, Y. Tian, M. Lu, S. Schiavon, and C. Spanos. 2017. Indoor environmental quality monitoring by autonomous mobile sensing. Accepted for publication in Proceedings of *The 4th ACM International Conference on Systems for Energy-Efficient Built Environments (BuildSys 2017)*. Delft, The Netherlands, November 8-9th.

Sekhar, C., P. Anand, S. Schiavon, K. W. Tham, D. Cheong, and E. M. Saber. 2017. Adaptable cooling coil performance during part loads in the tropics—A computational evaluation. *Energy & Buildings* 159, 148-163. November. <http://doi.org/10.1016/j.enbuild.2017.10.086>
www.escholarship.org/uc/item/176977qw

Gao, Y., H. Zhang, E. Arens, E. Present, B. Ning, Y. Zhai, J. Pantelic, M. Luo, L. Zhao, P. Raftery, and S. Liu. 2017. Ceiling fan air speeds around desks and office partitions. *Building and Environment* 124, 412-440. November. <http://doi.org/10.1016/j.buildenv.2017.08.029>
www.escholarship.org/uc/item/3pq2j9mh

Ghahramani, A., S. A. Karvigh, and B. Becerik-Gerber. 2017. HVAC system energy optimization using an adaptive hybrid metaheuristic. *Energy and Buildings*, 152: 149-161. October. <https://doi.org/10.1016/j.enbuild.2017.07.053> <https://escholarship.org/uc/item/1rk582x1>

- Ko, W.H., G. Brager, S. Schiavon, and S. Selkowitz. 2017. Building envelope impact on human performance and well-being: Experimental study on view clarity. CBE Internal Report. October. <https://escholarship.org/uc/item/0gj8h384>
- Xu, Z., G. Hu, C. Spanos, and S. Schiavon. 2017. PMV-based event-triggered mechanism for building energy management under uncertainties. *Energy and Buildings* 152, 73-85. October. <http://doi.org/10.1016/j.enbuild.2017.07.008> www.escholarship.org/uc/item/2z597468
- Carbonnier, K., C. Higgins, F. Bauman, C. Karmann, P. Raftery, S. Schiavon, and L. Graham. 2017. Energy Use, Occupant Surveys and Case Study Summary: Radiant Cooling and Heating in Commercial Buildings. CBE Summary Report. September. www.escholarship.org/uc/item/3cj9n3n4
- Duarte, C., P. Raftery, and S. Schiavon. 2017. Development of whole building energy models for detailed energy insights of a large office building with green certification rating in Singapore. *Energy Technology* 6, 84-93. September. <http://dx.doi.org/10.1002/ente.201700564> www.escholarship.org/uc/item/0v1412gk
- Raftery, P., C. Duarte, S. Schiavon, and F. Bauman. 2017. A new control strategy for high thermal mass radiant systems. Accepted for publication in Proceedings of *Building Simulation Conference 2017*. San Francisco, California, August 7-9th. www.escholarship.org/uc/item/5tz4n92b
- Ko, W.H. and S. Schiavon. 2017. Balancing thermal and luminous autonomy in the assessment of building performance. Accepted for publication in Proceedings of *Building Simulation Conference 2017*. San Francisco, California, August 7-9th. www.escholarship.org/uc/item/7b4909sf
- Karmann, C. 2017. Thermal comfort and acoustic quality in buildings using radiant systems. Doctor of Philosophy Dissertation. Dept. of Architecture, University of California, Berkeley. www.escholarship.org/uc/item/0sd5n4wh
- Smith, M.J., K. Warren, D. Cohen-Tanugi, S. Shames, K. Sprehn, J. Schwartz, H. Zhang, and E. Arens. 2017. Augmenting smart buildings and autonomous vehicles with wearable thermal technology. *Proceedings of HCI International 2017*, July, Boston: 550-561. www.escholarship.org/uc/item/9q24x8p3
- Lipczynska, A., S. Schiavon, and L. Graham. 2017. Thermal comfort and self-reported productivity in an office with ceiling fans in the tropics. Proceedings of *Healthy Building 2017*. Lublin, Poland, July 2-5.
- Zhai, Y., E. Arens, K. Elsworth, and H. Zhang. 2017. Selecting air speeds for cooling at sedentary and non-sedentary office activity levels. *Building and Environment* 122, 247-257. June. <https://doi.org/10.1016/j.buildenv.2017.06.027>

- Altomonte, S., S. Saadouni, M. Kent, and S. Schiavon. 2017. Satisfaction with indoor environmental quality in BREEAM and non-BREEAM certified office buildings. *Architectural Science Review* 4, 343-355. June. <http://dx.doi.org/10.1080/00038628.2017.1336983>
- Higgins, C. and K. Carbonnier. 2017. Energy Performance of Commercial Buildings with Radiant Heating and Cooling. CBE Summary Report. June. www.escholarship.org/uc/item/34f0h35q
- Paliaga, G., F. Farahmand, P. Raftery, and J. Woolley. 2017. TABS Radiant Cooling Design & Control in North America: Results from Expert Interviews. CBE Summary Report. June. www.escholarship.org/uc/item/0w62k5pq
- Cohn, S. 2017. Development of a personal heater efficiency index. Master of Science Thesis. Dept. Of Architecture, University of California, Berkeley. www.escholarship.org/uc/item/4dv241wd
- Dutra de Vasconcellos, G. 2017. Evaluation of Annual Sunlight Exposure (ASE) as a Proxy to Glare: A Field Study in a NZEB and LEED Certified Office in San Francisco. Master of Science Thesis. Dept. of Architecture, University of California, Berkeley. www.escholarship.org/uc/item/3js1z0b8
- Talami, R., C. Karmann, F. Bauman, S. Schiavon, and P. Raftery. 2017. Recent trends in radiant system technology in North America. Internal report. April. www.escholarship.org/uc/item/7pz8p9r6
- Dai, C., H. Zhang, E. Arens, and Z. Lian. 2017. Machine learning approaches to predict thermal demands using skin temperatures: Steady-state conditions. *Building and Environment*, 114: 1-10. March. <https://doi.org/10.1016/j.buildenv.2016.12.005> www.escholarship.org/uc/item/3qt1n6qv
- Bauman, F., P. Raftery, J. Kim, S. Kaam, S. Schiavon, H. Zhang, E. Arens, K. Brown, T. Peffer, C. Blumstein, D. Culler, M. Andersen, G. Fierro, G. Paliaga, A. Pande, H. Cheng, and J. Stein. 2017. Changing the rules: innovative low-energy occupant-responsive HVAC controls and systems. Final project report, California Energy Commission. March. www.escholarship.org/uc/item/23t9k6rm
- Karmann, K., F. Bauman, P. Raftery, S. Schiavon, W. Frantz, and K. Roy. 2017. Cooling capacity and acoustic performance of radiant slab systems with free-hanging acoustical clouds. *Energy and Buildings* 138, 676-686. March. <https://doi.org/10.1016/j.enbuild.2017.01.002> www.escholarship.org/uc/item/8r07k5g3
- Kaam, S., P. Raftery, H. Cheng, and G. Paliaga. 2017. Time-averaged ventilation for optimized control of variable-air-volume systems. *Energy and Buildings* 139, 465-475. March. <http://dx.doi.org/10.1016/j.enbuild.2016.11.059> www.escholarship.org/uc/item/5jq443p4

Filingeri, D., H. Zhang, and E. Arens. 2017. Characteristics of the local cutaneous sensory thermoneutral zone. *Journal of Neurophysiology* 117, 1797-1806. February.

<http://dx.doi.org/10.1152/jn.00845.2016> www.escholarship.org/uc/item/1t35k0g8

<http://jn.physiology.org/content/117/4/1797>

Ning, B., S. Schiavon, and F. Bauman. 2017. A novel classification scheme for design and control of radiant system based on thermal response time. *Energy and Buildings* 137, 38-45. February.

<http://dx.doi.org/10.1016/j.enbuild.2016.12.013> www.escholarship.org/uc/item/2j75g92w

Cheung, T., S. Schiavon, E. Gall, M. Jin, and W. Nazaroff. 2017. Longitudinal assessment of thermal and perceived air quality acceptability in relation to temperature, humidity, and CO₂ exposure in Singapore. *Building and Environment* 115, 80-90. January.

<https://doi.org/10.1016/j.buildenv.2017.01.014> www.escholarship.org/uc/item/483474qj

2016

Liu, S., S. Schiavon, A. Kabanshi, and W. Nazaroff. 2016. Predicted Percentage Dissatisfied with Ankle Draft. *Indoor Air*. December. <http://dx.doi.org/10.1111/ina.12364>

www.escholarship.org/uc/item/9076254n

Liu, S., L. Yin, W.K. Ho, K.V. Ling, and S. Schiavon. 2016. A Tracking Cooling Fan Using Geofence and Camera-Based Indoor Localization. *Building and Environment* 114, 36-44. November.

<http://dx.doi.org/10.1016/j.buildenv.2016.11.047> www.escholarship.org/uc/item/5br8q4x4

Ghahramani, A., G. Castro, B. Becerik-Gerber, and X. Yu. Infrared thermography of human face for monitoring thermoregulation performance and estimating personal thermal comfort.

Building and Environment 109, 1-11. November. <https://doi.org/10.1016/j.buildenv.2016.09.005>

www.escholarship.org/uc/item/37d3q23w

de Dear, R., V. Foldvary, H. Zhang, E. Arens, M. Luo, T. Parkinson, X. Du, W. Zhang, C. Chun, and S. Liu. 2016. Comfort is in the mind of the beholder: A review of progress in adaptive thermal comfort research over the past two decades. *The Fifth International Conference on Human-Environment System*. Nagoya, Japan. October 29-November 2.

<http://dx.doi.org/10.1016/j.buildenv.2017.01.014> www.escholarship.org/uc/item/62n2985w

Karmann, C., S. Schiavon, and F. Bauman. 2016. Thermal comfort in buildings using radiant vs. all-air systems: A critical review. *Building and Environment*. October.

<https://doi.org/10.1016/j.buildenv.2016.10.020> www.escholarship.org/uc/item/1vb3d1j8

Schiavon, S., B. Yang, Y. Donner, V. Chang, and W. Nazaroff. 2016. Thermal comfort, perceived air quality and cognitive performance when personally controlled air movement is used by tropically acclimatized persons. *Indoor Air*. October. <http://dx.doi.org/10.1111/ina.12352>

Kim, H. and E. Macdonald. 2016. Measuring the effectiveness of San Francisco's planning standard for pedestrian wind comfort. *International Journal of Sustainable Development and World Ecology*. October. www.escholarship.org/uc/item/748006tf

Kim, A., S. Schiavon, L. Graham, and W.H. Ko. 2016. Lighting for circadian health: Survey module and non-invasive open-source wearable sensor system. Internal report. October. www.escholarship.org/uc/item/8bf683j8

Zhao, P., T. Peffer, R. Narayanamurthy, G. Fierro, P. Raftery, S. Kaam, and J. Kim. 2016. Getting into the zone: how the internet of things can improve energy efficiency and demand response in a commercial building. *Proceedings of ACEEE Summer Study on Energy Efficiency in Buildings*. Pacific Grove, CA. August 21-26. 12 pp. www.escholarship.org/uc/item/5bm711zk

Peffer, T., M. Pritoni, G. Fierro, S. Kaam, J. Kim, and P. Raftery. 2016. Writing controls sequences for buildings: from HVAC industry enclave to hacker's weekend project. *Proceedings of ACEEE Summer Study on Energy Efficiency in Buildings*. Pacific Grove, CA. August 21-26. 12 pp. www.escholarship.org/uc/item/3671b82b

Andersen, M., G. Fierro, S. Kumar, J. Kim, E. Arens, H. Zhang, P. Raftery, and D. Culler. 2016. Well-connected microzones for increased building efficiency and occupant comfort. *Proceedings of ACEEE Summer Study on Energy Efficiency in Buildings*. Pacific Grove, CA. August 21-26. 16 pp. www.escholarship.org/uc/item/7710g5cb

Feng, J.D., S. Schiavon, and F. Bauman. 2016. New method for the design of radiant floor cooling systems with solar radiation. *Energy and Buildings* 125, 9-18. August. <http://dx.doi.org/10.1016/j.enbuild.2016.04.048> www.escholarship.org/uc/item/5sj3h2s5

Gall, E., T. Cheung, I. Luhung, S. Schiavon, and W. Nazaroff. 2016. Real-time monitoring of personal exposure to carbon dioxide. *Building and Environment* 104, 59-67. August. <http://dx.doi.org/10.1016/j.buildenv.2016.04.021> www.escholarship.org/uc/item/0q1269cv

Gandhi, P. and G. Brager. 2016. Commercial office plug load energy consumption trends and the role of occupant behavior. *Energy and Buildings* 125, 1-8. August. [doi:10.1016/j.enbuild.2016.04.057](http://dx.doi.org/10.1016/j.enbuild.2016.04.057)

Altomonte, S., S. Saadouni, S. Schiavon. 2016. Occupant Satisfaction in LEED and BREEAM-Certified Office Buildings. *Proceedings of PLEA 2016 - 36th International Conference on Passive and Low Energy Architecture: Cities, Buildings, People: Towards Regenerative Environments*. Los Angeles, CA. July 10-13. www.escholarship.org/uc/item/77j647gr

Gall, E., T. Cheung, L. Luhung, S. Schiavon, and W. Nazaroff. 2016. Real-time measurement of personal exposures to carbon dioxide. *Proceedings of the 14th International Conference Indoor Air 2016*. Ghent, Belgium. July 3-8.

- Landsman, J. and G. Brager. 2016. Performance, prediction, and optimization of night ventilation across different climates: an assessment of mechanical and natural night ventilation Proceedings of *PLEA 2016 - 36th International Conference on Passive and Low Energy Architecture: Cities, Buildings, People: Towards Regenerative Environments*. Los Angeles, CA. July 11-13. www.escholarship.org/uc/item/5cq9t8d2
- Kabanshi, A., S. Liu, and S. Schiavon. 2016. Potential adaptive behaviors to counteract thermal discomfort in spaces with displacement ventilation or underfloor air distribution systems. *Proceedings of the 14th International Conference Indoor Air 2016*. Ghent, Belgium. July 3-8.
- Filingeri, D. 2016. Neurophysiology of skin thermal sensations. *Comprehensive Physiology* 6, 1429-1491. July. <http://dx.doi.org/10.1002/cphy.c150040>
- Adams, K., E. Arens, D. Banks, S. Brunswick, G. Carrilho da Graca, N. Daish, S. Dutton, M. Fountain, B. Fisk, R. Gerard, F. Gillan, G. Gross, P. Haves, M. Hill, A. Honnekeri, M. Hovanec, T. Lawton, P. Linden, M. Pigman, P. Switenki, G. Szakats, R. Thomas, Y. Zhai, and H. Zhang. 2016. Natural ventilation for energy savings in California commercial buildings. Final Project Report, California Energy Commission. June. 516 pp. <http://www.escholarship.org/uc/item/4cd386s7>
- Foldvary, V. 2016. Assessment of indoor environmental quality in residential buildings before and after renovation. Doctor of Philosophy Dissertation. Dept. of Civil Engineering, Slovak University of Technology in Bratislavia. June. www.escholarship.org/uc/item/7p13k7zd
- Landsman, J. 2016. Performance, Prediction and Optimization of Night Ventilation across Different Climates. Master of Science Thesis. Dept. of Architecture, University of California, Berkeley. www.escholarship.org/uc/item/6n99w3bx
- Bauman, F., T. Webster, and D. Dickerhoff. 2016. Field Study of Capitol Area East End Complex (CAEEC) Sacramento, California. Final Project Report, California Department of General Services. May. www.escholarship.org/uc/item/066992h3
- Indraganti, M., J. Lee, H. Zhang, and E. Arens. 2016. Why is the Indian Sari an all-weather gear? Clothing insulation of Sari, Salwar-Kurti, Pancha, Lungi, and Dhoti. *Proceedings of the 9th Windsor Conference*. April. www.escholarship.org/uc/item/0080t60q (Earlier version in *Proceedings of the 8th Windsor Conference*. April 2014. <http://www.escholarship.org/uc/item/1wp225b2>)
- Ghahramani, A., K. Zhang, K. Dutta, Z. Yang, and B. Becerik-Gerber. 2016. Energy savings from temperature setpoints and deadband: Quantifying the influence of building and system properties on savings. *Applied Energy*, volume 165. March. <https://doi.org/10.1016/j.apenergy.2015.12.115> <https://escholarship.org/uc/item/2c58r8qm>
- Kim, H., and E. Macdonald. 2016. Does wind discourage sustainable transportation mode choice? Findings from San Francisco, California, USA. *Sustainability* 8, 257. March. <http://dx.doi.org/10.3390/su8030257> www.escholarship.org/uc/item/6gz6t90p

Schiavon, S., D. Rim, W. Pasut, and W. Nazaroff. 2016. Sensation of draft at uncovered ankles for women exposed to displacement ventilation and underfloor air distribution systems. *Building and Environment* 96, 228-236. February.

<http://dx.doi.org/10.1016/j.buildenv.2015.11.009> www.escholarship.org/uc/item/4p692575

2015

Yang, B., S. Schiavon, C. Sekhar, K.W. Cheong, K.W. Tham, and W. Nazaroff. 2015. Cooling efficiency of a brushless direct current stand fan. *Building and Environment* 85, 196-204.

<http://dx.doi.org/10.1016/j.buildenv.2014.11.032> www.escholarship.org/uc/item/0767n79h

Duarte, C., P. Raftery, and S. Schiavon. 2015. SinBerBEST technology energy assessment report.

www.escholarship.org/uc/item/7k1796zv

Fannon, D. 2015. Developing low-energy personal thermal comfort systems: design, performance, testing, and research methods. Master of Science Thesis. Dept. of Architecture, University of California, Berkeley. www.escholarship.org/uc/item/92h1p54j

Shitzer, A., E. Arens, and H. Zhang. 2015. Compilation of basal metabolic and blood perfusion rates in various multi-compartment, whole-body thermoregulation models. *International Journal of Biometeorology*, November. DOI 10.1007/s00484-015-1096-5.

www.escholarship.org/uc/item/7jt469t3

Ghahramani, A., C. Tang, and B. Becerik-Gerber. 2015. An online learning approach for quantifying personalized thermal comfort via adaptive stochastic modeling. *Building and Environment*, Volume 92. October.

<https://doi.org/10.1016/j.buildenv.2015.04.017>

<https://escholarship.org/uc/item/38j94905>

Bauman, F., P. Raftery, and C. Karmann. 2015. Lessons learned from field monitoring of two radiant slab office buildings in California. Proceedings, 6th International Building Physics Conference. Torino, Italy. June 14-17.

<https://doi.org/10.1016/j.egypro.2015.11.711>

www.escholarship.org/uc/item/6tj0s2bm

Indraganti, M., J. Lee, H. Zhang, and E. Arens. 2015. Thermal adaptation and insulation opportunities provided by different drapes of Indian saris. *Architectural Science Review* 58, 1.

<http://dx.doi.org/10.1080/00038628.2014.976540> www.escholarship.org/uc/item/8f10n38d

Zhai, Y., C. Elsworth, E. Arens, H. Zhang, Y. Zhang, and L. Zhao. 2015. Using air movement for comfort during moderate exercise. *Building and Environment* 94, 344-352.

<https://doi.org/10.1016/j.buildenv.2015.08.026> <http://escholarship.org/uc/item/6018h6wz>

Zhai, Y., Y. Zhang, H. Zhang, W. Pasut, E. Arens, and Q. Meng. 2015. Human comfort and perceived air quality in warm and humid environments with ceiling fans. *Building and Environment*, 90, 178-185.

<https://doi.org/10.1016/j.buildenv.2015.04.003>

- Gandhi, P. 2015. Commercial office plug load energy consumption trends and the role of occupant behavior. Master of Science Thesis. Dept. of Architecture, University of California, Berkeley. www.escholarship.org/uc/item/2c76d4nw
- Schiavon S., B. Yang, W.C. Chang, and W. Nazaroff. 2015. Effect of air temperature and personally controlled air movement on thermal comfort for tropically acclimatized persons. *Proceedings of the 9th International Symposium on Heating, Ventilation and Air Conditioning (ISHVAC) and the 3rd International Conference on Building Energy and Environment (COBEE)*. Tianjin, China. July 12-15.
- Schiavon, S., F. Bauman, B. Tully, and J. Rimmer. 2015. Chilled ceiling and displacement ventilation system: Laboratory study with high cooling load. *Science and Technology for the Built Environment* (Previously HVAC&R). <http://dx.doi.org/10.1080/23744731.2015.1034061>
<http://escholarship.org/uc/item/58m8302p>
- Rim, D., S. Schiavon, and W. Nazaroff. 2015. Energy and cost associated with ventilating office buildings in a tropical climate. *PLoS ONE*, 10(5): e0127930. <http://dx.doi.org/10.1371/journal.pone.0127930>
- Raftery, P., F. Bauman, S. Schiavon, and T. Epp. 2015. Laboratory testing of a displacement ventilation diffuser for underfloor air distribution systems. *Energy and Buildings*. [doi:10.1016/j.enbuild.2015.09.005](https://doi.org/10.1016/j.enbuild.2015.09.005) www.escholarship.org/uc/item/9qz2w733
- Ning, B., S. Schiavon, and F. Bauman. 2015. A Classification Scheme for Radiant Systems based on Thermal Time Constant. *Proceedings of the 9th International Symposium on Heating, Ventilation and Air Conditioning (ISHVAC) and the 3rd International Conference on Building Energy and Environment (COBEE)*. Tianjin, China. July 12-15. www.escholarship.org/uc/item/1sx88662
- Bauman, F., H. Zhang, E. Arens, P. Raftery, C. Karmann, J. Feng, Y. Zhai, D. Dickerhoff, S. Schiavon, and X. Zhou. 2015. Advanced Integrated Systems Technology Development: Personal Comfort Systems and Radiant Slab Systems. *Final report to CEC*. June. www.escholarship.org/uc/item/88p8v7zb <http://www.energy.ca.gov/2016publications/CEC-500-2016-068/index.html>
- Zhang, H., E. Arens, M. Taub, D. Dickerhoff, F. Bauman, M. Fountain, W. Pasut, D. Fannon, Y.C. Zhai, and M. Pigman. 2015. Using footwarmers in offices for thermal comfort and energy savings. *Energy and Buildings* 104, 233-243. <http://dx.doi.org/10.1016/j.enbuild.2015.06.086>
www.escholarship.org/uc/item/3cf6268m
- Arens, E., H. Zhang, T. Hoyt, S. Kaam, F. Bauman, Y.C. Zhai, G. Paliaga, J. Stein, B. Tully, J. Rimmer, and J. Toftum. 2015. Effects of Diffuser Airflow Minima on Occupant Comfort, Air Mixing, and Building Energy Use (RP-1515). *Science and Technology for the Built Environment* 0, 1-16. <http://dx.doi.org/10.1080/23744731.2015.1060104> www.escholarship.org/uc/item/6kj9t7cj
- Walker, K. 2015. Indoor environment quality in LEED buildings: Understanding conditions affecting performance. Masters of Science Thesis. Dept. of Architecture, University of California, Berkeley. www.escholarship.org/uc/item/13p0k3sx

- Adams, R.I., S. Bhangar, W. Pasut, E.A. Arens, J.W. Taylor, S.E. Lindow, W.W. Nazaroff, and T.D. Bruns. 2015. Chamber bioaerosol study: Outdoor air and human occupants as sources of indoor airborne microbes. *PLoS ONE* 10(5): e0128022. [DOI: 10.1371/journal.pone.0128022](https://doi.org/10.1371/journal.pone.0128022)
- Yang, B., S. Schiavon, C. Sekhar, K.W. Cheong, K.W. Tham, and W. Nazaroff. 2015. Cooling efficiency of a brushless direct current stand fan. *Building and Environment*. 196-204. <http://dx.doi.org/10.1016/j.buildenv.2014.11.032>
<http://www.escholarship.org/uc/item/0mx5r4hd>
- Zhang, H., E. Arens, and Y. Zhai. 2015. A review of the corrective power of personal comfort systems in non-neutral ambient environments. *Building and Environment*, 91, 15-41. <http://dx.doi.org/10.1016/j.buildenv.2015.03.013> www.escholarship.org/uc/item/4kv4f2mk
- Bhangar, S., R. Adams, W. Pasut, J.A. Huffman, E. Arens, J. Taylor, T. Bruns, and W. Nazaroff. 2015. Chamber bioaerosol study: Human emissions of size-resolved fluorescent biological aerosol particles. *Indoor Air*. <http://dx.doi.org/10.1111/ina.12195>
www.escholarship.org/uc/item/67d8h687
- Brager, G., H. Zhang, and E. Arens. 2015. Evolving opportunities for providing thermal comfort. *Building Research and Information*, Vol. 43, No. 3, 1-14. <http://dx.doi.org/10.1080/09613218.2015.993536> www.escholarship.org/uc/item/77c0q85j
- Hoyt, T., E. Arens, and H. Zhang. 2015. Extending air temperature setpoints: Simulated energy savings and design considerations for new and retrofit buildings. *Building and Environment* 88, 89-96. <http://dx.doi.org/10.1016/j.buildenv.2014.09.010>
<https://escholarship.org/uc/item/13s1q2xc>
- Kim, H., and E. Macdonald. 2015. Wind and the city: An evaluation of San Francisco's planning approach since 1985. *Environment and Planning B*. September. <http://dx.doi.org/10.1177/0265813515607474> www.escholarship.org/uc/item/2dm1k82k
- Arens, E., T. Hoyt, X. Zhou, L. Huang, H. Zhang and S. Schiavon. 2015. Modeling the comfort effects of short-wave solar radiation indoors. *Building and Environment* 88, 3-9. (Earlier version in *Proceedings of the 13th International Conference Indoor Air 2014*, Hong Kong, July 7-12) <http://dx.doi.org/10.1016/j.buildenv.2014.09.004> <https://escholarship.org/uc/item/89m1h2dg>
- Pasut, W., H. Zhang, E. Arens, and Y. Zhai. 2015. Energy-efficient comfort with a heated/cooled chair: Results from human subject tests. *Building and Environment*, Vol. 84, pp. 10-21. <http://dx.doi.org/10.1016/j.buildenv.2014.10.026> <https://escholarship.org/uc/item/2tq3z4cw>
- Filingeri, D. and G. Havenith. 2015. Human skin wetness perception: psychophysical and neurophysiological bases. *Temperature* 2(1): 86-104. <http://dx.doi.org/10.1080/23328940.2015.1008878>

2014

Wang, M., E. Wolfe, D. Ghosh, J. Bozeman, K. Chen, T. Han, H. Zhang, and E. Arens. 2014. Localized cooling for human comfort. *SAE International Journal of Passenger Cars-Mechanical Systems*, Volume 7, Issue 2. 755-768. www.escholarship.org/uc/item/9x2366mk
<https://doi.org/10.4271/2014-01-0686>

Raftery, P., E. Lee, T. Webster, T. Hoyt, and F. Bauman. 2014. Effects of furniture and contents on peak cooling load. *Energy & Buildings*, Volume 85. December.
[doi:10.1016/j.enbuild.2014.09.081](https://doi.org/10.1016/j.enbuild.2014.09.081) www.escholarship.org/uc/item/7c75472m

Filingeri, D. 2014. Why wet feels wet? An investigation into the neurophysiology of human skin wetness perception. Doctoral Thesis. Dept. of Philosophy, Loughborough University.
www.escholarship.org/uc/item/615214hj

Kim, H. 2014. Urban form, wind, comfort, and sustainability: The San Francisco experience. Doctor of Philosophy Dissertation. Dept. of City and Regional Planning, University of California, Berkeley. <http://www.escholarship.org/uc/item/0h50x0h8>

Schiavon, S. 2014. Adventitious ventilation: A new definition for an old mode? *Indoor Air*, Volume 24, 557-558. doi: <http://dx.doi.org/10.1111/ina.12155>
<http://www.escholarship.org/uc/item/8hm7w0bk>

Gandhi, P., G. Brager, and S. Dutton. 2014. Mixed mode simulation tools. CBE Internal Report, October. <https://escholarship.org/uc/item/97t4t6dg>

Dawson-Haggerty, S. 2014. Building operating system services: an architecture for programmable buildings. Doctor of Philosophy Dissertation, Dept. of Computer Science, University of California, Berkeley. <https://escholarship.org/uc/item/7m31g4t4>

Mozingo, L., and E. Arens. 2014. Quantifying the Comprehensive Greenhouse Gas Co-Benefits of Green Buildings. Final Report. Center for Resource Efficient Communities and the Center for the Built Environment, UC Berkeley.

Honnekeri, A. 2014. Indoor environmental quality, adaptive action and thermal comfort in naturally ventilated and mixed-mode buildings. Master of Science Thesis, Dept. of Architecture, University of California, Berkeley. <https://escholarship.org/uc/item/2br3c58b>

Lehrer, D., J. Vasudev, and S. Kaam. 2014. A usability study of a social media prototype for building energy feedback and operations. *Proceedings 2014 ACEEE Summer Study on Energy Efficiency in Buildings*. Pacific Grove, CA, August. <http://escholarship.org/uc/item/7mc5n81t>

Wang, M., E. Wolfe, D. Ghosh, J. Bozeman, K. Chen, T. Han, H. Zhang, and E. Arens. 2014. Localized cooling for human comfort. *SAE International Journal of Passenger Cars-Mechanical Systems*, Volume 7 (2) 755-768.

Fu, M., T. Yu, H. Zhang, E. Arens, W. Weng, and H. Yuan. 2014. A model of heat and moisture transfer through clothing integrated with the UC Berkeley comfort model. *Building and Environment*, Volume 80, 96-104. www.escholarship.org/uc/item/2xb9w37j
<https://doi.org/10.1016/j.buildenv.2014.05.028>

Konis, K. Predicting visual comfort in side-lit open-plan core zones: Results of a field study pairing high dynamic range images with subjective responses. 2014. *Energy and Buildings*, Volume 77, 67-79. July. <http://dx.doi.org/10.1016/j.enbuild.2014.03.035>
www.escholarship.org/uc/item/4ss6f8rw

Fu, M., T. Yu, H. Zhang, W. Weng, and H. Yuan. 2014. Heat and moisture transfer through clothing for a person with contact surface. *Proceedings of the 13th International Conference Indoor Air 2014*, Hong Kong. July 7-12. www.escholarship.org/uc/item/27q9255f

Chen, B. 2014. Assessment and Improvements of the CBE Underfloor Air Distribution (UFAD) Cooling Load Design Tool. Master of Science Thesis. Dept of Architecture, University of California, Berkeley. www.escholarship.org/uc/item/40h5c3nv

Feng, J. 2014. Design and Control of Hydronic Radiant Cooling Systems. PhD Dissertation. Dept of Architecture, University of California, Berkeley. www.escholarship.org/uc/item/6qc4p0fr

Pigman, M. 2014. The impact of cooling strategy and personal control on thermal comfort. Master of Science Thesis. Dept of Architecture, University of California, Berkeley. <http://www.escholarship.org/uc/item/67q7n62r>

Honnekeri, A., M. Pigman, H. Zhang, E. Arens, M. Fountain, Y. Zhai, and S. Dutton. 2014. Use of adaptive actions and thermal comfort in a naturally ventilated office. *Proceedings of the 13th International Conference Indoor Air 2014*, Hong Kong. July 7-12. <https://escholarship.org/uc/item/37r4w5zs>

Zhou, X., H. Zhang, Z. Lian, and L. Lan. 2014. Predict thermal sensation of Chinese people using a thermophysiological and comfort model. *Proceedings of the 13th International Conference Indoor Air 2014*, Hong Kong. July 7-12. <https://escholarship.org/uc/item/7v26r8jp>

Coakley, D., P. Raftery, and M. Keane. 2014. A review of methods to match building energy simulation models to measured data. *Renewable and Sustainable Energy Review*, Volume 37, 123-141. <http://escholarship.org/uc/item/88z3g017> <https://doi.org/10.1016/j.rser.2014.05.007>

Rim, D., S. Schiavon, and W. Nazaroff. 2014. Impact of increasing outdoor ventilation rates on energy consumption for office building in tropical climate. *Proceedings of the 13th International Conference Indoor Air 2014*, Hong Kong. July 7-12.

Schiavon, S., and S. Altomonte. 2014. Occupant satisfaction in LEED and non-LEED certified buildings. *Building and Environment*, Volume 77, 148-159. <http://escholarship.org/uc/item/52w3025m> <https://doi.org/10.1016/j.buildenv.2013.06.008>

- Yang, B., S. Schiavon, C. Sekhar, K.W. Cheong, K.W. Tham, and W. Nazaroff. 2014. Performance evaluation of an energy efficient stand fan. *Proceedings of the 13th International Conference Indoor Air 2014*, Hong Kong. July 7-12.
- Chen, B., S. Schiavon, F. Bauman, and Q.Y. Chen. 2014. A comparison between two underfloor air distribution (UFAD) design tools. *Proceedings of the 13th International Conference Indoor Air 2014*, Hong Kong. July 7-12. <https://escholarship.org/uc/item/5zz6g8wj>
- Fuertes, G., and S. Schiavon. 2014. Plug load energy analysis: The role of plug loads in LEED certification. *Energy and Buildings*. <http://escholarship.org/uc/item/8fs0k03g>
<https://doi.org/10.1016/j.enbuild.2014.02.072>
- Schiavon, S., T. Hoyt, and A. Piccioli. 2014. Web application for thermal comfort visualization and calculation according to ASHRAE Standard 55. *Building Simulation*, Volume 7, Issue 4, 321-334. <http://dx.doi.org/10.1007/s12273-013-0162-3> <http://escholarship.org/uc/item/4db4q37h>
- Schiavon, S., D. Rim, W. Pasut, and W. Nazaroff. 2014. Sensation of draft at ankles for displacement ventilation and underfloor air distribution systems. *Proceedings of the 13th International Conference Indoor Air 2014*, Hong Kong. July 7-12.
<https://escholarship.org/uc/item/34t9x4st> <https://doi.org/10.1016/j.buildenv.2015.11.009>
- Schiavon, S., T. Webster, D. Dickerhoff, and F. Bauman. 2014. Stratification prediction model for perimeter zone UFAD diffusers based on laboratory testing with solar simulator. *Energy and Buildings*, Volume 82. (Earlier version in *Proceedings of the 13th International Conference Indoor Air 2014*, Hong Kong. July 7-12.) <http://dx.doi.org/10.1016/j.enbuild.2014.07.056>
<https://escholarship.org/uc/item/14v2v0fc>
- Karmann, C., S. Schiavon, and F. Bauman. 2014. Online map of buildings using radiant technologies. *Proceedings of the 13th International Conference Indoor Air 2014*, Hong Kong. July 7-12. <https://escholarship.org/uc/item/9rs8t4wb>
- Feng, J., F. Bauman, and S. Schiavon. 2014. Critical review of water based radiant cooling system design methods. *Proceedings of the 13th International Conference Indoor Air 2014*, Hong Kong. July 7-12. <https://escholarship.org/uc/item/2s00x6ns>
- Zhai, Y., Y. Zhang, Q. Meng, H. Chen, and J. Wang. 2014. Gender differences in thermal comfort in a hot-humid climate. *Proceedings of the 13th International Conference Indoor Air 2014*, Hong Kong. July. <https://escholarship.org/uc/item/2hz2s45r>
- Pasut, W., E. Arens, H. Zhang, S. Kaam, and Y. Zhai. 2014. Enabling energy-efficient approaches to thermal comfort using room air motion. *Building and Environment*. Volume 79, 13-19. www.escholarship.org/uc/item/07z4c3h0 (Earlier version in *Proceedings of Clima 2013*, Prague. <https://escholarship.org/uc/item/4488d1b8>)
- Honnekeri, A., G. Brager, S. Dhaka, and J. Mathur. 2014. Comfort and adaptation in mixed-mode buildings in a hot-dry climate. *Proceedings of the 8th Windsor Conference*, London, April. <https://escholarship.org/uc/item/0j6884m0>

Pigman, M., H. Zhang, A. Honnekeri, E. Arens, and G. Brager. 2014. Visualizing the results of thermal comfort field studies: Putting publicly accessible data in the hands of practitioners. *Proceedings of the 8th Windsor Conference*, London, April.

<https://escholarship.org/uc/item/5s18p0sv>

Schiavon, S. and K.H. Lee. 2014. Influence of three dynamic predictive clothing insulation models on building energy use, HVAC sizing and thermal comfort. *Energies* 7(4) 1917-1934.

<http://escholarship.org/uc/item/3sx6n876> doi:10.3390/en7041917

Huang, L., E. Arens, H. Zhang, and Y. Zhu. 2014. Applicability of whole-body heat balance models for evaluating thermal sensation under non-uniform air movement in warm environments. *Building and Environment*, Volume 75, 108–113

<http://doi.org/10.1016/j.buildenv.2014.01.020> www.escholarship.org/uc/item/49q4r4jy

2013

Bauman, F., J. Feng, and S. Schiavon. 2013. Cooling load calculations for radiant systems: Are they the same as traditional methods? *ASHRAE Journal*. December.

<http://escholarship.org/uc/item/6px642bj>

Zhao, Y., H. Zhang, E. Arens, and Q. Zhao. 2013. Thermal sensation and comfort models for non-uniform and transient environments, part IV: Adaptive neutral setpoints and smoothed whole-body sensation model. *Building and Environment*.

www.escholarship.org/uc/item/4b5464p9 doi:10.1016/j.buildenv.2013.11.004

Kim, J., and R. de Dear. 2013. Workspace satisfaction: The privacy-communication trade-off in open-plan offices. *Journal of Environmental Psychology*. doi:10.1016/j.jenvp.2013.06.007

<https://escholarship.org/uc/item/2gq017pb>

Taub, M. 2013. Power to the people: Personal control in offices for thermal comfort and energy savings. Master of Science Thesis, Dept. of Architecture, University of California, Berkeley.

<https://escholarship.org/uc/item/9pz0s32m>

Moezzi, M., C. Hammer, J. Goins, and A. Meier. 2013. Behavioral strategies to reduce the gap between potential and actual savings in commercial buildings. Final report for California Air Resources Board (contract number: 09-327).

<https://escholarship.org/uc/item/44t1p5gg>

Feng, J., F. Bauman, and S. Schiavon. 2013. Experimental comparison of zone cooling load between radiant and air systems. *Energy and Buildings*, 84 (2014), 152-159. DOI:

10.1016/j.enbuild.2014.07.080. <https://escholarship.org/uc/item/9dq6p2j7>

Arens, E., H. Zhang, W. Pasut, Y. Zhai, T. Hoyt, and L. Huang. 2013. Air movement as an energy efficient means toward occupant comfort. Final report for California Air Resources Board, November, 127pp.

<http://escholarship.org/uc/item/2d656203>

- Zhao, Y., H. Zhang, E. Arens, and Q. Zhao. 2013. Thermal sensation and comfort models for non-uniform and transient environments: Part IV: Providing adaptive neutral setpoints and smoothing the whole-body sensation model. *Building and Environment*.
<http://dx.doi.org/10.1016/j.buildenv.2013.11.004>
- Pasut, W., H. Zhang, S. Kaam, E. Arens, and Y. Zhai. 2013. Effect of a heated and cooled office chair on thermal comfort. *HVAC&R Research*, 19:5, 574-583. July.
<http://escholarship.org/uc/item/2p3270bn>
- Heinzerling, D., S. Schiavon, T. Webster, and E. Arens. 2013. Indoor environmental quality models: Literature review and a proposed weighting and classification scheme. *Building and Environment*. <http://dx.doi.org/10.1016/j.buildenv.2013.08.027> ,
<http://escholarship.org/uc/item/5ts7j0f8>
- Kim, J., R. de Dear, C. Candido, H. Zhang, and E. Arens. 2013. Gender differences in office occupant perception of indoor environmental quality (IEQ). *Building and Environment*. August.
<http://escholarship.org/uc/item/3gf796db> DOI: [10.1016/j.buildenv.2013.08.022](http://dx.doi.org/10.1016/j.buildenv.2013.08.022)
- Feng, J., S. Schiavon, and F. Bauman. 2013. Cooling load differences between radiant and air systems. *Energy and Buildings*, Volume 65, 301-321. July.
<http://dx.doi.org/10.1016/j.enbuild.2013.06.009> <http://escholarship.org/uc/item/7jh6m9sx>
- Kang, K.N., D. Song, and S. Schiavon. 2013. Correlations in thermal comfort and natural wind. *Journal of Thermal Biology*, Volume 38, Issue 7, 419-426. June.
<http://dx.doi.org/10.1016/j.jtherbio.2013.06.001>
- Lee, K.H., and S. Schiavon. 2013. Influence of two dynamic predictive clothing insulation models on building energy performance. *Proceedings of Asim2012*. Shanghai, China.
<http://www.ibpsa.org/proceedings/asim2012/0012.pdf>
<http://escholarship.org/uc/item/8sx4w8mn>
- Altomonte, S., and S. Schiavon. 2013. Occupant satisfaction in LEED and non-LEED certified buildings. *Building and Environment*, Volume 68, pp: 66-76.
<http://dx.doi.org/10.1016/j.buildenv.2013.06.008> <http://escholarship.org/uc/item/4j61p7k5>
- Bauman, F., T. Webster, H. Zhang, E. Arens, D. Lehrer, D. Dickerhoff, J. Feng, D. Heinzerling, D. Fannon, T. Yu, S. Hoffmann, T. Hoyt, W. Pasut, S. Schiavon, J. Vasudev, and S. Kaam. 2013. Advanced integrated systems technology development. Final Report to California Energy Commission (CEC 500-08-044). June. <http://escholarship.org/uc/item/8jb4f64f>
- de Dear, R., T. Akimoto, E. Arens, G. Brager, C. Candido, K.W. Cheong, B. Li, N. Nishihara, S.C. Sekhar, S. Tanabe, J. Toftum, H. Zhang, and Y. Zhu. 2013. Progress in thermal comfort research over the last twenty years. *Proceedings of the 12th International Conference Indoor Air 2013*. April.
<http://www.ncbi.nlm.nih.gov/pubmed/23590514>

- Konis, K. 2013. Leveraging ubiquitous computing as a platform for collecting real-time occupant feedback in buildings. *Intelligent Buildings International*, Volume 5 (3), 150-161. April. <http://dx.doi.org/10.1080/17508975.2013.781499> www.escholarship.org/uc/item/0cg493gv
- Zhai, Y., H. Zhang, Y. Zhang, W. Pasut, E. Arens, and Q. Meng. 2013. Comfort under personally controlled air movement in warm and humid environments. *Building and Environment*. March. <http://www.escholarship.org/uc/item/9s12q89q>
- Ackerly, K. and G. Brager, 2013. Window signaling systems: Control strategies and occupant behavior. *Building Research & Information*, 41 (3): 342-360. <http://escholarship.org/uc/item/4133390m>
- Lee, E.S., L.L. Fernandes, B. Coffey, A. McNeil, R. Clear, T. Webster, F. Bauman, D. Dickerhoff, D. Heinzerling, and T. Hoyt. 2013. A post-occupancy monitored evaluation of the dimmable lighting, automated shading, and underfloor air distribution system in the *New York Times* building. Lawrence Berkeley National Laboratory Report LBNL-6023E. January. http://windows.lbl.gov/comm_perf/newyorktimes.htm
- Feng, D. J., S. Schiavon, and F. Bauman. 2013. Impacts of solar heat gain on radiant floor cooling systems design. *Proceedings of the 11th International Conference CLIMA 2013*, Prague, Czech Republic. <http://escholarship.org/uc/item/2913930b>
- Schiavon S., F. Bauman, B. Tully, and J. Rimmer. 2013. Temperature stratification in high cooling load office in a combined chilled ceiling and displacement ventilation system. *Proceedings of the 11th International Conference CLIMA 2013*, Prague, Czech Republic. <http://www.escholarship.org/uc/item/58m8302p>
- Fuertes, G., and S. Schiavon. 2013. Plug load energy analysis: The role of plug loads in LEED certification. *Proceedings of the 11th International Conference CLIMA 2013*, Prague, Czech Republic.
- Lee, J., H. Zhang, and E. Arens. 2013. Typical clothing ensemble insulation levels for sixteen body parts. *Proceedings of the 11th International Conference CLIMA 2013*, Prague, Czech Republic. <http://escholarship.org/uc/item/18f0r375>
- Schiavon, S. and K.H. Lee. 2013. Dynamic predictive clothing insulation models based on outdoor air and indoor operative temperatures. *Building and Environment*, Volume 59, 250-260. <http://dx.doi.org/10.1016/j.buildenv.2012.08.024> <http://escholarship.org/uc/item/3338m9qf>
- Konis, K. 2013. Evaluating daylighting effectiveness and occupant visual comfort in a side-lit open-plan office building in San Francisco, California. *Building and Environment*, Volume 59, 662-277. January. <http://dx.doi.org/10.1016/j.buildenv.2012.09.017> www.escholarship.org/uc/item/64m325sq

2012

Arens, E., and H. Zhang. 2012. IEQ thermal comfort chapters for *Performance Measurement Protocols for Commercial Buildings: Best Practices Guide*, an ASHRAE Special Publication. ASHRAE Publishing. 238 pp.

Dutton, S., H. Zhang, Y. Zhai, E. Arens, Y. B. Smires, S. Brunswick, K. Konis, and P. Haves. 2012. Application of a stochastic window use model in EnergyPlus. *Proceedings of the 5th National Conference of IBPSA-USA*. Madison, Wisconsin, August 1-3.
www.escholarship.org/uc/item/2gm7r783

Arens, E., H. Zhang, T. Hoyt, S. Kaam, J. Goins, F. Bauman, Y. Zhai, T. Webster, B. West, G. Paliaga, J. Stein, R. Seidl, B. Tully, J. Rimmer, and J. Toftum. 2012. Thermal air quality acceptability in buildings that reduce energy by reducing minimum airflow from overhead diffusers. Final report for ASHRAE RP-1515. 284 pp. <https://escholarship.org/uc/item/3jn5m7kg>

Salter, C. and T.R. Lawrence. 2012. Acoustical performance measurement protocols for commercial buildings. CBE Summary Report, January.
<https://escholarship.org/uc/item/1dd8j9j3>

Ackerly, K. and G. Brager. 2012. Human behavior meets building intelligence: How occupants respond to “open window” signals. *Proceedings of ACEEE 2013 Summer Study on Energy Efficiency in Buildings*. <http://escholarship.org/uc/item/0835d5w4>

Goins, J., C. Chun, and H. Zhang. 2012. User perspectives on outdoor noise in open-plan offices with operable windows. *Architectural Science Review*, pp.1-6.
<http://escholarship.org/uc/item/2z68w7nr> <https://doi.org/10.1080/00038628.2012.745390>

Goins, J. and M. Moezzi. 2012. Linking occupant complaints to building performance. *Building Research & Information*. <http://escholarship.org/uc/item/09z5423x> DOI: [10.1080/09613218.2013.763714](https://doi.org/10.1080/09613218.2013.763714)

Pasut, W., and M. De Carli. 2012. Evaluation of various CFD modeling strategies in predicting airflow and temperature in a naturally ventilated double skin façade. *Applied Thermal Engineering*. <http://www.journals.elsevier.com/applied-thermal-engineering/#description>

Basu, C. 2012. Critical simulation based evaluation of thermally activated building systems (TABS) design models. <http://escholarship.org/uc/item/8t93707z>

Feng, J., S. Schiavon, and F. Bauman. 2012. Comparison of zone cooling load for radiant and air conditioning systems. *Proceedings of the International Conference on Building Energy and Environment*. Boulder, Colorado. August. <http://escholarship.org/uc/item/9g24f38j>

Basu, C., S. Schiavon, and F. Bauman. 2012. Sizing thermally active building systems (TABS): A brief literature review. *International Conference on Building Energy and Environment*. Boulder, Colorado. August. <http://www.escholarship.org/uc/item/8zg102ff>

- Steinfeld, K., S. Schiavon, and D. Moon. 2012. Open graphic evaluative frameworks: A climate analysis tool based on an open web-based weather data visualization platform. *Proceedings of the 30th International eCAADe Conference – Digital Physicality / Physical Digitality*, Prague, Czech Republic. September. <http://escholarship.org/uc/item/0dx855jg>
- Brown, K. and E. Arens. 2012. Broken information feedback loops prevent good building energy performance—integrated technological and sociological fixes are needed. *Proceedings of the 2012 ACEEE Summer Study on Energy Efficiency in Buildings*. Pacific Grove, CA, August 12-17. <http://escholarship.org/uc/item/2m26w9cr>
- Webster, T., T. Hoyt, E. Lee, A. Daly, J. Feng, F. Bauman, S. Schiavon, K.H. Lee, W. Pasut, and D. Fisher. 2012. Influence of design and operating conditions on underfloor air distribution (UFAD) system performance. *Proceedings of SimBuild 2012*. Madison, WI. August 1-3. <https://escholarship.org/uc/item/2082b3gtc>
http://www.ibpsa.us/simbuild2012/Papers/SB12_TS10b_4_Webster.pdf
- Goins, J., and M. Moezzi. 2012. Links between occupant complaint handling and building performance. *Proceedings of the 7th Windsor Conference: The changing context of comfort in an unpredictable world*. Windsor, UK. April 12-15. <http://escholarship.org/uc/item/7sw762jk>
- Goins, J., C. Chun, and H. Zhang. 2012. User perspectives on outdoor noise in buildings with operable windows. *Proceedings of the 7th Windsor Conference: The changing context of comfort in an unpredictable world*. Windsor, UK. April 12-15. <http://escholarship.org/uc/item/09t037ks>
- Schiavon, S., and K.H. Lee. 2012. Predictive clothing insulation model based on outdoor air and indoor operative temperatures. *Proceedings, 7th Windsor Conference: The changing context of comfort in an unpredictable world*. Windsor, UK. April 12-15. <http://escholarship.org/uc/item/4sd2240n>
- Wargocki, P., M. Frontczak, S. Schiavon, J. Goins, E. Arens, and H. Zhang. 2012. Satisfaction and self-estimated performance in relation to indoor environmental parameters and building features. *Proceedings of 10th International Conference on Healthy Buildings*, Brisbane, Australia. July. <http://escholarship.org/uc/item/451326fk>
- Hoffmann, S., C. Jedek, and E. Arens. 2012. Assessing thermal comfort near glass façades with new tools. *BEST 3 Building Enclosure Science and Technology Conference*, Atlanta. April. <https://escholarship.org/uc/item/0t68701n>
- Lee, K.H., S. Schiavon, T. Webster, and F. Bauman. 2012. Thermal decay on the underfloor air distribution (UFAD) systems: Fundamentals and influence on system performance. *Applied Energy*, Volume 92, Issue 1, 197-207. [doi: 10.1016/j.apenergy.2011.09.011](https://doi.org/10.1016/j.apenergy.2011.09.011). <http://escholarship.org/uc/item/6tn9246f>
- Schiavon, S., F. Bauman, B. Tully, and J. Rimmer. 2012. Room air stratification in combined chilled ceiling and displacement ventilation systems. *International Journal of HVAC&R Research*, Volume 18, Number 1. <http://escholarship.org/uc/item/980931rf>. Shortened version in *Proceedings of the 7th International Conference IAQVEC 2010*. Syracuse, NY, August 15-18, 2010.

2011

- Ackerly, K. 2011. Occupant response to window control signaling systems. *MS Thesis, Department of Architecture, UC Berkeley*. <https://escholarship.org/uc/item/8043748x>
- Lee, K.H., S. Schiavon, T. Webster, F. Bauman, J. Feng, and T. Hoyt. 2011. Lessons learned in modeling underfloor air distribution system. *Proceedings of SimBuild 2011*. <http://escholarship.org/uc/item/89b530ph>
- Frontczak, M., S. Schiavon, J. Goins, E. Arens, H. Zhang, and P. Wargocki. 2012. Quantitative relationships between occupant satisfaction and aspects of indoor environmental quality and building design. *Indoor Air Journal*, Volume 22, Issue 2, 119-131. doi: 10.1111/j.1600-0668.2011.00745.x <http://escholarship.org/uc/item/1wc7t219>. Earlier version in *Proceedings of Indoor Air 2011*. Austin, TX, June 5-10. <http://www.escholarship.org/uc/item/7sz5w8h9>
- Bauman, F., T. Webster, D. Dickerhoff, S. Schiavon, D. Feng, and C. Basu. 2011. Case study report: David Brower Center. Internal Report, excerpted from *Report to California Energy Commission (CEC) Public Interest Energy Research (PIER) Program*, Center for the Built Environment, University of California, Berkeley. April. <https://escholarship.org/uc/item/7tc0421f>
- Goins, J. 2011. Case study of CalSTRS headquarters. CBE Internal report, August. <https://escholarship.org/uc/item/1b435820>
- Ackerly, K., L. Baker, and G. Brager. 2011. Window use in mixed-mode buildings: A literature review. CBE Summary Report, April. <http://escholarship.org/uc/item/0t70f65m>
- Ackerly, K., and G. Brager. 2011. Occupant response to window control signaling systems. CBE Summary Report, April. Appendix C: Mixed-mode Signal Case Study Summary. <http://escholarship.org/uc/item/61t8z6ff>
- Lee, K.H., S. Schiavon, T. Webster, F. Bauman, T. Hoyt, and J. Feng. 2011. Lessons learned in modeling underfloor air distribution system. *Proceedings, International Conference of Building Simulation 2011*, Sydney, Australia. November 14-16. <http://escholarship.org/uc/item/89b530ph>
- Brager, G., E. Arens, J. Goins, and D. Lehrer. 2011. Learning from buildings: Technologies for measuring, benchmarking and improving performance. *Proceedings of USGBC Greenbuild Conference*. Toronto. October 4-7. <http://escholarship.org/uc/item/0h1315v8>
- Zelanay, K. 2011. Impact of Fixed Exterior Shading on Daylighting: A Case Study of the David Brower Center. <http://escholarship.org/uc/item/1mq5k9mw>
- Webster, T., F. Bauman, S. Schiavon, D. Dickerhoff, D. Heinzerling, D. Troup, and D. Hill. 2011. Technical Report on California State Teachers Retirement System Building: UFAD Performance and Blinds Study. CBE Report, August. <http://escholarship.org/uc/item/7hc7h08r>

- Schiavon, S., F. Bauman, B. Tully, and J. Rimmer. 2011. Air change effectiveness in laboratory tests of combined chilled ceiling and displacement ventilation systems. *Proceedings of Indoor Air 2011*. Austin, TX, June 5-10. <http://escholarship.org/uc/item/4cb4d630>
- Peretti, C., and S. Schiavon, 2011. Indoor environment quality survey: a brief literature review. *Proceedings of Indoor Air 2011*. Austin, TX, June 5-10. <http://www.escholarship.org/uc/item/0wb1v0ss>
- Raftery, P., K.H. Lee, T. Webster, and F. Bauman. 2011. Performance analysis of an integrated UFAD and radiant hydronic slab system. *Applied Energy*. <https://escholarship.org/uc/item/4sf047g8>
- Arens, E., H. Zhang, W. Pasut, A. Warneke, F. Bauman, and H. Higuchi. 2011. Thermal comfort and perceived air quality of a PEC system. *Proceedings of Indoor Air 2011*. Austin, TX, June 5-10. <http://www.escholarship.org/uc/item/3sv803jx>
- Liu, C., H. Higuchi, E. Arens, and H. Zhang. 2011. Study of a personal environmental control system using opposing airstreams. *Proceedings of Indoor Air 2011*. Austin, TX, June 5-10. <http://escholarship.org/uc/item/1jz8260r>
- Lehrer, D., and J. Vasudev. 2011. Evaluating a social media application for sustainability in the workplace, Extended abstract, *Proceedings of CHI 2011*, Vancouver, May. 6 pp. <http://escholarship.org/uc/item/0vw9f0hq>
- Zhang, H., E. Arens, and W. Pasut. 2011. Air temperature thresholds for indoor comfort and perceived air quality. *Building Research & Information*, Volume 39. Issue 2. March. <https://doi.org/10.1080/09613218.2011.552703> <https://escholarship.org/uc/item/4rg514fs>
- Schiavon, S., F. Bauman, K.H. Lee, and T. Webster. 2011. Simplified calculation method for design cooling loads in underfloor air distribution (UFAD) systems. *Energy and Buildings*, Volume 43, Issue 2-3, pp.517-528, March. <doi:10.1016/j.enbuild.2010.10.017> <http://escholarship.org/uc/item/5w53c7kr>
- Borgeson, S., and G. Brager. 2011. Comfort standards and variations in exceedance for mixed-mode buildings. *Building Research Information*. 39:2, pp. 118-133, March. <http://escholarship.org/uc/item/9pq9w5r2> <https://doi.org/10.1080/09613218.2011.556345>
- Moezzi, M., and J. Goins. 2011. Text mining for inhabitant perspectives on the physical workplace. *Buildings Research and Information*. 39:2, pp. 169-182, March. <http://www.escholarship.org/uc/item/2kd5d469> <https://doi.org/10.1080/09613218.2011.556008>
- Brager, G., P. Alspach, and D.H. Hall. 2011. Natural vs. mechanical ventilation and cooling. *RSES Journal*, pp. 1822. February. <http://escholarship.org/uc/item/0tp7v717>
- Baker, L. 2011. What School Buildings Can Teach Us: Post-Occupancy Evaluation Surveys in K-12 Learning Environments. <http://escholarship.org/uc/item/2kw2g6rs>

Goins, J. 2011. Case study of Kresge Foundation office complex. Center for the Built Environment, UC Berkeley. <http://escholarship.org/uc/item/30h937bh>

Webster, T., K.W. Lee, T. Hoyt, J. Feng, A. Daly, S. Schiavon, and F. Bauman. 2011. Development of guidelines for Modeling Underfloor Air Distribution (UFAD) Systems in EnergyPlus, eQUEST, and EnergyPro for use in California non-residential Building Energy Efficiency Standards. Final report to the UC Office of the President/CIEE, February. [www.escholarship.org/uc/item/1c1216x5](http://escholarship.org/uc/item/1c1216x5)

Pasut, W. 2011. Using ductwork to improve supply plenum temperature distribution in underfloor air distribution (UFAD) system. PhD Dissertation. Dept. of Technical Physics, Universita degli Studi di Padova, Italy, January. <https://escholarship.org/uc/item/29m3h3tc>

2010

Borgeson, S. 2010. Assessment of Energy Use and Comfort in Buildings Utilizing Mixed-Mode Controls with Radiant Cooling. Master of Science Thesis. Dept of Architecture, University of California, Berkeley. <http://escholarship.org/uc/item/7c8347dk>

Brager, G., and K. Ackerly. 2010. Mixed-Mode Ventilation and Building Retrofits. CBE Internal Report, February. <http://escholarship.org/uc/item/1p92f2pm>

Kiliccote, S., R. Yin, M.A. Piette, E. Nahman, J. Goins, and E. Arens. 2010. Demand Response with Pre-Cooling Study of a Small Commercial Building with Thermal Mass in California. LBNL Report 1004293. August. [www.escholarship.org/uc/item/96z7067c](http://escholarship.org/uc/item/96z7067c)

Bauman, F., S. Schiavon, T. Webster, and K.H. Lee. 2010. Cooling load design tool for UFAD systems. *ASHRAE Journal*, pp. 62-71, September. <http://escholarship.org/uc/item/7hh1t2z4>

Lehrer, D., and J. Vasudev. 2010. Visualizing information to improve building performance: A study of expert users. *Proceedings of the 2010 ACEEE Summer Study on Energy Efficiency in Buildings*. Pacific Grove, CA, August 15-20. 10 pp. <http://escholarship.org/uc/item/4n08r2q2>

Mathew, P., R. Clear, K. Kircher, T. Webster, K.H. Lee, and T. Hoyt. 2010. Advanced benchmarking for complex building types: laboratories as an exemplar. *Proceedings of the 2010 ACEEE Summer Study on Energy Efficiency in Buildings*. Pacific Grove, CA, August 15-20. <http://escholarship.org/uc/item/71m63880>

Meier, A.K., C. Aragon, B. Hurwitz, D. Mujumdar, D. Perry, T. Peffer, and M. Pritoni. 2010. How people actually use thermostats. *Proceedings of the 2010 ACEEE Summer Study on Energy Efficiency in Buildings*. Pacific Grove, CA, August 15-20. <https://escholarship.org/uc/item/2j3294hn>

Peffer, T., W. Burke, and D. Auslander. 2010. ResPoNSe: Modeling the wide variability of residential Energy consumption. *Proceedings of the 2010 ACEEE Summer Study on Energy Efficiency in Buildings*. Pacific Grove, CA, August 15-20.

<http://escholarship.org/uc/item/4bw8g4xn>

Webster, T., K.H. Lee, F. Bauman, S. Schiavon, T. Hoyt, J. Feng, and A. Daly. 2010. Influence of supply air temperature on underfloor air distribution (UFAD) system energy performance. *Proceedings of SimBuild 2010: 4th National Conference of IBPSA-USA*. New York, NY, August 11-13.

<https://escholarship.org/uc/item/1sk3p5tb>

Schiavon, S., K.H. Lee, F. Bauman, and T. Webster. 2010. Influence of raised floor on zone design cooling load in commercial buildings. *Energy and Buildings*, Volume 42, Issue 5, pp. 1182-1191, May. [doi:10.1016/j.enbuild.2010.02.009](https://doi.org/10.1016/j.enbuild.2010.02.009). <http://escholarship.org/uc/item/2bv611dt>

Webster, T., K.H. Lee, F. Bauman, S. Schiavon, T. Hoyt, J. Feng, and A. Daly. 2010. Influence of supply air temperature on underfloor air distribution (UFAD) system energy performance.

Proceedings of SimBuild 2010. <http://escholarship.org/uc/item/1sk3p5tb>

Arens, E., and H. Zhang. 2010. IEQ thermal comfort chapters for *Performance Measurement Protocols for Commercial Buildings*, an ASHRAE Special Publication. ASHRAE Publishing. 286pp.

Goins, J., J. Jellemaa, and H. Zhang. 2010. Architectural enclosure's effect on office worker performance: a comparison of the physical and symbolic attributes of workspace dividers.

Building and Environment. 45 (4), pp 944-948. <http://escholarship.org/uc/item/47d813vd>

Schiavon, S., A. Melikov, and C. Sekhar. 2010. Energy saving strategies with personalized ventilation in tropics. *Energy and Buildings* 42 (5), pp 8.

<http://escholarship.org/uc/item/6mf6n9v9>

Peretti, C., S. Schiavon, J. Goins, E. Arens, and M. De Carli. 2010. Evaluation of indoor environment quality with a web-based occupant satisfaction survey: a case study in northern Italy. *Proceedings of International Conference Clima 2010 - REHVA World Congress*. Antalya, Turkey.

<http://escholarship.org/uc/item/8559k1qp>

Borgenson, S., and G. Brager. 2010. Exceedance metrics in mixed-mode buildings. *Proceedings of, Adapting to Change: New Thinking on Comfort*. Cumberland Lodge, Windsor, London.

Moezzi, M., and J. Goins. 2010. Using text analysis to listen to building users. *Proceedings of, Adapting to Change: New Thinking on Comfort*. Cumberland Lodge, Windsor, London.

<http://escholarship.org/uc/item/6c75b8c6>

2009

Lehrer, D. 2009. Research scoping report: visualizing information in commercial buildings. Interim Report to the California Energy Commission (CEC) Public Interest Energy Research (PIER), September. <https://escholarship.org/uc/item/8tj159x0>

- Borgeson, S., G. Brager, B. Coffey, and P. Haves. 2009. Mixed Mode Simulations for Climate Feasibility. CBE Executive Summary, October. <http://escholarship.org/uc/item/0hk689fx>
- Brager, G., and L. Baker. 2009. Occupant satisfaction in mixed-mode buildings. *Building Research and Information*, 37(4): 369-380. <http://escholarship.org/uc/item/0wk026w2>
- Schiavon, S., C. Peretti, J. Goins, and R. Zecchin. 2009. Listen to the occupants. *CDA*. n.8, September, pp 2.
- Peretti, C., S. Schiavon, and J. Goins. 2009. Evaluation of indoor environment quality of an office building certificated CasaClima A+. *Proceedings, Energy Forum on Solar Architecture & Urban Planning*. Bressanone, Italy. <http://escholarship.org/uc/item/6v70g2wn>
- Hoffmann, S., and E. Trommer. 2009. Bauphysikalische herausforderungen einer gebogenen fassade. (Thermal heat transfer of insulating flazing units for curved curtain wall facades with bent glass panes). *Fassadentechnik*, Issue 5, pp. 17 – 19, October.
- Bauman, F., T. Webster, D. Dickerhoff, C. Fentress, and M. Popowski. 2009. California Department of Education HQ Block 225: California's valedictorian. *High Performing Buildings*, Fall, pp. 38-50. <http://escholarship.org/uc/item/2533v2d2>
- Hoyt, T., H. Zhang, and E. Arens. 2009. Draft or breeze? Preferences for air movement in office buildings and schools from the ASHRAE database. *Proceedings, Healthy Buildings 2009*, September. 4 pp. <http://escholarship.org/uc/item/99q2f4cf>
- Liu, C., H. Higuchi, E. Arens, and H. Zhang. 2009. Control of microclimate around the head with opposing jet local ventilation. *Proceedings, Healthy Buildings 2009*, September. 4 pp. <http://escholarship.org/uc/item/81d4s6gn>
- Zhang H., E. Arens, C. Huizenga, and T. Han. 2009. Thermal sensation and comfort models for non-uniform and transient environments: Part I: Local sensation of individual body parts. *Building and Environment*, 9 pp. <http://escholarship.org/uc/item/3sw061xh>
- Zhang H., E. Arens, C. Huizenga, and T. Han. 2009. Thermal sensation and comfort models for non-uniform and transient environments: Part II: Local comfort of individual body parts. *Building and Environment*, 10 pp. <http://escholarship.org/uc/item/1pz9j3j2>
- Zhang H., E. Arens, C. Huizenga, and T. Han. 2009. Thermal sensation and comfort models for non-uniform and transient environments: Part III: Whole-body sensation and comfort. *Building and Environment*, 12 pp. <http://escholarship.org/uc/item/2tm289vb>
- Hoyt, T., H. L. Kwang, H. Zhang, E. Arens, and T. Webster. 2009, Energy savings from extended air temperature setpoints and reductions in room air mixing. *International Conference on Environmental Ergonomics 2009*, August. 4 pp. <http://escholarship.org/uc/item/28x9d7xj>
- Voelker, C., S. Hoffmann, O. Kornadt, E. Arens, H. Zhang, and C. Huizenga. 2009. Heat and moisture transfer through clothing. *IBPSA Building Simulation 2009*, University of Strathclyde, Glasgow, Scotland, July 27 – 30. 7 pp. <https://escholarship.org/uc/item/38z904qp>

- Wang, Z., H. Zhang, D. Lehrer, E. Arens, C. Huizenga., T. Yu, and S. Hoffmann. 2009. Evaluating thermal comfort of radiant floors and ceilings. 4th International Building Physics Conference, Istanbul, June 15-18.
- Arens E., S. Turner, H. Zhang, and G. Paliaga. 2009. Moving air for comfort. *ASHRAE Journal*, May 51 (25), 8 – 18. <https://escholarship.org/uc/item/6d94f90b>
- Peffer, T. 2009. California DREAMing: The design of residential demand responsive technology with people in mind. PhD Dissertation. Dept. of Architecture, University of California, Berkeley, Spring. <http://escholarship.org/uc/item/8rk0g6mh>
- Arens, E., M. Humphreys, R. de Dear, and H. Zhang. 2009, Are 'Class A' temperature requirements realistic or desirable? *Building and Environment* 45(1), 4-10. <http://dx.doi.org/10.1016/j.buildenv.2009.03.014>
<http://www.escholarship.org/uc/item/4w9260d8>
- Zhang, H., E. Arens, D. Kim, E. Buchberger, F. Bauman, and C. Huizenga. 2009. Comfort, perceived air quality, and work performance in a low-power task-ambient conditioning system. *Building and Environment* 45(1), 29-39. <http://dx.doi.org/10.1016/j.buildenv.2009.02.016>
<http://escholarship.org/uc/item/5j8071wn>

2008

- Moore, T. 2008, Simulation of radiant cooling performance with evaporative cooling sources. CBE Summary Report, October. Executive Summary. <https://escholarship.org/uc/item/9qm3670s>
- Bauman, F., T. Webster, and D. Dickeroff. 2008. Air leakage test report: EPA region 8 headquarters, Denver, CO. Center for the Built Environment Summary Report, August. <https://escholarship.org/uc/item/9hf9320r>
- Borgeson, S., and G. Brager. 2008. Occupant Control of Windows: Accounting for Human Behavior in Building Simulation. CBE Internal Report, October. <http://escholarship.org/uc/item/5gx2n1zz>
- Peffer, T., E. Arens, X. Chen, J. Jang, and D. Auslander. 2008. A tale of two houses: The human dimension of demand response technology from a case study of an adaptive wireless thermostat. *Proceedings of the ACEEE 2008 Summer Study on Energy Efficiency in Buildings*, Monterey, August 17-21. <https://escholarship.org/uc/item/6081p5fh>
- Webster, T., F. Bauman, and A. Daly. 2008. Modeling underfloor air distribution systems. *Proceedings of SimBuild 2008*. July. <https://escholarship.org/uc/item/0mq085tv>

Chen, X., J. Jang, D. Auslander, T. Peffer, and E. Arens. 2008. Demand response-enabled residential thermostat controls. *Proceedings of the ACEEE 2008 Summer Study on Energy Efficiency in Buildings*. American Council for an Energy-Efficient Economy, Monterey, August 17-21. <https://escholarship.org/uc/item/9dz1c564>

Arens, E., H. Zhang, D. Kim, E. Buchberger, F. Bauman, C. Huizenga, and H. Higuchi. 2008. Impact of a task-ambient ventilation system on perceived air quality, *Proceedings of Indoor Air 2008*, Copenhagen, August 17-22. <http://escholarship.org/uc/item/5st3f0dp>

Brager, G., and L. Baker. 2008. Occupant satisfaction in mixed-mode buildings, *Proceedings, Air Conditioning and the Low Carbon Cooling Challenge*, Windsor, UK, July. <http://escholarship.org/uc/item/40k1s1vd>

Kim, D., H. Zhang, E. Arens, F. Bauman, C. Huizenga, and E. Buchberger. 2008. Comfort and energy performance of a low-power task-ambient conditioning system, *Proceedings of the First International Conference on Building Energy and Environment (COBEE)*, Dalian, China, July 13-16.

Zhang, H., E. Arens, D. Kim, E. Buchberger, F. Bauman, and C. Huizenga. 2008. Comfort, perceived air quality, and work performance in a low-power task-ambient conditioning System, *Proceedings, International Symposium on the Interaction between Human and Building Environment*, Yonsei University, Korea, July 2-3. <http://escholarship.org/uc/item/8x95h9w7>

Arens, E., M. Humphreys, R. de Dear, and H. Zhang. 2008. Are 'Class A' temperature requirements realistic or desirable? *Proceedings, International Symposium on the Interaction between Human and Building Environment*, Yonsei University, Korea, July 2-3.

Webster, T., C. Benedek, and F. Bauman. 2008. CBE UFAD cost analysis tool: Life cycle cost model, issues and assumptions. Prepared for U.S. General Services Administration (GSA) Public Buildings Research Program. Contract No: GS-00P-02-CYC-0071. June. <https://escholarship.org/uc/item/7wv3q336>

Chen, X. 2008. Demand response-enabled autonomous control for interior space conditioning in residential buildings. PhD Dissertation. Dept. of Engineering, University of California, Berkeley. <http://escholarship.org/uc/item/7xh8n3qw>

Jang, J. 2008. System design and dynamic signature identification for intelligent energy management in residential buildings. PhD Dissertation. Dept. of Engineering, University of California, Berkeley. <http://escholarship.org/uc/item/0v83w3kw>

Arens, E., D. Auslander, and C. Huizenga. 2008. Demand response enabling technology development. CBE Report to CEC Public Interest Energy Research (PIER) Program. <http://escholarship.org/uc/item/5tw6f01n>

2007

Do, A., W. Burke, D. Auslander, R. White, and P. Wright. 2007. Technical review of residential programmable communication thermostat implementation for Title 24, 2008. Draft Report Version 0.1, Center for Environmental Design Research, University of California, November. <https://escholarship.org/uc/item/43q4s9vj>

Webster, T., P. Linden, F. Buhl, and F. Bauman. 2007. Energy performance of underfloor air distribution systems. Final Project Report submitted to California Energy Commission (CEC) Public Interest Energy Research (PIER) Program. Center for the Built Environment, University of California, Berkeley, CA, April. <https://escholarship.org/uc/item/1pm8b02s>

Bauman, F., T. Webster, W. Lukaschek, and D. Dickeroff. 2007. Energy performance of underfloor air distribution systems part II: room air stratification full scale testing. Final Project Report submitted to California Energy Commission (CEC) Public Interest Energy Research (PIER) Program. Center for the Built Environment, University of California, Berkeley, CA, January. <https://escholarship.org/uc/item/4873s1tj>

Bauman, F., and H. Jin. 2007. Energy performance of underfloor air distribution systems part IV: underfloor plenum testing and modeling. Final Project Report submitted to California Energy Commission (CEC) Public Interest Energy Research (PIER) Program. Center for the Built Environment, University of California, Berkeley, CA, January. <https://escholarship.org/uc/item/1wm0790s>

Buhl, F. 2007. Energy performance of underfloor air distribution systems part V: energy plus development. Final Project Report submitted to California Energy Commission (CEC) Public Interest Energy Research (PIER) Program. Center for the Built Environment, University of California, Berkeley, CA, January. <https://escholarship.org/uc/item/62g683x7>

Brager, G., S. Borgeson, and Y. Lee. 2007. Control Strategies for Mixed-Mode Buildings. CBE Summary Report. October. <http://escholarship.org/uc/item/8kp8352h>

Bauman, F., T. Webster, and C. Benedek. 2007. Cooling airflow design calculations for UFAD, *ASHRAE Journal*, Vol. 49, No. 10, October. <https://escholarship.org/uc/item/5j20s07v>

Wang, D., H. Zhang, E. Arens, and C. Huizenga. 2007. Time series observations of upper extremity skin temperatures and corresponding thermal sensations, *Building and Environment*, Vol. 42 No. 12, pp 3933 - 3943. December. Earlier version published in: *Proceedings, Indoor Air 2005: 10th International Conference on Indoor Air Quality and Climate*, Beijing, China, September. <http://escholarship.org/uc/item/5w0349xv> <http://dx.doi.org/10.1016/j.buildenv.2006.06.035>

Lee, K., J. Braun, S. Fredrickson, K. Konis, and E. Arens. 2007. Testing of peak demand-limiting using thermal mass at a small commercial building. Demand Response Research Center Report, LBNL, July, 38 pp. <https://escholarship.org/uc/item/19p737k1>

- Arens, E. 2007. Assessment of indoor environments, *Proceedings, Roomvent 2007: 10th International Conference on Air Distribution in Buildings*, Helsinki, 13-15 June.
<http://escholarship.org/uc/item/2nw4p6dt>
- Weeks, K., D. Lehrer, and J. Bean. 2007. A model success: The Carnegie Institute for Global Ecology. Center for the Built Environment, University of California, Berkeley, May.
<http://escholarship.org/uc/item/9vx411sb>
- Webster, T., E. Arens, G. Anwar, J. Bonnell, F. Bauman, and C. Brown. 2007. UFAD Commissioning Cart: Design Specifications and Operating Manual. CBE Internal Report.
www.escholarship.org/uc/item/1371g9tc
- Zhang, H., E. Arens, S. Abbaszadeh, C. Huizenga, G. Brager, G. Paliaga, and L. Zagreus. 2007. Air movement preferences observed in office buildings. *International Journal of Biometeorology*, 51, 349–360. Earlier version published in *Proceedings, the 3rd Comfort and Energy Using in Buildings: Getting Them Right*, Windsor, UK, April.
- Brager, G. 2007. Learning from experience. *Frameworks*, College of Environmental Design, University of California, Berkeley, Spring. <https://escholarship.org/uc/item/21r835r7>
- Brown, C. 2007. Multizone register controlled residential heating: optimized for energy use and comfort. Masters Thesis. Dept of Architecture, University of California, Berkeley.
<https://escholarship.org/uc/item/5j1996rn>
- Brager, G., and C. Benedek. 2007. Examining rating systems: A look at green globes. *AIA Cote Notes, Newsletter of the Committee on the Environment*, March-April.
http://www.aia.org/nwsltr_cote.cfm?pagename=cote_a_0703_GG.

2006

- Webster, T., C. Benedek, and F. Bauman. 2006. Underfloor air distribution (UFAD) cost study: analysis of first cost tradeoffs in UFAD systems. Report to the U.S. General Services Administration. September. <https://escholarship.org/uc/item/4hs7f29b>
- Moore, T., F. Bauman, and C. Huizenga. 2006. Radiant cooling research scoping study. CBE Internal Report. April. <https://escholarship.org/uc/item/3j52t8vz>
- Arens, E., and H. Zhang. 2006. The skin's role in human thermophysiology and comfort. *Thermal and Moisture Transport in Fibrous Materials*, Eds. N. Pan and P. Gibson, Woodhouse Publishing, London, pp 560-602. October. <http://escholarship.org/uc/item/3f4599hx>
- Brager, G. 2006. Mixed mode cooling. *ASHRAE Journal*, pp. 30-37, August.
<http://escholarship.org/uc/item/3bb8x7b8>

Daly, A. 2006. Underfloor vs. overhead: a comparative analysis of air distribution systems using the EnergyPlus simulation software. Master of Science Thesis. Dept of Architecture, University of California, Berkeley. August. <http://escholarship.org/uc/item/6x3731q2>

Bauman, F., H. Jin, and T. Webster. 2006. Heat transfer pathways in underfloor air distribution (UFAD) systems. *ASHRAE Transactions*, Vol. 112, Part 2. <http://www.escholarship.org/uc/item/52f04592>

Jin, H., F. Bauman, and T. Webster. 2006. Testing and modeling of underfloor air supply plenums. *ASHRAE Transactions*, Vol. 112, Part 2. <http://escholarship.org/uc/item/7d384622>

Bauman, F., T. Webster, and H. Jin. 2006. Design guidelines for underfloor air supply plenums. *HPAC Engineering*, July. <https://escholarship.org/uc/item/6k95d6dq>

Webster, T., and F. Bauman. 2006. Design guidelines for stratification in underfloor air distribution (UFAD) systems. *HPAC Engineering*, June. <https://escholarship.org/uc/item/96453156>

Arens, E., and H. Zhang. 2006. The skin's role in human thermophysiology and comfort. chapter for *Thermal and Moisture Transport in Fibrous Materials*, eds. N. Pan and P. Gibson, Woodhouse Publishing, London. <http://escholarship.org/uc/item/3f4599hx#page-18>

Gao, N., J. Niu, and H. Zhang. 2006. Coupling CFD and human body thermoregulation model for the assessment of personalized ventilation. *HVAC&R Research*, 12 (3), 497 - 518.

Abbaszadeh, S., L. Zagreus, D. Lehrer, and C. Huizenga. 2006. Occupant satisfaction with indoor environmental quality in green buildings. *Proceedings, Healthy Buildings 2006*, Vol. III, 365-370, Lisbon, Portugal. June. <http://escholarship.org/uc/item/9rf7p4bs>

Huizenga, C., S. Abbaszadeh, L. Zagreus, and E. Arens. 2006. Air quality and thermal comfort in office buildings. Results of a large indoor environmental quality survey. *Proceedings, Healthy Buildings 2006*, Vol. III, 393-397, Lisbon, Portugal, June. <http://escholarship.org/uc/item/7897g2f8>

Zhang, H., E. Arens, S. Abbaszadeh, C. Huizenga, G. Brager, G. Paliaga, and L. Zagreus. 2006. Air movement preferences observed in office buildings. *Proceedings, NCEUB Windsor 2006 Conference*, Windsor, UK, April. <http://escholarship.org/uc/item/4gp5385f>

Arens, E., H. Zhang, and C. Huizenga. 2006. Partial- and whole-body thermal sensation and comfort, Part I: Uniform environmental conditions. *Journal of Thermal Biology*, 31, 53 - 59, March. <http://escholarship.org/uc/item/4n93j8d8>

Arens, E., H. Zhang, and C. Huizenga. 2006. Partial- and whole-body thermal sensation and comfort, Part II: nonuniform environmental conditions. *Journal of Thermal Biology*, 31, 60 - 66, March. <http://escholarship.org/uc/item/2qx0b18h>

Huizenga, C., H. Zhang, P. Mattelaer, T. Yu, E. Arens, and P. Lyons. 2006. Window performance for human thermal comfort. Final Report to the National Fenestration Rating Council, Center for the Built Environment, University of California, Berkeley, February.

<http://escholarship.org/uc/item/6rp85170>

2005

Jung, A., and M. Zeller. 2005. Analysis and testing of methods to determine indoor air quality and air change effectiveness. Original technical paper from Rheinisch-Westfälische Technical University of Aachen, Germany, 1994. English translation by Wolfgang Lukaschek, Center for the Built Environment (CBE). <https://escholarship.org/uc/item/5kd7w8q8>. Executive Summary by Fred Bauman, PE, Center for the Built Environment (CBE), October.

<https://escholarship.org/uc/item/6vb133fd>

Hogan, M., T. Webster, and F. Bauman. 2005. Trends in design and operations of UFAD buildings. CBE Summary Report, October. <https://escholarship.org/uc/item/7kd8f9vb>

Inkarojrit, V. 2005. Balancing comfort: Occupants' control of window blinds in private offices. PhD Dissertation. Dept of Architecture, University of California, Berkeley.

<https://escholarship.org/uc/item/3rd2f2bg>

Yee, G., and T. Webster. 2005. State of practice of energy management, control, and information systems. chapter for *Web Based Energy Information and Control Systems*, eds. Barney L. Capehart, Lynne C. Capehart. pp.275-286. <http://escholarship.org/uc/item/3z21n00c>

Webster, T. 2005. Alternative air conditioning technologies: underfloor air distribution (UFAD). chapter for *Energy Engineering*, eds. Wayne C. Turner. pp.58-77.

<http://escholarship.org/uc/item/9nv47953>

Yee, G., and T. Webster. 2005. Review of advanced applications in energy management, control, and information systems. chapter for *Web Based Energy Information and Control Systems*, eds. Barney L. Capehart, Lynne C. Capehart. pp.287-304.

Arens, E., C.C. Federspiel, D. Wang, and C. Huizenga. 2005. How ambient intelligence will improve habitability and energy efficiency in buildings. chapter for *Ambient Intelligence*, eds. W. Weber, J.M Rabaey and E. Aarts, Springer. pp.63-80.

<http://www.escholarship.org/uc/item/1hj8x1ct>

Fisk, W.J., D. Faulkner, D. Sullivan, C. Chao, M.P. Wan, L. Zagreus, and T. Webster. 2005. Results of a field study of underfloor air distribution. *Proceedings, Indoor Air 2005: 10th International Conference on Indoor Air Quality and Climate*, September, Beijing. Also available as LBNL-57098.

<http://www.escholarship.org/uc/item/9088399m>

Jensen, K., E. Arens, and L. Zagreu. 2005. Acoustic analysis of commercial office buildings using post occupancy evaluation surveys, *Proceedings, Indoor Air 2005: 10th International Conference on Indoor Air Quality and Climate*, Beijing, China, September.

http://www.cbe.berkeley.edu/research/acoustic_poe.htm

Zhang, H., C. Huizenga, E. Arens, and T. Yu. 2005. Modeling thermal comfort in stratified environments, *Proceedings, Indoor Air 2005: 10th International Conference on Indoor Air Quality and Climate*, Beijing, China, September. <http://www.escholarship.org/uc/item/8q58k4hs>

Wang, D., H. Zhang, E. Arens, and C. Huizenga. 2005. Observations of upper extremity skin temperatures and corresponding thermal sensations, *Proceedings, Indoor Air 2005: 10th International Conference on Indoor Air Quality and Climate*, Beijing, China, September.

<http://escholarship.org/uc/item/5w0349xv>

Xu, P., P. Haves, M. Piette, L. Zagreus, and E. Arens. 2005. Demand shifting with thermal mass in large commercial buildings (Audit, field tests and simulation). Draft summary report, Demand Response Research Center, March. <http://escholarship.org/uc/item/14j2n3b3>

2004

Roberson, J.A. 2004. Effect of building airtightness and fan size on the performance of mechanical ventilation systems in new U.S. houses: a critique of ASHRAE Standard 62.2-2003. Mastees Thesis. Dept of Architecture, University of California, Berkeley, December.

<http://escholarship.org/uc/item/38b8f9j8>

Huizenga, C., H. Zhang, E. Arens, and D. Wang. 2004. Skin and core temperature response to partial- and whole body heating and cooling, *Journal of Thermal Biology* Vol. 29 (2004) pp. 549–558; and *The First Symposium on Physiology and Pharmacology of Temperature Regulation*, Rhodes, Greece, October. <http://escholarship.org/uc/item/30c8q5j4>

Webster, T. 2004. Underfloor air distribution systems, *Proceedings, World Energy Engineering Congress, High Performance Facilities*, Austin, TX, September.

Fisk, W., D. Faulkner, D. Sullivan, C. Chao, M. P. Wan, L. Zagreus, and T. Webster. 2004. LBNL-56257 Report: Performance of underfloor air distribution: Results of a field study. Summary Report, Lawrence Berkeley National Labs, University of California, Berkeley. August.

<http://www.escholarship.org/uc/item/4mt1s62r>

Webster, T. 2004. Trends affecting Building Control Systems (BCS) development. chapter for *Information Technology for Energy Engineers*, eds. Barney L. Capehart. pp.67-74.

<http://www.escholarship.org/uc/item/1f48425v>

Webster, T. 2004. BCS integration technologies – open communications networking. chapter for *Information Technology for Energy Engineers*, eds. Barney L. Capehart. pp.321-344.

<http://www.escholarship.org/uc/item/10h760kh>

- Olesen, B. W., and G.S. Brager. 2004. A better way to predict comfort: The new ASHRAE Standard 55-2004, *ASHRAE Journal*. August. <http://escholarship.org/uc/item/2m34683k>
- Ubbelohde, M.S., and G. Brager. 2004. Teaching sustainable design: examples of collaboration between academia and practice. *Solar 2004, American Solar Energy Society National Conference*, Portland, Oregon. July.
- Ubbelohde, M.S., and G.S. Brager. 2004. Modeling techniques for sustainable design: a collaboration between the research lab and architectural practice, *European Association for Architectural Education & Architectural Research Centers Consortium, Joint Research Conference*, Dublin, Ireland. June.
- Wang, D., C.C. Federspiel, and F. Rubenstein, 2004. Modeling occupancy in single person offices. *Energy and Buildings*.
- Wang, D., C.C. Federspiel, and E. Arens. 2004. Correlation between temperature satisfaction and unsolicited complaint rates in commercial buildings, *Building Science: Papers from Indoor Air 2002*, July. <https://escholarship.org/uc/item/91x7d9ws>
- Federspiel, C.C., G. Liu, M. Lahiff, D. Faulkner, D. L. DiBartolomeo, W. J. Fisk, P. Price, and D. Sullivan. 2004. Worker performance and ventilation: analyses of individual data for call center workers. *Building Science: Papers from Indoor Air 2002*. Previously included in *Proceedings, Indoor Air 2002*, Monterey, CA, June. <http://www.escholarship.org/uc/item/36k3m148>
- Federspiel, C.C., R. Martin, and H. Yan. 2004. Re-calibration of the complaint prediction model, accepted for publication in the *International Journal of HVAC&R Research*. <http://www.escholarship.org/uc/item/7f46b58s>
- Boucher, T.D., D.M. Auslander, C.E. Bash, C.C. Federspiel, and C.D. Patel. 2004. Viability of dynamic control for data center energy optimization, submitted to *iTherm 2004*. <http://escholarship.org/uc/item/0wj7r61r>
- Federspiel, C.C., E. Arens, T. Peffer, and D. M. Auslander. 2004. Design concepts for residential demand response systems, submitted to *2004 ACEEE Summer Study on Energy Efficiency in Buildings*.
- Zagreus, L., C. Huizenga, and E. Arens. 2004. A Web-based POE tool for measuring indoor environmental quality. *Closing the Loop - Post Occupancy Evaluation: The Next Steps*, Windsor, UK, April 29-May 2. <http://www.escholarship.org/uc/item/56s462z4>
- Brager, G.S., G. Paliaga, and R. de Dear. 2004. Operable windows, personal control and occupant comfort. *ASHRAE Transactions*, 110 (2), June. <http://www.escholarship.org/uc/item/4x57v1pf>
- Zagreus, L., C. Huizenga, E. Arens, and D. Lehrer. 2004. Listening to the occupants: a web-based indoor environmental quality survey. *Building Science: Papers from Indoor Air 14* (s8), 65-74. <http://www.escholarship.org/uc/item/8cf6c6dr>

Zhang, H., C. Huizenga, E. Arens, and D. Wang. 2004. Thermal sensation and comfort in transient non-uniform thermal environments. *European Journal of Applied Physiology*, Vol. 92, pp. 728–733. Previously presented at the *Fifth International Meeting on Thermal Manikins and Modeling*, Strasbourg, September 2003. <http://www.escholarship.org/uc/item/64x0488x>

2003

Sharma, A. 2003. Design of wireless sensor networks for building management. Master's Thesis, Department of Electrical Engineering and Computer Sciences, University of California, Berkeley. <https://escholarship.org/uc/item/21v2j5v2>

Zhang, H. 2003. Human thermal sensation and comfort in transient and non-uniform thermal environments, PhD Thesis, Center for Environmental Design Research (CEDR), University of California at Berkeley, December. <http://www.escholarship.org/uc/item/11m0n1wt>

Bauman, F. 2003. *Underfloor air distribution (UFAD) design guide*. Atlanta: ASHRAE, American Society of Heating, Refrigerating, and Air-Conditioning Engineers. 243 pp.

Bauman, F. 2003. Designing and specifying underfloor systems: shedding light on common myths. *Heating/Piping/Air Conditioning Engineering*, Vol. 75, No. 12, December.

Huizenga, C., L. Zagreus, E. Arens, and D. Lehrer. 2003. Measuring indoor environmental quality: a web-based occupant satisfaction survey. *Greenbuild International Conference and Exposition*, Pittsburgh, November, 9 pp. <http://www.escholarship.org/uc/item/8zc5c32z>

Lehrer, D., and F. Bauman. 2003. Hype vs. reality: new research findings on underfloor air systems. *Greenbuild International Conference and Exposition*, Pittsburgh, November, 12 pp. <http://www.escholarship.org/uc/item/2bb1c9t0>

Tang, S., C. C. Federspiel, and D. M. Auslander. 2003. Pulsed-type ultrasonic anemometer based on a double FFT procedure, *Proceedings, IEEE Sensors 2003*. October. <https://escholarship.org/uc/item/6mf6p0z8>

Federspiel, C. C., and J. Chen. 2003. Air-powered sensor, *Proceedings, IEEE Sensors 2003*. October. <http://www.escholarship.org/uc/item/6cx4c9nf>

Brager, G.S., and R.J. de Dear. 2003. Historical and cultural influences on comfort expectations. *Buildings, Culture and Environment*. October.

Wang, D., E. Arens, and C.C. Federspiel. 2003. Opportunities to save energy and improve comfort by using wireless sensor networks in buildings, *Proceedings of the International Conference for Enhanced Building Operations*, Oct. 13-15, Berkeley, CA. <https://escholarship.org/uc/item/25z2t8tf>

Villafana, L., and C.C. Federspiel. 2003. Information technology for energy and maintenance management. *Proceedings of the International Conference for Enhanced Building Operations*, October 13-15, Berkeley, CA. 12 pp.

American Society of Civil Engineers. 2003. Outdoor human comfort and its assessment, State of the Art Report by Task Committee on Outdoor Human Comfort. ASCE Aerodynamics Committee, June, 66 pp.

Federspiel, C.C., and L. Villafana. 2003. Design of an EMCS/CMMS user interface for building occupants. *ASHRAE Transactions*, 109(2).

Federspiel, C.C., and L. Villafana. 2003. Design of a maintenance and operations recommender. *ASHRAE Transactions*, 109(2). <http://www.escholarship.org/uc/item/53p2f18d>

Federspiel, C.C., and L. Villafana. 2003. A tenant interface for energy and maintenance systems. *CHI 2003 Conference on Human Factors in Computing Systems*, Fort Lauderdale, FL, April. <https://escholarship.org/uc/item/0dg7j623>

Webster, T., and A. Barth. 2003. Development of fan diagnostics methods and protocols for short term monitoring. Final Report, Berkeley, CEC/PIER HPCBS# E5P2.2T4c, 19 pp. <https://escholarship.org/uc/item/5q46x5km>

2002

Webster, T., R. Bannon, and D. Lehrer. 2002. Teledesic broadband center field study. CBE Summary Report, April. <https://escholarship.org/uc/item/84m9s48s>

Zhang, H., E. Arens, and C. Arens. 2002. Using a driving game to increase the realism of laboratory studies of automobile passenger thermal comfort. *SAE Technical Paper Series 2003-01-2710*, 7 pp. <http://www.escholarship.org/uc/item/4bq4n92h>

Oguro, M., E. Arens, R. de Dear, H. Zhang, and T. Katayama. 2002. Convective heat transfer coefficients and clothing insulations for parts of the clothed human body under airflow conditions. *Journal of Architectural Planning and Environmental Engineering*, A1J, No.561, November, pp. 21-29. <http://www.escholarship.org/uc/item/5295c6df>

Lin, C., C. Federspiel, and D. Auslander. 2002. Multi-sensor single-actuator control of HVAC systems. *International Conference for Enhanced Building Operations*, Richardson, TX, October. www.escholarship.org/uc/item/67d6j5qm

Wang, D. E., Arens, T. Webster, and M. Shi. 2002. How the number and placement of sensors controlling room air distribution systems affect energy use and comfort. *International Conference for Enhanced Building Operations*, Richardson, TX, October. <http://www.escholarship.org/uc/item/9jz6f6cw>

Federspiel, C.C., Q. Zhang, and E. Arens. 2002. Model-based benchmarking with application to laboratory buildings. *Energy and Buildings*, Vol.34, Issue 3, pp. 203-214.

<https://escholarship.org/uc/item/4b65c4xw>

Karalar, T. 2002. An acoustical digital anemometer. Masters Thesis, Department of Electrical Engineering and Computer Science, UC Berkeley, June.

Webster, T., F. Bauman, and J. Reese. 2002. Underfloor air distribution: thermal stratification. *ASHRAE Journal*, May. <http://www.escholarship.org/uc/item/9145t9gz>

Fisk, W. J., P. Price, D. Faulkner, D. Sullivan, D. Dibartolomeo, C. Federspiel, G. Liu, and M. Lahiff. 2002. Worker performance and ventilation: analyses of time-series data for a group of call-center workers. *Proceedings, Indoor Air 2002*, Monterey, CA, June.

<https://escholarship.org/uc/item/8xh9w1xp>

Webster, T., F. Bauman, J. Reese, and M. Shi. 2002. Thermal stratification performance of underfloor air distribution (UFAD) systems. *Proceedings, Indoor Air 2002*, Monterey, CA, June.

<http://www.escholarship.org/uc/item/6vv4g4d7>

Huizenga, C., K. Laeser, E. Arens. 2002. A web-based occupant satisfaction survey for benchmarking building quality, *Proceedings, Indoor Air 2002*, Monterey, CA, June.

<https://escholarship.org/uc/item/0hs9x6gm>

Morgan, C., R. de Dear, and G.S. Brager. 2002. Climate, clothing and adaptation in the built environment. *Proceedings, Indoor Air 2002*, Monterey, CA, June.

Fisk, W.J., G. Brager, M. Brook, H. Burge, J. Cole, J. Cummings, H. Levin, V. Loftness, T. Logee, M.J. Mendell, A. Persily, S. Taylor, and J. Zhang. 2002. A priority agenda for energy-related indoor environmental quality research. *Proceedings, Indoor Air 2002*, Monterey, CA, June.

<http://www.escholarship.org/uc/item/8jq4144v>

Offermann, F.J., J.P. Robertson, and T. Webster. 2002. The impact of tracer gas mixing on airflow rate measurements in large commercial fan systems. *Proceedings, Indoor Air 2002*, Monterey, CA, June, pp. 320-325.

Federspiel, C. C., H. Li, D. Auslander, D. Lorenzetti, and A. Gadgil. 2002. Modeling transient contaminant transport in HVAC systems and buildings. *Proceedings, Indoor Air 2002*, Monterey, CA, June.

www.escholarship.org/uc/item/9476v10z

Martin, R. M., C. Federspiel, and D. Auslander. 2002. Supervisory control for energy savings and thermal comfort in commercial building HVAC systems. *AAAI Spring Symposium on Information Refinement and Revision for Decisionmaking: Modeling for Diagnostics, Prognostics, and Prediction*, Stanford University, March.

www.escholarship.org/uc/item/2117f2rt

Martin, R. M., C. C. Federspiel, and D. M. Auslander. 2002. Responding to thermal sensation complaints in buildings. *ASHRAE Transactions*, 112 (1), January.

de Dear, R.J., and G.S. Brager. 2002. Thermal comfort in naturally ventilated buildings: revisions to ASHRAE Standard 55. *Energy and Buildings* Volume 34, Issue6, p.549-561.
<http://escholarship.org/uc/item/2pn696vv>

2001

Rabaey, J., E. Arens, C. Federspiel, A. Gadgil, D. Messerschmitt, W. Nazaroff, K. Pister, S. Oren, and P. Varaiya. 2001. Smart energy distribution and consumption: information technology as an enabling force. *CITRIS White Paper*.

Oguro, M., E. Arens, H. Zhang, K. Tsuzuki, and T. Katayama. 2001. Measurement of projected area factors for thermal radiation analysis on each part of the human body. *Journal of Architectural Planning and Environmental Engineering*, AIJ, No.547, pp. 17-25, September.
<http://www.escholarship.org/uc/item/5j67v91m>

Oguro, M., E. Arens, H. Zhang, K. Tsuzuki, and T. Katayama. 2001. Measurement of projected area factors for each part of a sitting person. *Engineering Science Reports*, Kyushu University, Vol.23 No.2, pp. 197-206, September. <http://www.escholarship.org/uc/item/2217063q>

Federspiel, C. C., S. D. Lanning, H. Li, and D. M. Auslander. 2001. Coordinated control of HVAC systems. Proceedings of the International Conference for Advanced Building Operations, Austin, TX, July 16-19. <https://escholarship.org/uc/item/15r7r3tc>

Lanning, S., C. C. Federspiel, and D. M. Auslander. 2001. The impact of phase modulation on the performance of pulse-width modulated controls. Proceedings of the 2001 American Control Conference, June.

Oguro, M., E. Arens, R. deDear, H. Zhang, and T. Katayama. 2001. Evaluation of the effect of air flow on clothing insulation and total heat transfer coefficient for each part of the clothed human body. *Journal of Architectural Planning and Environmental Engineering*, AIJ, No.549.
<http://www.escholarship.org/uc/item/62h7b795>

Olesen, B.W., R. de Dear, and G.S. Brager. 2001. Status and new developments in indoor thermal environmental standards. *Journal of the Human-Environment System*, Volume 5, No.1.

Lehrer, D. 2001. Building a case for building performance. Line Online, AIA San Francisco Chapter, August, 2001. <https://escholarship.org/uc/item/51q6c2sf>

Zhang, H., C. Huizenga, E. Arens, and T. Yu. 2001. Considering individual physiological differences in a human thermal model. Proceedings of the International Thermal Physiology Symposium, Wollongong, Australia, September 2001.
<http://www.escholarship.org/uc/item/9451r851>

de Dear, R.J., and G.S. Brager. 2001. The adaptive model of thermal comfort and energy conservation in the built environment. *International Journal of Biometeorology*, Vol. 45, No. 2, pp. 100-108. July. <http://escholarship.org/uc/item/89d4871t>
<https://doi.org/10.1007/s004840100093>

Bauman, F., and T. Webster. 2001. Outlook for underfloor air distribution. *ASHRAE Journal*, Vol. 43, No. 6, pp. 18-27. June. <http://www.escholarship.org/uc/item/5v60x57q>

Federspiel, C. C., J. E. Seem, and K. H. Drees. 2001. Chapter 12, Controlling building functions. *Indoor Air Quality Handbook*, eds. J. Spengler, J. M. Samet, and J. F. McCarthy, McGraw-Hill.

Federspiel, C. C. 2001. Chapter 56, Estimating the frequency and cost of responding to building complaints. *Indoor Air Quality Handbook*, eds. J. Spengler, J. M. Samet, and J. F. McCarthy, McGraw-Hill.

Brager, G.S., and R.J. de Dear. 2001. Climate, comfort & natural ventilation: a new adaptive comfort standard for ASHRAE Standard 55. *Proceedings, Moving Thermal Comfort Standards into the 21st Century*, Windsor, UK. April. <http://www.escholarship.org/uc/item/2048t8nn>

Huizenga, C., H. Zhang, and E. Arens. 2001. A model of human physiology and comfort for assessing complex thermal environments. *Building and Environment*, Vol. 36, pp. 691-699. <http://escholarship.org/uc/item/3sq8z441> [https://doi.org/10.1016/S0360-1323\(00\)00061-5](https://doi.org/10.1016/S0360-1323(00)00061-5)

2000

Brager, G.S., and R.J. de Dear. 2000. A Standard for Natural Ventilation *ASHRAE Journal*. October. <http://escholarship.org/uc/item/3f73w323>

Federspiel, C. C. 2000. Predicting the frequency and cost of hot and cold complaints in buildings. *International Journal of HVAC&R Research*, 6(4), 217-234. <http://www.escholarship.org/uc/item/8m6814qd>

Webster, T., F. Bauman, and E. Ring. 2000. Supply fan energy use in pressurized underfloor air distribution systems. Center for the Built Environment, University of California, Berkeley, October. <https://escholarship.org/uc/item/1xm4d8f9>

Ring, E., and G.S. Brager. 2000. Occupant comfort, control, and satisfaction in three California mixed-mode office buildings. *Proceedings of the ACEEE Summer Study on Energy Efficiency in Buildings*, American Council for an Energy Efficient Economy. August. <https://escholarship.org/uc/item/7sk09771>

Brager, G.S., E. Ring, and K. Powell. 2000. Mixed-mode Ventilation: HVAC Meets Mother Nature. *Engineered Systems*, pp.60-70, May. <http://escholarship.org/uc/item/0285m0h1>

Federspiel, C. 2000. Indoor air quality in commercial buildings. *Commercial Buildings Magazine*. May.

Bauman, F., V. Inkarojrit, and H. Zhang. 2000. Laboratory Test of the Argon Personal Air-Conditioning System (APACS). Center for Environmental Design Research, University of California, Berkeley, April. <https://escholarship.org/uc/item/2x33f53m>

1999

Murray, S., and K. Powell. 1999. Office tenant needs study. CBE Summary Report. October. <https://escholarship.org/uc/item/2rx7w394>

Federspiel, C. C., Q. Zhang, and E. Arens. 1999. Laboratory Field Studies/Performance Feedback, CEDR-05-99. <https://escholarship.org/uc/item/2hw1t5zf>

Bauman, F., P. Pecora, and T. Webster. 1999. How Low Can You Go? Air Flow Performance of Low-Height Underfloor Plenums. Center for the Built Environment, University of California, Berkeley, October. <http://escholarship.org/uc/item/5rx3p5w4>

Bauman, F., K. Tsuzuki, H. Zhang, T. Stockwell, C. Huizenga, E. Arens, and A. Smart. 1999. Experimental comparison of three individual control devices: thermal manikin tests. Final Report, Center for Environmental Design Research, University of California, Berkeley. April.

Bauman, F. 1999. Giving occupants what they want: guidelines for implementing personal environmental control in your building. Proceedings, World Workplace 1999, Vol. 1, pp. 447-459, Los Angeles, CA. October. <https://escholarship.org/uc/item/55c7r2hz>

Huizenga, C., H. Zhang, T. Duan, and E.A. Arens. 1999. An improved multi-node model of human physiology and thermal comfort. Proceedings of Building Simulation '99, International Building Performance Simulation Association, Kyoto, Japan. September. <https://escholarship.org/uc/item/1ms313wz>

Huizenga, C., D. Arasteh, E. Finlayson, R. Mitchell, and B. Griffith. 1999. Therm 2.0: A building component model for steady state two dimensional heat transfer. Proceedings of Building Simulation '99, International Building Performance Simulation Association, Kyoto, Japan. September. <https://escholarship.org/uc/item/66n7n302>

Tsuzuki, K., E.A. Arens, F.S. Bauman, and D.P. Wyon. 1999. Individual thermal comfort control with desk-mounted and floor-mounted task/ambient conditioning (TAC) systems. Proceedings of Indoor Air '99, Volume 2, pages 368-373, Edinburgh, Scotland. August. <http://www.escholarship.org/uc/item/06j3k53n>

Fountain, M.E., E.A. Arens, T.Xu, F.S. Bauman, and M.Oguru. 1999. An Investigation of Thermal Comfort at High Humidities. ASHRAE Transactions, Vol 105 (2), pp. 94-103. <http://www.escholarship.org/uc/item/94m840fb>

Federspiel, C. C., Q. Zhang, C. Huizenga, T. Webster, and E. Arens. 1999. Laboratory energy performance measurements. CEDR-02-1999. <https://escholarship.org/uc/item/8v13t41t>

Federspiel, C. C. 1999. Air-change effectiveness: theory and calculation methods. *Indoor Air*, 9, 47-56. <https://escholarship.org/uc/item/0mm9b2jb> DOI:10.1111/j.1600-0668.1999.t01-3-00008.x

Webster, T., E. Ring, C. Huizenga, F. Bauman, and E. Arens. 1999. Reducing fan energy in built-up fan systems. Final Report: Phase III, Berkeley, CEDR-03-99.

Webster, T., E. Ring, C. Huizenga, Q. Zhang, F. Bauman, and E. Arens. 1999. Commercial thermal distribution systems: reducing fan energy in built-up fan systems. Final Report: Phase IV, Berkeley, CEDR-04-99.

1998

Carter, G., C. Huizenga, P. Pecora, T. Webster, F. Bauman, and E. Arens. 1998. Reducing fan energy in built-up fan systems. Final Report: Phase II. Berkeley, CEDR-02-98.

Bauman, F.S., T.G. Carter, A.V. Baughman, and E.A. Arens. 1998. Field study of the impact of a desktop task/ambient conditioning system in office buildings. *ASHRAE Transactions*, Vol 104 (1). <http://www.escholarship.org/uc/item/8x98n5hj>

Brager, G.S., and R.J. de Dear. 1998. Thermal adaptation in the built environment: a literature review. *Energy and Buildings*, Vol. 27, No. 1, pp. 83-96. <http://escholarship.org/uc/item/5ts1r442> [https://doi.org/10.1016/S0378-7788\(97\)00053-4](https://doi.org/10.1016/S0378-7788(97)00053-4)

de Dear, R.J., and G.S. Brager. 1998. Developing an adaptive model of thermal comfort and preference. *ASHRAE Transactions*, Vol 104 (1), pp. 145-167. <http://escholarship.org/uc/item/4qq2p9c6>

Federspiel, C. C. 1998. Flow control with electric actuators. Proceedings of 7th IFAC Symposium on Artificial Intelligence in Real-Time Control, Grand Canyon National Park, Arizona, October.

Chace, J., Fountain, M., Grundon, T., and Benton, C. 1998. Effective market transformation from energy centers. Proceedings of the ACEEE 1998 Summer Study on Energy Efficiency in Buildings, Pacific Grove, CA. August.

Federspiel, C.C. 1998. Predicting the frequency and cost of hot and cold complaints in buildings. Proceedings of the 1998 ACEEE Summer Study on Energy Efficiency in Buildings, Pacific Grove, CA; also submitted to International Journal of HVAC&R Research. <http://escholarship.org/uc/item/8m6814qd>

Federspiel, C.C. 1998. Conditions for the input-output relation of perfect-mixing processes to be first-order with application to building ventilation systems. *Journal of Dynamic Systems*, 120(2), 170-176.

Federspiel, C.C. 1998. Statistical analysis of unsolicited thermal sensation complaints in buildings. *ASHRAE Transactions*, 104(1).

Webster, T., P. Benenson, and W. L. Carroll. 1998. FEMP technical assessment report: duty cycling controllers revisited. LBNL 41754, Lawrence Berkeley National Laboratory. June.

Webster, T., and W. L. Carrol. 1998. Technology installation review: energy savings in refrigerated walk-in boxes. DOE/EE-0170, US DOE/FEMP New Technology Demonstration Program (NTDP).

Carter, G., C. Huizenga, T. Webster, F. Bauman, and E. Arens. 1998. Reducing fan energy in built-up fan systems. Report to California Institute for Energy Efficiency. Center for Environmental Design Research, University of California, Berkeley. April.

Arens, E., T. Xu, K. Miura, H. Zhang, M. Fountain, and F. Bauman. 1998. A study of occupant cooling by personally controlled air movement. *Energy and Buildings*, Vol. 27, No. 1, pp. 45-59.

1997

Kwok, A. 1997. Thermal comfort in naturally-ventilated and air-conditioned classrooms in the tropics. PhD Dissertation, Dept. of Architecture, University of California, Berkeley.
<https://escholarship.org/uc/item/65d3k1jt>

Federspiel, C. C., and J. D. Wenger. 1997. Control and performance analysis of ventilation systems. Proceedings of Healthy Buildings/IAQ '97, Washington D.C., 2, 529-534.

Federspiel, C. C. 1997. Estimating the inputs of gas transport processes in buildings. *IEEE Transactions on Control System Technology*, 5(5), 480-489.

Federspiel, C. C. 1997. Damper authority estimation and adaptive flow control. Proceedings of CLIMA 2000, Brussels, Belgium.

Federspiel, C. C. 1997. Flow control with electric actuators. *International Journal of Heating, Ventilating, Air Conditioning, and Refrigeration Research*, 3(3), 265-289.

Huizenga, C., and G. Carter. 1997. A toolkit for evaluating chiller plant retrofits. Proceedings of the Cool Sense National Integrated Chiller Retrofit Forum. San Francisco, CA. September.

de Dear, R., E. Arens, H. Zhang, and M. Oguro. 1997. Convective and radiative heat transfer coefficients for individual body segments. *International Journal of Biometeorology*, Vol. 40, No. 3, pp. 141-156.

Fisk, W.J., D. Faulkner, D. Sullivan, and F.S. Bauman. 1997. Air change effectiveness and pollutant removal efficiency during adverse conditions. *Indoor Air*, Vol. 7, No. 1.

Bauman, F., A. Baughman, G. Carter, and E. Arens. 1997. A field study of PEM (Personal Environmental Module) performance in Bank of America's San Francisco office buildings. Center for Environmental Design Research, University of California, Berkeley. April.
<http://escholarship.org/uc/item/717760bz>

Benton, C., and A. Kwok. 1997. The vital signs project: dissemination activities. Proceedings of the 21st National Passive Solar Conference, American Solar Energy Society, Boulder, CO. March.

1996

Akimoto, T., F.S. Bauman, C.C. Benton, and E.A. Arens. 1996. Field study of a desktop-based task conditioning system. *Transactions of AIJ* (Architectural Institute of Japan), No.490, pp. 35-46. December.

Bauman, F.S., and E.A. Arens. 1996. Task/ambient conditioning systems: engineering and application guidelines. Center for Environmental Design Research, University of California, Berkeley, 67 pp. Federspiel, C. C., 1996. "Air-Change Effectiveness,," Indoor Air BULLETIN, 3(10), 14. October. <https://escholarship.org/uc/item/0r36z48d>

Federspiel, C. C., and J.E. Seem. 1996. Temperature control in large buildings. *CRC Control Handbook*, Chapter 70.

Federspiel, C. C. 1996. Ventilation performance evaluation using passively generated carbon dioxide as a tracer gas. Proceedings of 17th AIVC Conference: Optimum Ventilation and Air Flow Control in Buildings, Gothenburg, 1, 15-23.

Federspiel, C. C. 1996. The effect of recirculation on air-change effectiveness. Proceedings of 17th AIVC Conference: Optimum Ventilation and Air Flow Control in Buildings, Gothenburg, Sweden, 1, 355-363.

Federspiel, C. C. 1996. On-demand ventilation control: a new approach to demand-controlled ventilation. Proceedings of INDOOR AIR '96, Nagoya, Japan, 3, 935-940.

Federspiel, C. C. 1996. The effect of recirculation on air-change effectiveness calculations. Proceedings of INDOOR AIR '96, Nagoya, Japan, 3, 971-976.

Fountain, M. 1996. A Derivation of the GAGGE 2-Node Model. *Environmental Analytics*. www.escholarship.org/uc/item/8ps51836

Fountain, M., and C. Huizenga. 1996. A thermal comfort prediction tool. *ASHRAE Journal*, Vol. 38, No. 9, September, pp. 39-42.

Bauman, F., E. Arens, C. Huizenga, T. Akimoto, K. Miura, T. Xu, and H. Zhang. 1996. The impact of humidity standards on energy efficient cooling in California. Center for Environmental Design Research, University of California, Berkeley. August.

Huizenga, C., and R. DeDear. 1996. Final report: multinode thermoregulatory comfort model development. Prepared for the US Army Research Institute of Environmental Medicine. Center for Environmental Design Research, University of California, Berkeley. July.

Benton, C., M. Hydeman, J. Chace, C. Huizenga, and R. Marcial. 1996. Taking a building's vital signs: a lending library of handheld instruments. Proceedings of the ACEEE 1996 Summer Study on Energy Efficiency in Buildings, American Council for an Energy-Efficient Economy, Vol. 5. July.

Huizenga, C., W. Van Liere, and F. Bauman. 1996. Development of low-cost monitoring protocols for evaluating energy use in laboratory buildings. Center for Environmental Design Research, University of California, Berkeley. June.

Bauman, F.S. 1996. Task/ambient conditioning systems: technology assessment and engineering guidelines. Proceedings of the 3rd International Conference on Energy and Environment: Towards the Year 2000, Capri, Italy, 6-8, pp. 31-42. June.

Fountain, M., G. Brager, and R. de Dear. 1996. Expectations of indoor climate control. *Energy and Buildings*, Vol. 24, pp. 179-82.

Baughman, A., and E. Arens. 1996. Indoor Humidity and Human Health — Part I: Literature Review of Health Effects of Humidity-Influenced Indoor Pollutants. ASHRAE Transactions, Vol. 102, Pt. 1, pp. 193-211.

Arens, E., and A. Baughman. 1996. Indoor Humidity and Human Health — Part II: Buildings and their Systems. ASHRAE Transactions Vol. 102, Pt. 1, pp. 212-221.

1995

Bauman, F. 1995. Proceedings: workshop on task/ambient conditioning systems in commercial buildings, San Francisco, CA, 4-5 May 1995. Center for Environmental Design Research, University of California, Berkeley. October.

Federspiel, C. C. 1995. On-demand control of ventilation systems. Proceedings of the 1995 American Control Conference, pp. 4341-4346.

Finlayson, E.U., D. Arasteh, C. Huizenga, et. al. 1995. Advancements in thermal and optical simulations of fenestration systems: the development of WINDOW 5. Proceedings, Thermal Performance of the Exterior Envelopes of Buildings VI, Clearwater, FL. December.

Finlayson, E.U., D. Arasteh, C. Huizenga, et. al. 1995. THERM 1.0: a PC program for analyzing the thermal performance of fenestration products. Windows and Daylighting Group, LBL Report #37371, Lawrence Berkeley Laboratory, Berkeley, CA. September.

Xu, T., E. Arens, and F. Bauman. 1995. The effects of high-level air humidity on subjective perception of comfort. Proceedings of the 2nd International Symposium on Heating, Ventilation, and Air Conditioning, Beijing, China, Vol. 1, pp.81-91. September.

- Xu, T., and E. Brown. 1995. Estimating loss of spray paint particles onto undesired target by measuring droplet size distribution. Proceedings of the 2nd International Symposium on Heating, Ventilation and Air Conditioning, Beijing, China, Vol 2, pp.453-461. September.
- Bosselmann, P., E. Arens, K. Dunker, and R. Wright. 1995. Urban form and climate: case study, Toronto. *Journal of the American Planning Association*, Vol. 61 No. 2, pp 226-239.
www.escholarship.org/uc/item/5c3460r1 <https://doi.org/10.1080/01944369508975635>
- Arens, E., F. Bauman, A. Baughman, M. Fountain, K. Miura, T. Xu, H. Zhang, and T. Akimoto. 1995. Comfort and health considerations: air movement and humidity constraints, final report: phase II, part I. Center for Environmental Design Research, University of California, Berkeley. July.
- Benton, C., and A. Kwok. 1995. The vital signs project: work in progress. Proceedings of the 20th National Passive Solar Conference, American Solar Energy Society, Boulder, CO, 6 pp. July.
- Huang, Y.J., and H. Zhang. 1995. Analysis of climatic conditions and preliminary assessment of alternative cooling strategies for houses in California transition climate zones. Lawrence Berkeley Laboratory Report LBL36177, 115 pp. July.
- Fountain, M., and C. Huizenga. 1995. A thermal sensation model for use by the engineering profession. *ASHRAE RP-781*, Environmental Analytics, Piedmont, CA. June.
<http://escholarship.org/uc/item/89d5c8k7>
- Bauman, F., C. Huizenga, T. Xu, and T. Akimoto. 1995. Thermal comfort with a variable air volume (VAV) system. Center for Environmental Design Research, University of California, Berkeley. June.
- Arasteh, D., E.U. Finlayson, M. Rubin, J. Sadlier, C. Huizenga, and D. Curcija. 1995. Recent technical improvements to the WINDOW computer program. Proceedings, 1995 Window Innovations Conference, Toronto. June.
- Bauman, F.S., E.A. Arens, S. Tanabe, H. Zhang, and A. Baharloo. 1995. Testing and optimizing the performance of a floor-based task conditioning system. *Energy and Buildings*, Vol. 22, No. 3, pp. 173-186.
- Arens, E., M. Fountain, T. Xu, K. Miura, H. Zhang, and F. Bauman. 1995. A study of occupant cooling by two types of personally controlled air movement. Proceedings, Pan Pacific Symposium on Building and Urban Environmental Conditioning in Asia. Nagoya University, Nagoya, Japan. March.
- Benton, C., and R. Marcial. 1995. On the energy conservation front. *PLACES*, Vol. 9, No. 3, Winter, 2 pp.

1994

- Federspiel, C. C. 1994. First-order models of the gas transport in multi-zone ventilation systems. *Dynamic Systems and Control*, ASME publication no. DSC-Vol. 55-2, Ed. C. J. Radcliffe, pp. 653-661.
- Federspiel, C. C. 1994. Identification and inversion of gas transport processes in buildings. Proceedings of the 1994 American Control Conference, 929-936.
- Federspiel, C. C., and H. Asada. 1994. User-adaptable comfort control for HVAC systems. *Journal of Dynamic Systems, Measurement and Control*, 116(3), 474-486.
- Fountain, M., G. Brager, E. Arens, F. Bauman, and C. Benton. 1994. Comfort control for short-term occupancy. *Energy and Buildings*, Vol. 21, pp. 1-13.
- Bauman, F., E. Arens, M. Fountain, C. Huizenga, K. Miura, T. Xu, T. Akimoto, H. Zhang, D. Faulkner, W. Fisk, and T. Borgers. 1994. Localized thermal distribution for office buildings: final report - phase III. Center for Environmental Design Research, University of California, Berkeley. July.
- Fountain, M., E. Arens, R. de Dear, F. Bauman, and K. Miura. 1994. Locally controlled air movement preferred in warm isothermal environments. *ASHRAE Transactions*, Vol. 100, Pt. 2, 14 pp.
- de Dear, R., and M. Fountain. 1994. Field experiments on occupant comfort and office building thermal environments in a hot-humid climate. *ASHRAE Transactions*, Vol. 100, Pt. 2.
- Benton, C., and A. Kwok. 1994. Field methods for architectural curricula: the vital signs project. Proceedings, 19th National Passive Solar Conference, American Solar Energy Society, Boulder, CO. June.
- Benton, C.C., and G.S. Brager. 1994. Sunset building: final report -- A study of occupant thermal comfort in support of PG&E's advanced customer technology test (ACT2) for maximum energy efficiency. Center for Environmental Design Research, University of California, Berkeley. June.
- Arasteh, D., E.U. Finlayson, and C. Huizenga. 1994. WINDOW 4.1: a PC program for analyzing window thermal performance in accordance with standard NFRC procedures. Windows and Daylighting Group, LBL Report #35298, Lawrence Berkeley Laboratory, Berkeley, CA. March.
- Tanabe, S., E. Arens, F. Bauman, H. Zhang, and T. Madsen. 1994. Evaluating thermal environments by using a thermal manikin with controlled skin surface temperature. *ASHRAE Transactions*, Vol. 100, Pt. 1, pp. 39-48.
- Arens, E.A., and F.S. Bauman. 1994. Improving the performance of task conditioning systems. Proceedings, International Symposium: Issues on Task-Ambient Conditioning. Nagoya University, Nagoya, Japan, pp. 77-94. January.

1993

Asada, H., C.C. Federspiel, and S. Liu. 1993. Human-centered control in robotics and consumer product design. *Journal of Dynamic Systems, Measurement and Control*, 115(2B), 271-280.

Fountain, M.E. 1993. Locally controlled air movement preferred in warm environments. Ph.D. Dissertation, Department of Architecture, University of California, Berkeley. November.

Fountain, M.E., and E.A. Arens. 1993. Air movement and thermal comfort. *ASHRAE Journal*, Vol. 35, No. 8, pp. 26-30. August.

Grimsrud, D., C. Huizenga, M. Colman, et. al. 1993. The use of new lighting techniques in the University of Minnesota building energy efficiency project. Minnesota Building Research Center. June.

Brager, G.S., M.E. Fountain, C.C. Benton, E.A. Arens, and F.S. Bauman. 1993. A comparison of methods for assessing thermal sensation and acceptability in the field. *Proceedings of Thermal Comfort: Past, Present and Future*, ed. Nigel Oseland. British Research Establishment, Watford, United Kingdom. June.

Bauman, F., and M. McClintock. 1993. A study of occupant comfort and workstation performance in PG&E's advanced office systems testbed. Final Report to PG&E Research and Development. Center for Environmental Design Research, University of California, Berkeley, 135 pp. May. www.escholarship.org/uc/item/1hg0b1w7

Bauman, F., H. Zhang, E. Arens, and C. Benton. 1993. Localized comfort control with a desktop task conditioning system: laboratory and field measurements. *ASHRAE Transactions*, Vol. 99, Pt. 2, pp. 733-749.

Bauman, F., T. Borgers, P. LaBerge, and A. Gadgil. 1993. Cold air distribution in office buildings: technology assessment for California. *ASHRAE Transactions*, Vol. 99, Pt. 2, pp. 109-124. Previously published by Center for Environmental Design Research, University of California, Berkeley, 61 pp. June.

Bauman, F., R. Helm, D. Faulkner, E. Arens, and W. Fisk. 1993. Air movement, comfort, and ventilation in partitioned workstations. *ASHRAE Journal*, Vol. 35, No. 3, pp. 42-50. March.

Bauman, F., C. Benton, M. Fountain, and C. Huizenga. 1993. Steelcase integrated comfort study: final report. Center for Environmental Design Research, University of California, Berkeley, 84 pp. January.

1992

Bauman, F., G. Brager, E. Arens, A. Baughman, H. Zhang, D. Faulkner, W. Fisk, D. Sullivan, and T. Borgers. 1992. Localized thermal distribution for office buildings: final report - phase II. Center for Environmental Design Research, University of California, Berkeley, 220 pp. December.

Federspiel, C. C., and H. Asada. 1992. User-adaptable comfort control for HVAC systems. Proceedings of the 1992 American Control Conference, 2312-2319.

Federspiel, C. C., H. Asada, and L. Norford. 1992. A thermal sensation index for real-time tuning and energy-optimal control of thermal sensation. Proceedings of the 8th Symposium on Building System in Hot and Humid Climates, Texas A&M University.

Huizenga, C., M. Colman, and J. Smith. 1992. Evaluation of a major lighting retrofit project. Proceedings, 1992 ACEEE Summer Study on Energy Efficiency in Buildings, Washington, D.C.: American Council for an Energy Efficient Economy, Vol. 3, pp. 147-160.

Brager, G.S. and N. AlSayyad. 1992. Teaching climate-energy consciousness: a collaborative approach in the architecture design studio. Proceedings, of the ASES National Passive Solar Conference, American Solar Energy Society, Vol. 17. June.

Brager, G. 1992. Using laboratory-based models to predict comfort in office buildings. *ASHRAE Journal*, Vol. 34, No. 4, pp. 44-49. April.

Ernest, D.R., F.S. Bauman, and E.A. Arens. 1992. The effects of external wind pressure distributions on wind-induced air motion inside buildings. *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 41-44, pp. 2539-2550. Previously published in Proceedings, Eighth International Conference on Wind Engineering, London, Ontario. July.

Brager, G.S. and F. Rifki. 1992. Tools for teaching climate & energy in the design studio. Proceedings, ACSA Technology Conference, American Collegiate Schools of Architecture, San Diego, CA. February.

Bauman, F.S., D. Faulkner, E.A. Arens, W.J. Fisk, L.P. Johnston, P.J. McNeel, D. Pih, and H. Zhang. 1992. Air movement, ventilation, and comfort in a partitioned office space. *ASHRAE Transactions*, Vol. 98, Pt. 1, 25 pp. Previously published as "Air Movement, Comfort, and Ventilation in Workstations." Center for Environmental Design Research, University of California, 67 pp. April.

1991

Ernest, D.R. 1991. Predicting wind-induced indoor air motion, occupant comfort, and cooling loads in naturally ventilated buildings. Ph.D. Dissertation, Department of Architecture, University of California, Berkeley, 261 pp.

Federspiel, C. C. and H. Asada. 1991. Adaptive control of thermal comfort based on human responses and a model of human thermal sensation. Presented at the 1991 ASME Winter Annual Meeting, also in *Control of Systems with Inexact Dynamic Models*, eds. N. Sadegh and Y.-H. Chen, DSC-Vol. 33, ASME Book No. H00698, 161168.

Heinemeier, K.E., G.S. Brager, C.C. Benton, F.S. Bauman, and E.A. Arens. 1991. Task/ambient conditioning systems in open-plan offices: assessment of a new technology. Center for Environmental Design Research, University of California, 80 pp. September.

Arens, E., F. Bauman, L. Johnston, and H. Zhang. 1991. Testing of localized ventilation systems in a new controlled environment chamber. *Indoor Air*, No. 3, pp. 263-281. Previously published in *Proceedings, 11th AIVC Conference on Ventilation System Performance*, Belgirate, Italy, 18-21. September.

Fisk, W., D. Faulkner, D. Pih, P. McNeel, F. Bauman, and E. Arens. 1991. Indoor air flow and pollutant removal in a room with task ventilation. *Indoor Air*, No. 3, pp. 247-262. Previously published in *Proceedings, 11th AIVC Conference on Ventilation System Performance*, Belgirate, Italy. September.

Brager, G., T. Nero, and C.L. Tien. 1991. Transport and deposition of indoor radon decay products: part 1 - model development and validation. *Atmospheric Environment*, Vol. 25B, No. 3, pp. 343-358.

Brager, G., and K. Revzan. 1991. Transport and deposition of indoor radon decay products: part 2 - influence of environmental conditions. *Atmospheric Environment*, Vol. 25B, No. 3, pp. 359-368.

Benton, C., M. Fountain, S. Selkowitz, and J. Jewell. 1991. Control system performance in a modern daylighted office building. *Proceedings, 22nd Session of the Commission Internationale De L'Eclairage*, Melbourne, Australia. July. Previously published in *Proceedings, VIII International Conference on Illumination*, Varna, Bulgaria. May.

Bauman, F., K. Heinemeier, H. Zhang, A. Sharag-Eldin, E. Arens, W. Fisk, D. Faulkner, D. Pih, P. McNeel, and D. Sullivan. 1991. Localized thermal distribution for office buildings: final report - phase I. Center for Environmental Design Research, University of California, 81 pp. June.

Bauman, F., L. Johnston, H. Zhang, and E. Arens. 1991. Performance testing of a floor-based occupant-controlled office ventilation system. *ASHRAE Transactions*, Vol. 97, Pt. 1, 13 pp.

Fountain, M. 1991. Laboratory studies of the effect of air movement on thermal comfort. *ASHRAE Transactions*, Vol. 97, Pt. 1.

Ernest, D., F. Bauman, and E. Arens. 1991. The prediction of indoor air motion for occupant cooling in naturally ventilated buildings. *ASHRAE Transactions*, Vol. 97, Pt. 1, 14 pp.

1990

- Bosselmann, P., E. Arens, K. Dunker, R. Wright et al. 1990. Sun, wind, and pedestrian comfort: a study of Toronto's central area. Center for Environmental Design Research, University of California, 172 pp. December.
- Benton, C., and M. Fountain. 1990. Successfully daylighting a large commercial building: a case study of lockheed building 157. *Progressive Architecture*. November.
- Benton, C. 1990. Daylighting in the United States - trends in technology and design. Proceedings, Second European Conference on Architecture, Commission of European Communities, Paris, France, 6 pp. September.
- Heinemeier, K., F. Bauman, G. Schiller, C. Benton, and E. Arens. 1990. The implications of task conditioning for comfort and energy. Proceedings, ACEEE 1990 Summer Study on Energy Efficiency in Buildings, Pacific Grove, CA. September.
- Busch, J.F. 1990. From comfort to kilowatts: an integrated assessment of electricity conservation in Thailand's commercial sector. Ph.D. Dissertation, Energy and Resources Group, University of California, Berkeley, 308 pp. August.
- Heinemeier, K.E., G.E. Schiller, and C.C. Benton. 1990. Task conditioning for the workplace: issues and challenges. *ASHRAE Transactions*, Vol. 96, Pt. 2, pp. 678-688.
- Benton, C. 1990. Diminutive design. *Lighting Design + Application*, Vol. 20, No. 5, 10 pp. May.
- Taha, H.G. 1990. An urban micro-climate model for site-specific building energy simulation: boundary layers, urban canyon, and building conditions. Ph.D. Dissertation, Department of Architecture, University of California, Berkeley. April.
- Schiller, G.E. 1990. A comparison of measured and predicted comfort in office buildings. *ASHRAE Transactions*, Vol. 96, Pt. 1, 13 pp.
- Benton, C., F. Bauman, and M. Fountain. 1990. A field measurement system for the study of thermal comfort. *ASHRAE Transactions*, Vol. 96, Pt. 1, 11 pp.
- Busch, J. 1990. Thermal responses to the Thai office environment. *ASHRAE Transactions*, Vol. 96, Pt. 1, pp. 859-872.
- Arens, E. 1990. Hawaiian design: strategies for energy efficient architecture. *Hawaii State Energy Division and the Honolulu Chapter*, American Institute of Architects. E59 pp.

1989

- Arens, E., D. Ballanti, C. Bennett, S. Guldman, and B. White. 1989. Developing the San Francisco wind ordinance and its guidelines for compliance. *Building and Environment*, Vol. 24, No. 4, pp. 297-303.

Arens, E., and P. Bosselmann. 1989. Wind, sun and temperature--predicting the thermal comfort of people in outdoor spaces. *Building and Environment*, Vol. 24, No. 4, pp. 315-320.

Schiller, G., E. Arens, F. Bauman, C. Benton, and M. Fountain. 1989. Comfort control for hotel occupancies. Center for Environmental Design Research. University of California, Berkeley, 131 pp.

Nazaroff, W.W., A.J. Gadgil, and G.E. Schiller. 1989. Deposition of unattached ²¹⁸Po from natural convection enclosure flow: predictions of spatial variability. Proceedings, Annual Meeting of the American Association for Aerosol Research, Reno, Nevada. October.

Benton, C. 1989. Physical models in daylighting education and practice. Proceedings, 1989 Illuminating Engineering Society Annual Conference, New York, 18 pp. August.

Schiller, G., E. Arens, C. Benton, and F. Bauman. 1989. A field study of thermal comfort in office buildings. Proceedings, CLIMA 2000 Second World Congress on Heating, Ventilating, Refrigerating and Air-Conditioning, Sarajevo-Yugoslavia, 14 pp. July. Previously published as "A study of occupant responses to the thermal environments in office buildings." 1988. In *A New Frontier: Environments for Innovation*, Proceedings, International Symposium on Advanced Comfort Systems, Rensselaer Polytechnic Institute, Troy, NY. May.

Benton, C., M. Warren, S. Selkowitz, and J. Jewell. 1989. Lighting system performance in an innovative daylighted structure. Proceedings, 2nd International Daylighting Conference, Long Beach, California, 10 pp. May.

Benton, C. 1989. The Lockheed building 157 monitoring project, phase II: the lighting control system. Final Report to the Pacific Gas and Electric Company, LBL Project No. Z19-5-298-87, 73 pp. April.

Schiller, G., E. Arens, C. Benton, and F. Bauman. 1989. Anche gli utenti hanno diritto alla parola (Occupants take the floor). *I'ARCA*, pp. 58-62. April.

Sharag-Eldin, A.M.K. 1989. Predicting natural ventilation in residential buildings in the context of urban environments. Ph.D. Dissertation, Department of Architecture, University of California, Berkeley, 394 pp. December.

1988

Schiller, G., and E. Arens. 1988. Thermal comfort in office buildings. *ASHRAE Journal*, Vol. 30, No. 10, pp. 26-32. October.

Bosselmann, P., K. Dake, M. Fountain, L. Kraus, K. Lin, and A. Harris. 1988. Sun, wind, & comfort: a field study of thermal comfort in san francisco. Center for Environmental Design Research, University of California, Berkeley. September.

Schiller, G. 1988. A numerical model of indoor radon decay product deposition. Proceedings, International Symposium on Building Systems: Room Air and Air Contaminant Distribution, Urbana, Illinois.

Bauman, F.S., D.R. Ernest, and E.A. Arens. 1988. The effects of surrounding buildings on wind Pressure Distributions and Natural Ventilation in Long Building Rows. *ASHRAE Transactions*, Vol. 94, Pt. 2, 26 pp. Previously published as "ASEAN natural ventilation study: wind pressure distributions on long building rows in urban surroundings." Center for Environmental Design Research, University of California, Berkeley, 65 pp. February.

Schiller, G., E. Arens, F. Bauman, C. Benton, M. Fountain, and T. Doherty. 1988. A field study of thermal environments and comfort in office buildings. *ASHRAE Transactions*, Vol. 94, Pt. 2, 27 pp. <https://escholarship.org/uc/item/4km240x7>

Benton, C., and F. Moore. 1988. A hands-on daylighting workshop for architectural educators and professionals. Proceedings, 13th National Passive Solar Conference, American Solar Energy Society, Boston, Massachusetts, pp. 187-191. June.

Bauman, F., and E. Arens. 1988. The development of a controlled environment chamber for the physical and subjective assessment of human comfort in office environments. *In A New Frontier: Environments for Innovation*, Ed: W. Kroner, Proceedings: International Symposium on Advanced Comfort Systems for the Work Environment, Rensselaer Polytechnic Institute, Troy, NY, pp. 277-284. May. www.escholarship.org/uc/item/0mn5485n

Doherty, T.J., and E.A. Arens. 1988. Evaluation of the physiological bases of thermal comfort models. *ASHRAE Transactions*, Vol. 94, Part 1, 15 pp. <https://escholarship.org/uc/item/6pq3r5pr>

Chang, S., E. Arens, and R. Gonzalez. 1988. Determination of the effect of walking on the forced convective heat transfer coefficient using an articulated mannikin. *ASHRAE Transactions*, Vol. 94, Part 1, pp. 71-81.

Schiller, G., E. Arens, F. Bauman, C. Benton, M. Fountain, T. Doherty, and K. Craik. 1988. A field study of thermal environments and comfort in office buildings: final report, ASHRAE 462-RP. Center for Environmental Design Research, University of California, Berkeley. January.

1987

Fountain, M. 1987. Instrumentation for thermal comfort measurements: The globe thermometer. CBE Internal Report. www.escholarship.org/uc/item/1qx8c7sm

Benton, C., K. Papamichael, D. Arasteh, and S. Selkowitz. 1987. Optical analysis of a tracking skylight: SoLuminaire. Final Report to the Southern California Edison Company, LBL Project K-154-5916, 108 pp. December.

Kim, J.J. 1987. Numerical analysis of daylighting in the urban environment. Ph.D. Dissertation, Department of Architecture, University of California, Berkeley, 134 pp. December.

Benton, C., and F. Moore. 1987. The daylighting network of North America. *Architectural Lighting*, Vol. 1, No. 5, pp. 44-47. May.

Heinemeier, K.E., and H. Akbari. 1987. Capabilities of in-place energy management systems for remote monitoring of building energy performance - case studies. *ASHRAE Transactions*, Vol. 93, Pt. 2, 15 pp.

1986

Benton, C. 1986. Daylighting can improve the quality of light and save energy. *Architectural Lighting*, Vol. 1, No. 1, pp. 46-48. November.

Benton, C. 1986. The daylight model learning curve: a collection of introductory classroom exercises. *Proceedings, 2nd International Daylighting Conference, Long Beach, California*, pp. 364-374. November.

Arens, E., E. Lee, F. Bauman, and L. Flynn. 1986. Development and testing of a program to create hourly site-specific weather data. *Proceedings, 10th CIB Congress, International Council for Building Research, Washington, D.C.*, pp. 2381-2388. September.

Benton, C., M. Warren, S. Selkowitz, et al. 1986. A field evaluation of daylighting system performance. *Proceedings, 10th CIB Congress, International Council for Building Research, Washington, D.C.*, pp. 3114-3121. September.

Warren, M., C. Benton, S. Selkowitz et al. 1986. Evaluation of integrated lighting system performance in a large daylighted office building. *Proceedings of the Energy Efficiency in Buildings Conference, American Council for an Energy-Efficient Economy, Santa Cruz, California*, 14 pp. August.

Arens, E., and N. Watanabe. 1986. A method for designing naturally cooled buildings using bin climate data. *ASHRAE Transactions*, Vol. 92, Pt. 2, 14 pp.

Arens, E., and N. Watanabe, et. al. 1986. Natural ventilative cooling of buildings. *Department of the Navy Design Manual 11.02, Naval Facilities Engineering Command*, 146 pp. December.
www.escholarship.org/uc/item/36d7p202

Benton, C., B. Erwine, M. Warren, and S. Selkowitz. 1986. Field measurements of light shelf performance in a major office installation. *Proceedings of the 11th National Passive Solar Conference, American Solar Energy Society, Boulder, Colorado*, pp. 290-295. June.

Arens, E., and J. Peterka. 1986. Controlling the wind climate around buildings. *Civil Engineering Practice*, Vol 1, No. 1, 13 pp. March.

Ubbelohde, S., C. Benton and J. McBride. 1986. Experiencing daylight. *Proceedings of the Annual Conference, American Collegiate Schools of Architecture, New Orleans, Louisiana*, 10 pp. March.

Warren, M., C. Benton, S. Selkowitz et al. 1986. Field monitoring of office building energy consumption. Final Report to the Pacific Gas and Electric Company, LBL Project No. BG 83-42, 187 pp. February.

Arens, E., L. Berglund, and R. Gonzalez. 1986. Thermal comfort under an extended range of environmental conditions. *ASHRAE Transactions*, Vol. 92, Pt. 1, 8 pp.

1985

Arens, E., E. Lee, F. Bauman, and L. Flynn. 1985. SITECLIMATE: A program to create hourly site-specific weather data. Proceedings, ASHRAE/DOE/BTECC Conference on Thermal Performance of the Exterior Envelopes of Buildings III, Clearwater Beach, FL, pp. 91-108. December.

Barnaby, C.S, A. Gumerlock, C. Huizenga, R. Mitchell, and B.A. Wilcox. 1985. The effects of thermal mass exterior walls on heating and cooling loads in commercial buildings. Proceedings, ASHRAE/DOE/BTECC Conference on Thermal Performance of the Exterior Envelopes of Buildings III, Clearwater Beach, FL, pp. 1187-1224. December.

Benton, C. 1985. Experiential exercises for environmental control system courses. Proceedings of the 10th National Passive Solar Conference, American Solar Energy Society, Raleigh, North Carolina, pp. 188-193. October.

Benton, C. 1985. Daylighting applications in the United States. Proceedings of the NSF/INCERC Joint Romania USA Seminar on Energy Use in Buildings, Bucharest, Romania. September.

Warren, M., C. Benton., S. Selkowitz et al. 1985. Instrumentation for evaluating integrated lighting system performance. Proceedings of the Field Data Acquisition for Building and Equipment Energy-Use Monitoring Workshop, U.S. Department of Energy, Dallas, Texas, pp. 110-119. September.

1984

Bosselmann, P., and E. Arens et al. 1984. Sun, wind and comfort: a study of open spaces and sidewalks in four downtown areas. Institute of Urban and Regional Development, University of California, Berkeley, 146 pp. December.

Arens, E., and R. Pollock. 1984. Boundary layer wind tunnels: a unique tool for planning and design. *AEP Journal*, Vol. 10, No. 1, pp. 1-8.

Schiller, G.E. 1984. A theoretical convective-transport model of indoor radon decay products. Ph.D. Dissertation, Mechanical Engineering Department, University of California, Berkeley, 142 pp. July.

Arens, E., A. Blyholder, and G. Schiller. 1984. Predicting thermal comfort of people in naturally ventilated buildings. *ASHRAE Transactions*, Vol. 90, Pt. 1, 12 pp.

<https://escholarship.org/uc/item/0p71h11p>

Schiller, G., T. Nero, K. Revzan, and C.L. Tien. 1984. Radon decay-product behavior indoors: numerical modeling of convection effects. Proceedings, Air Pollution Control Association Annual Meeting, San Francisco, California. January.

1983

Arens, E., et al. 1983. Bioclimatic chart. *Progressive Architecture*, p. 133. April.

Bauman, F., A. Gadgil, R. Kammerud, E. Altmayer, and M. Nansteel. 1983. Convective heat transfer in buildings: recent research results. *ASHRAE Transactions*, Vol. 89, Pt. 1A, pp. 215-233; also Lawrence Berkeley Laboratory Report No. 13883, 34 pp.

Bauman, F., B. Andersson, W.L. Carroll, R. Kammerud, and N. Friedman. 1983. Verification of BLAST by comparison with measurements of a solar dominated test cell and a thermally massive building. *Journal of Solar Energy Engineering*, Vol. 105, pp. 207-216.

1982

Arens, E. 1982. On considering pedestrian winds during building design. In *Wind Tunnel Modeling for Civil Engineering Application: Proceedings of the International Workshop on Wind Tunnel Modeling Criteria and Techniques in Civil Engineering Applications*. Gaithersburg, MD. Ed. T. Reinhold, Cambridge, England: Cambridge Univ. Press, pp. 8-26. April.

1981

Arens, E. 1981. Designing for an acceptable wind environment. *Transportation Engineering Journal*, ASCE, Vol 107, No. TE 2, Proc. Paper 16132, pp. 127-141. March.

Nall, D., E. Arens and L. Flynn. 1981. Abbreviation of climate data for building thermal analysis programs using representative samples of various lengths. *ASHRAE Transactions*, Vol. 1, 1981, pp. 923-934.

1980

Arens, E., R. Gonzalez, L. Berglund, P. McNall, and L. Zeren. 1980. A new bioclimatic chart for passive solar design. Proceedings, 5th National Passive Solar Conference, Amherst, MA, pp. 1202-1207. October.

Arens, E., L. Flynn, D. Nall, and K. Ruberg. 1980. Geographic extrapolation of typical hourly weather data for energy calculation in buildings. NBS Building Science Series 126, National Bureau of Standards, August, 124pp. Library of Congress Catalog Card Number: 80-600059