SUMMARY OF PERSONAL RECORD

Stefano Schiavon, PhD

Current Position

Professor of Architecture
Professor of Civil and Environmental Engineering
Associate Director, Center for Environmental Design Research
University of California, Berkeley, USA

Education

PhD Building Science-Energy Engineering (2009) at University of Padua, Italy
MSc Mechanical Engineering summa cum laude (2005) at University of Padua, Italy
Visiting student at Technical University of Denmark and Tsinghua University, China

Principal Field of Interests

Architectural Engineering/Building Science. Indoor Environment Quality; Mechanical/HVAC Systems; Sustainable Architecture; Building Energy Efficiency; Thermal Comfort; Wellbeing; Post-Occupancy Evaluation; Indoor Air Quality;

Major Honors and Awards

2021 WELL community award
3 Building and Environment 2018 Best Paper Award
Best Paper Award PLEA 2018
Faculty Award for Excellence in Postdoctoral Mentoring 2017
Ralph G. Nevins Physiology and Human Environment Award 2013
REHVA young scientist award 2010

Employment History

Assistant professor at Polytechnic University of Turin, Italy
Postdoctoral scholar and assistant professional researcher at University of California, Berkeley

Publications Google Scholar citations: 6139; H-index: 43

Peer-reviewed papers in international journals: 92
Books or books chapters: 2
Peer-reviewed papers in conference proceedings: 76
Editorials: 2
Reports: 23
Software programs published: 5
Media: 19
Wikipedia: 144 edited pages, 424 live edits

Invited lectures/Keynotes/Seminars 73

Postdoctoral Scholar 14

Patent application 1

Grants $11,435,250

RESUME OF STEFANO SCHIAVON

Contact info

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Education

2006-2009	PhD in Energy Engineering (Building Science). University of Padua, Italy. *Title:* Energy savings with personalized ventilation and cooling fans. *Supervisors*: Roberto Zecchin (University of Padua); Arsen Melikov (Technical University of Demark); Xianting Li (Tsinghua University)
1999-2005	MSc in Mechanical Engineering (5-year program). University of Padua, Italy. 110/110 summa cum laude

Visiting Scholar

12/'15- 06/'16	Guest Faculty. Earnest Orlando Lawrence Berkeley National Laboratory. Building Technologies and Urban Systems / Energy Technologies Area
05-08/'14 07-08/'15 05-07/'16 05-06/'17 07-08/'18 07/19-20 05-06/'22	Visiting Scholar at Singapore Berkeley Building Efficiency and Sustainability in the Tropics (SinBerBEST). In collaboration with Nanyang Technological University (NTU) and the National University of Singapore (NUS)
10/'07- 06/'08	Guest PhD student at the International Centre for Indoor Environment and Energy-DTU, Denmark. Supervisor A. Melikov.
02/'06- 01/'07	Guest PhD student at the Department of Building Science, School of Architecture, Tsinghua University (清华大学), Beijing. China. Supervisor Xianting Li.
06/'04- 06/'05	Guest MS student International Centre for Indoor Environment and Energy-DTU, Denmark with the EU program Erasmus. Supervisor Bjarne W. Olesen and A. Melikov. Master thesis on displacement ventilation.

Specific Field of Interests

Sustainable Building Design; Building Energy Efficiency; Indoor Environment Quality; Wellbeing; Thermal Comfort; Indoor Air Quality; Mechanical Systems; Post-Occupancy Evaluation; Energy Simulation.

Employment History

Employer	*Position*	*Beginning*	*Ending*
University of California, Berkeley	Professor of Architecture and Professor of Civil and Environmental Engineering	07/2022	Present
University of California, Berkeley	Associate Professor of Civil and Environmental Engineering	07/2020	06/2022
University of California, Berkeley	Associate Professor of Architecture	07/2017	06/2022

University of California, Berkeley	Assistant Professor of Architecture	07/2011	06/2017
Polytechnic University of Turin	Assistant Professor	12/2010	6/2011
University of California, Berkeley	Assistant Pro. Researcher	05/2010	04/2011
University of California, Berkeley	Postdoctoral Scholar	01/2009	05/2010

Short term consultancy

1. Google. December 2015. REWS/Aclima science advisory Panel. Assessment of Aclima sensor network for Google.

RESEARCH

Publications

Peer-review Papers in International Journals

92. Dong B et al (57 authors). 2022. A global building occupant behavior database. Scientific Data 9 (1): 369. Open access https://doi.org/10.1038/s41597-022-01475-3 - data available at https://doi.org/10.6084/m9.figshare.16920118.v6 and https://ashraeobdatabase.com
91. Cheung T, Graham LT, and Schiavon S. 2022. Impacts of life satisfaction, job satisfaction and the Big Five personality traits on satisfaction with the indoor environment. Building and Environment, 108783. https://doi.org/10.1016/j.buildenv.2022.108783 - data available at https://doi.org/10.6078/D1R99M https://escholarship.org/uc/item/84r525hj
90. Nazarian N, Krayenhoff S, Bechtel B, Hondula D, Paolini R, Vanos J, Cheung T, Chow W, de Dear R, Jay O, Lee JKW, Martilli A, Middel A, Norford L, Sadeghi M, Santamouris S, Schiavon S. Integrated assessment of urban overheating impacts on human life. Accepted.
89. Parkinson T, Schiavon S, de Dear R, and Brager G. 2021. Overcooling of offices reveals gender inequity in thermal comfort. Scientific Reports 11 (1): 1–7. Open access https://doi.org/10.1038/s41598-021-03121-1
88. Dawe M, Karmann C, Schiavon S, and Bauman F. 2021. Field evaluation of thermal and acoustical comfort in eight North-American buildings using embedded radiant systems. PLOS ONE 16 (10): e0258888. Open access https://doi.org/10.1371/journal.pone.0258888
87. Tartarini F, Schiavon S, Jay O, Arens E, and Huizenga C. 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 207, 108437. Open access. https://doi.org/10.1016/j.buildenv.2021.108437
86. Kent M, Parkinson T, Kim J, Schiavon S. 2021. A data-driven analysis of occupant workspace dissatisfaction. Building and Environment 205: 108270. https://doi.org/10.1016/j.buildenv.2021.108270 https://escholarship.org/uc/item/9r901701
85. Porras-Salazar JA, Schiavon S, Wargocki P, Cheung T, and Tham KW. 2021. Meta-analysis of 35 studies examining the effect of indoor temperature on office work performance. Building and Environment 203: 108037. Open access. https://doi.org/10.1016/j.buildenv.2021.108037
84. Graham LT, Parkinson T, Schiavon S. 2021. Lessons learned from 20 years of CBE's occupant surveys. Buildings and Cities 2(1): 166–84. Open access. https://doi.org/10.5334/bc.76
83. Tran PTM, Adam MG, Tham KW, Schiavon S, Pantelic J, Linden P, Sofianopoulou E, Sekhar C, Cheong DKW, Balasubramanian R. 2021. Assessment and mitigation of personal exposure to particulate air pollution in cities: An exploratory study. Sustainable Cities and Society 72: 103052. https://doi.org/10.1016/j.scs.2021.103052 https://escholarship.org/uc/item/3tm9n180
82. Mishra AK, Schiavon S, Wargocki P, and Tham KW. 2021. Respiratory performance of humans exposed to moderate levels of carbon dioxide. Indoor Air, ina.12823. https://doi.org/10.1111/ina.12823 https://escholarship.org/uc/item/8qj5v8d1

81. Gall E, Mishra A, Li J, Schiavon S, Laguerre A. 2021. Impact of cognitive tasks on CO_2 and isoprene emissions from humans. Environmental Science & Technology, 55 (1), 139-148. https://doi.org/10.1021/acs.est.0c03850 https://pdxscholar.library.pdx.edu/mengin_fac/324/ data available at https://doi.org/10.5061/dryad.gb5mkkwmk
80. Cheung T, Schiavon S, Graham LY, Tham KW. 2020. Occupant satisfaction with the indoor environment in seven commercial buildings in Singapore. Building and Environment, 107443. https://doi.org/10.1016/j.buildenv.2020.107443 https://escholarship.org/uc/item/43k2z2zx
79. Tartarini F, Schiavon S. 2020. pythermalcomfort: A Python package for thermal comfort research. SoftwareX 12:100578. Open access. https://doi.org/10.1016/j.softx.2020.100578
78. Lassen N, Goia F, Schiavon S, and Pantelic J. 2020. Field investigations of a smiley-face polling station for recording occupant satisfaction with indoor climate. Building and Environment 185, 107266. Open access. https://doi.org/10.1016/j.buildenv.2020.107266
77. Kent M, Cheung T, Li J, Schiavon S. 2020. Experimental evaluation of visual flicker caused by ceiling fans. Building and Environment 182: 107060. https://doi.org/10.1016/j.buildenv.2020.107060 https://escholarship.org/uc/item/3wj1f6xj
76. Kent M, Schiavon S. 2020. Evaluation of the effect of landscape distance seen in window views on visual satisfaction. Building and Environment 183: 107160. https://doi.org/10.1016/j.buildenv.2020.107160 https://escholarship.org/uc/item/6gd9t8pj
75. Li P, Parkinson T, Schiavon S, Froese TM, de Dear R, Rysanek A, Staub-French S. 2020. Improved long-term thermal comfort indices for continuous monitoring. Energy and Buildings 224: 110270. https://doi.org/10.1016/j.enbuild.2020.110270 https://escholarship.org/uc/item/9h55w20w
74. Tartarini F, Schiavon S, Cheung T, Hoyt T. 2020. CBE Thermal Comfort Tool: Online tool for thermal comfort calculations and visualizations. SoftwareX 12:100563. Open access. https://doi.org/10.1016/j.softx.2020.100563
73. Liu S, Wang Z, Schiavon S, He YD, Luo MH, Zhang H, and Arens E. 2020. Predicted percentage dissatisfied with vertical temperature gradient. Energy and Buildings 220: 110085. https://doi.org/10.1016/j.enbuild.2020.110085
72. Altomonte S, Allen J, Bluyssen P, Brager G, Heschong L, Loder A, Schiavon S, Veitch J, Wang L, and Wargocki P. 2020. Ten questions concerning well-being in the built environment. Building and Environment 180: 106949. Open access. https://doi.org/10.1016/j.buildenv.2020.106949
71. Li J, Wan MP, Schiavon S, Tham KW, Zuraimi S, Xiong J, Fang M, Gall E. 2020. Size-resolved dynamics of indoor and outdoor fluorescent biological aerosol particles in a bedroom: A one-month case study in Singapore. Indoor Air 30(5), 942-954. https://doi.org/10.1111/ina.12678
70. Ko WH, Schiavon S, Zhang H, Graham L, Brager G, Mauss I, Lin YW. 2020. The impact of a view from a window on thermal comfort, emotion, and cognitive performance. Building and Environment 175: 106779. https://doi.org/10.1016/j.buildenv.2020.106779 https://escholarship.org/uc/item/09b861jb
69. Schweiker M, André A, Al-Atrash F, Al-Khatri H, Alprianti RR, Alsaad H, Amin R, 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. Open access. https://doi.org/10.1016/j.enbuild.2020.109761

68. Kent M, Schiavon S, Jakubiec A. 2020. A dimensionality reduction method to select the most representative daylight illuminance distributions. Building Performance Simulation 13 (1): 122-135.
https://doi.org/10.1080/19401493.2019.1711456
https://escholarship.org/uc/item/04x6v86j

67. Dawe M, Raftery P, Woolley J, Schiavon S, Bauman F. 2019. Comparison of mean radiant and air temperatures in mechanically-conditioned commercial buildings from over 200000 field and laboratory measurements. Energy and Buildings 206. 109582
https://doi.org/10.1016/j.enbuild.2019.109582
https://escholarship.org/uc/item/2sn4v9xr

66. 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. Open access.
https://doi.org/10.1038/s41597-019-0272-6

65. Pantelic J, Liu S, Pistore L, Licina D, Vannucci M, Sadrizadeh S, Ghahramani A, Gilligan B, Sternberg E, Kampschroer K, Schiavon S. 2019. Personal CO_2 cloud: Laboratory measurements of metabolic CO_2 inhalation zone concentration and dispersion in a typical office desk setting. Journal of Exposure Science & Environmental Epidemiology, 1–10. Open access.
https://doi.org/10.1038/s41370-019-0179-5

64. Liu S, Schiavon S, Das HP, Jin M, and Spanos CJ. 2019. Personal thermal comfort models with wearable sensors. Building and Environment 162: 106281.
https://doi.org/10.1016/j.buildenv.2019.106281
https://escholarship.org/uc/item/3fb0p5gk

63. Yang B, Melikov A, Kabanshi A, Zhang C, Bauman F, Cao G, Awbi H, Wigö H, Niu JL, Cheong D, Tham KW, Sandberg M, Nielsen P, Kosonen R, Yao R, Kato S, Sekhar C, Schiavon S, Karimipanah T, Li X, Lin JZ. 2019. A review of advanced air distribution methods - theory, practice, limitations and solutions. Energy and Buildings 202. 109359
https://doi.org/10.1016/j.enbuild.2019.109359
https://escholarship.org/uc/item/85x6r3wv

62. Pei G , Rim D, Schiavon S, Vannucci M. 2019. Effect of sensor position on the performance of CO2–based demand-controlled ventilation. Energy and Buildings 202, 109358.
https://doi.org/10.1016/j.enbuild.2019.109358
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https://doi.org/10.1016/j.buildenv.2019.03.040
https://escholarship.org/uc/item/4p479663

60. Soebarto V, Zhang H, Schiavon S. 2019. A thermal comfort environmental chamber study of older and younger people. Building and Environment 155, 1-14.
https://doi.org/10.1016/j.buildenv.2019.03.032
https://escholarship.org/uc/item/00h9x985

59. Li P, Parkinson T, Brager G, Schiavon S, Cheung T, Froese T. 2019. A data-driven approach to defining acceptable temperature ranges in building. Building and Environment 153, 302-312.
https://doi.org/10.1016/j.buildenv.2019.02.020
https://escholarship.org/uc/item/4qm4c7bk

58. Cheung T, Schiavon S, Parkinson T, Li P, Brager G. 2019. Analysis of the accuracy on PMV – PPD model using the ASHRAE Global Thermal Comfort Database II. Building and Environment 153, 205-217.

https://doi.org/10.1016/j.buildenv.2019.01.055
https://escholarship.org/uc/item/2kd0135t

57. Kent MG, Cheung T, Altomonte S, Schiavon S, Lipcznska A. 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. Open access.
https://doi.org/10.1016/j.buildenv.2018.10.005 data available at https://doi.org/10.6078/D14Q14
56. Ko WH, Schiavon S, Brager G, Levitt B. 2018. Ventilation, thermal and luminous autonomy metrics for an integrated design process. Building and Environment 145, 153-165.
https://doi.org/10.1016/j.buildenv.2018.08.038
https://escholarship.org/uc/item/81t2t9vd
55. Jia R, Jin B, Jin M, Zhou Y, Konstantakopoulos IC, Zou H, Kim J, Li D, Gu W, Arghandeh R, Nuzzo P, Schiavon S, Sangiovanni-Vincentelli AL, Spanos JC. Design Automation for Smart Building Systems. Proceedings of the IEEE 6 (9), 1680-1699
https://doi.org/10.1109/JPROC.2018.2856932
https://escholarship.org/uc/item/54r6027g
54. Woolley J, Schiavon S, Bauman F, Raftery P, Pantelic J. 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.
https://doi.org/10.1016/j.enbuild.2018.06.018
https://escholarship.org/uc/item/65w8v0rt
53. Földváry V, Cheung T, Zhang H, de Dear R, Parkinson T, Arens E, Chun C, Schiavon S, Luo M, Brager G, Li P, Kaam S et al. 2018. Development of the ASHRAE Global Thermal Comfort Database II. Building and Environment 142, 502-512. Building and Environment 2018 Best Paper Award
https://doi.org/10.1016/j.buildenv.2018.06.022 data available at https://doi.org/10.6078/D1F671
https://escholarship.org/uc/item/0dh6c67d
52. Liu S, Lipczynska A, Schiavon S, Arens E. 2018. Detailed experimental investigation of air speed field induced by ceiling fans. Building and Environment 142, 342-360.
https://doi.org/10.1016/j.buildenv.2018.06.037 - data available at https://doi.org/10.6078/D1V67R
https://escholarship.org/uc/item/2mk3n264
51. Tang H, Raftery P, Liu X, Schiavon S, Woolley J, Bauman FS. 2018. Performance analysis of pulsed flow control method for radiant slab system. Building and Environment 127, 107-119.
https://doi.org/10.1016/j.buildenv.2017.11.004
https://escholarship.org/uc/item/31s4x6jr
50. Lipczynska A, Schiavon S, Graham L. 2018. Thermal comfort and self-reported productivity in an office with ceiling fans in the tropics. Building and Environment 135, 202-212.
https://doi.org/10.1016/j.buildenv.2018.03.013
https://escholarship.org/uc/item/80b3458w
49. Pantelic J, Schiavon S, Ning B, Burdakis E, Raftery P, Bauman F. 2018. Full scale laboratory experiment on the cooling capacity of a radiant floor system. Energy and Buildings 170, 134-144.
https://doi.org/10.1016/j.enbuild.2018.03.002
http://escholarship.org/uc/item/77w894k2
48. Liu S, Yin L, Schiavon S, Ho WK, Ling KV. 2018. Coordinate control of air movement for optimal thermal comfort. Science and Technology for the Built Environment.
https://doi.org/10.1080/23744731.2018.1452508
www.escholarship.org/uc/item/0m91d1t2
47. Kim J, Schiavon S, Brager G. 2018. Personal comfort models – A new paradigm in thermal comfort for occupant-centric environmental control. Building and Environment 129, 96-106.

https://doi.org/10.1016/j.buildenv.2018.01.023
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46. Kim J, Zhou Y, Schiavon S, Raftery P, Brager G. 2018. Personal comfort models: Predicting individuals' thermal preference using occupant heating and cooling behavior and machine learning. Building and Environment 129, 96-106. Building and Environment 2018 Best Paper Award
https://doi.org/10.1016/j.buildenv.2017.12.011
https://escholarship.org/uc/item/54n6b7m3

45. Jin M, Liu S, Schiavon S, Spanos C. 2018. Automated mobile sensing: Towards high-granularity agile indoor environmental quality monitoring. Building and Environment 127, 268-276. Building and Environment 2018 Best Paper Award
https://doi.org/10.1016/j.buildenv.2017.11.003
https://escholarship.org/uc/item/1kj1v33r

44. Sekhar C, Anand P, Schiavon S, Tham KW, Cheong D, Saber E. 2018. Adaptable cooling coil performance during part loads in the tropics—A computational evaluation. Energy and Buildings 159, 148-163.
https://doi.org/10.1016/j.enbuild.2017.10.086
https://escholarship.org/uc/item/176977qw

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https://doi.org/10.1016/j.buildenv.2017.10.024
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https://doi.org/10.1016/j.enbuild.2017.10.046
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http://dx.doi.org/10.1002/ente.201700564

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http://escholarship.org/uc/item/8r07k5g3

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9. Webster T, Bauman F, Schiavon S, Dickerhoff D, Heinzerling D. August 2011. Technical report of California State Teachers Retirement System Building: UFAD Performance and Blinds Study. Report for the Center for the Built Environment, University of California, Berkeley, CA. http://escholarship.org/uc/item/7hc7h08r

8. Bauman F, Webster T, Dickerhoff D, Schiavon S, Feng D, Basu C. October 2011. Case study report: David Brower Center. Report for the Center for the Built Environment, University of California, Berkeley, CA, April, pp 8. http://www.cbe.berkeley.edu/research/pdf_files/Bauman2011-Brower-interim-report.pdf

7. Bauman F, Webster T, Lehrer D, Arens E, Zhang H, Goins J, Dickerhoff D, Schiavon S, Hoffmann S, Tiefeng Yu, Fannon D, Perepelitza M, and Zelenay K. Feb 2011. Advanced Integrated Systems Tools Development and Performance Testing. UC Office of the President/CIEE Contract Number: 500-99-013. Work Authorization Number: BOA-99-225-P. pp 24. http://uc-ciee.org/downloads/BOA-99-225-P_FinalReport_02-16-11.pdf

6. Goins J, Adams M, Alminana J, Bauman F, Dickerhoff D, Molly J, Mc Daniels S, Mendel C, Morris P, Schiavon S, Webster T. April 2011. Kresge Foundation Complex: Post-Occupancy Evaluation. Final Report, pp 187. http://escholarship.org/uc/item/30h937bh

5. Schiavon S, Bauman F, Lee KH, and Webster T. July 2010. Development of a simplified cooling load design tool for underfloor air distribution systems. Final Report to CEC PIER Program, pp 20. CEC Contract No. 500-06-049. http://escholarship.org/uc/item/70f4n03z

4. Schiavon S, and Bauman F. 2010. Heat transfer analysis of radiant roof panel system. Report for Integrated Structures, Inc., pp 5.

3. Webster T, Bauman F, Lee K, Schiavon S, and Daly A. 2009. CBE UFAD simulations toolkit part I - User Guide. Report for the Center for the Built Environment, University of California, Berkeley, CA, October, pp 16.

2. Schiavon S, and Bauman F. 2009. Cooling Airflow Design Tool for Displacement Ventilation (DV). User Notes for the Center for the Built Environment, University of California, Berkeley, CA, June, pp 69. http://escholarship.org/uc/item/7k1796zv

1. Linden P, Yu JK, Webster T, Bauman F, Lee KH, Schiavon S, and Daly A. 2009. Simulation of Energy Performance of Underfloor Air Distribution (UFAD) Systems. Building Energy Research Grant (BERG), pp 46.
www.escholarship.org/uc/item/7gr8r3d3

Book's contributions

4. Contributor to UFAD O&M Guide. A Practical Guide for Operation and Maintenance of Underfloor Air Distribution Systems. I drafted most of chapter 1. ASHRAE, Atlanta, GA.
3. Commenting on: Devlieger L (Rotor). 2014. Behind the green door. A critical look at sustainable architecture through 600 objects. Oslo Architecture Triennale.
2. Translation from English to Italian: Nielsen PV, Allard F, Awbi HB, Davidson L, Schälin A. 2007. Computational Fluid Dynamics in Ventilation Design. REHVA Guidebook no 10. 2007 (Translation for AICARR).
1. Translation from English to Italian: Wargocki P, Seppänen O, Andersson J, Boerstra A, Clements-Croome D, Fitzner K, Olaf Hanssen S. 2006. Indoor Climate and Productivity in Offices. How to integrate productivity in life-cycle cost analysis of building services. REHVA Guidebook no 6. (Translation for AICARR).

Editorials

2. Ko WH, Schiavon S et al. (55 authors). Window view quality: Why it matters and what we should do. *LEUKOS* 18, no. 3 (July 3, 2022): 259–67. https://doi.org/10.1080/15502724.2022.2055428.
1. Schiavon S. 2014. Adventitious ventilation: A new definition for an old mode? Indoor Air 24, 557-558. (Editorial)
http://dx.doi.org/10.1111/ina.12155

Media

19. Newsweek. Office aircon is sexist to women, study finds. December 2021.
18. Lianhe Zaobao (largest Singaporean Chinese-language newspaper). HDB will enhance ventilation for its shopping malls and office buildings. June 2021.
17. Popular Science. Why your office is so cold, and how to deal with it. May 2018.
16. Associated Press. Take this job and shiver it: Chilly offices plague workers. Jan 2018. News picked up also by USA Today, Telemundo,
15. UC Berkeley News. Turning up the thermostat in tropics shows promise for energy and comfort. Dec 2016. News picked up also by Xinhua, Technology.org, China.org.cn, MyScience, ScienceDaily.
14. ASHRAE News. Online Thermal Comfort Compliance Tool Included In New ASHRAE User's Manual. Oct 2016.
13. The Atlantic. In cold offices, it's all about your feet. Sept 2016.
12. PM. Radiant cooling schooling. April 2016.
11. EI at Haas blog. Are we over-air conditioned?. September 2015
10. Forbes. Boosting Performance Through Thoughtful Workplace Design. July 2015
9. Modulo 394. Scenari Sostenibili. Emanuele Nabboni. May 2015
ISSN 0390 – 1025. Page: 120-124.

8. Occupant satisfaction in LEED and non-LEED buildings. Archdaily.com. BuildingGreen.com. CasaClima. Workplace Insight. Journal of Commerce. Daily Commercial News. Quality Digest. Environmental Leader. May-June 2-14.
7. Architectural Record. Performance anxiety. December 2013. http://archrecord.construction.com/tech/techFeatures/2013/1312-performance-anxiety.asp
6. Il Venerdì. La Repubblica. 1 Nov 2013. Chi scalda la sedia salva l'ambiente. Beautiful mind. N 1337 page 68-69. http://periodici.repubblica.it/venerdi/
5. Science for Environment Policy. 17 Oct 2013. Indoor environmental quality of LEED-certified buildings evaluated. European Commission DG Environment News Alert Service. http://ec.europa.eu/environment/integration/research/newsalert/pdf/346na5.pdf
4. CubeSensor. 8 Jul 2013. The environment can boost your workplace happiness. http://blog.cubesensors.com/2013/07/the-environment-can-boost-your-workplace-happiness/
3. Modulo. 15 Jan 2013. False myths about sustainable architecture. Interview about post occupancy evaluation by associate professor Emanuele Naboni (Royal Danish Academy).
2. Boston Globe. 28 Feb 2010. A room temperature of one's own. http://www.boston.com/bostonglobe/ideas/articles/2010/02/28/a_room_temperature_of_ones_own/
1. New Scientist. 02 Dec 2009. Climate control for your desk. www.newscientist.com/article/mg20427375.300-climate-control-for-your-desk.html

Wikipedia

Since November 2007 I personally edited 144 (58) pages (total live edits: 424 (101))

Hereafter a chronological list of the main pages that my students and I updated or created: Underfloor air distribution (created); Mean radiant temperature; Cool roof; Blower door; Plug load (created); Natural ventilation; Dedicated outdoor air systems (created); Radiant cooling (created); Displacement ventilation (created); Dry-bulb air temperature; Thermal comfort; Clothing insulation; Operative temperature; Vapor Barrier; LEED; Radiant heating and cooling system (created); Passive cooling; Thermal manikin (created) Exploratorium; Evaporative Cooling in Buildings (created); ASHRAE 55 (created); David Brower Center; Headquarter of David and Lucile Packard Foundation (created); Thermal Bridge; New York Times Building; Red List building materials; Ralph G. Nevins (created); Cooling load (created); Passive cooling; Solar access; Daylighting; Lighting; Thermal bridge; Evidence based design; Airflow; Primary energy; Building energy simulation; Immersion; Solar gain (update and merge); Community resilience; Building Science; Alliesthesia; BIM; Healthy building; Building Automation; Takt Time; Generative design; Low-carbon economy; Biomimetic Architecture; ASHRAE 90.1.

Software

5. CBE Thermal Comfort Tool. Version 2.1.7. April 2021. The design tool is freely available at: comfort.cbe.berkeley.edu. First version April 2013. Beta version October 2011. From July 2017 to May 2021 the tool has been used by 180k unique users with ~5k unique user per month.
4. CBE Rad Tool. Version 1. Jan 2019. The design tool is freely available at: http://radiant.cbe.berkeley.edu/
3. UFAD Cooling Airflow Design Tool. Version 2. 07/03/2014. The design tool is freely available at: https://centerforthebuiltenvironment.github.io/ufad_design_tool/. UFAD Cooling Airflow Design Tool. Version 1. 06/10/2010.

2. CBE UFAD Simulation Toolkit. Excel interface for EnergyPlus 3.1 in order to simulate an UFAD system. 2010. The design tool is not anymore maintained and available to the public.

1. Cooling Airflow Design Tool for Displacement Ventilation (DV). Excel 2007/VBA version of the ASHRAE method (Chen and Glicksman 2003) for calculating the amount of design cooling airflow required for a displacement ventilation (DV) system. 2010. The design tool is not anymore maintained and available to the public.

Invention disclosure

2. Calibrated Thermal Comfort Control for a System of Fans. Stefano Schiavon – 40% (UCB), Weng Khuen Ho – 30% (NUS), Keck Voon Ling – 20% (NTU), Le Yin – 5% (NTU), Shuo Liu – 5% (NUS). Based on NRF CREATE program SinBerBEST $55,625,000 2012-2017. July 2015. TD/198/15. BK-2016-007. This is now a provisional patent (filed 03/11/2016). US provisional application number 62/307,223.

1. Optimized Air Movement Control based on Occupants Feedback. Weng Khuen Ho – 30% (NUS), Stefano Schiavon – 30% (UCB), Keck Voon Ling – 20% (NTU), Le Yin – 10% (NTU), Shuo Liu – 10% (NUS). Based on NRF CREATE program SinBerBEST $55,625,000 2012-2017. June 2015. TD/174/15. BK-2015-203

Patent application

1. Stefano Schiavon – 40% (UCB), Weng Khuen Ho – 30% (NUS), Keck Voon Ling – 20% (NTU), Shuo Liu – 5% (NUS), Le Yin – 5% (NTU). Method of controlling a plurality of fans disposed in an area to provide thermal comfort control. World Intellectual Property Organization WO 2017/155472 A1, issued September 14, 2017. PCT Application NO: PCT/SG2017/050119.

Grants from external agencies

Role, Status, Agency, Start date and End date and Title	***Total (k$)***
Co-PI. Not funded. 2021 CITRIS Core Seed Funding. Fine-Grained Carbon Footprint Modeling of Building Energy Consumption for Decarbonization.	(60)
PI. Current. 1/1/2022-12/31/2022 CITRIS Core Seed Funding. Clearing the air: using smart thermostats to improve wildfire resiliency in Californian homes.	50
Co-PI. Not Funded. C3.ai Digital Transformation Institute. Resilient Buildings: optimization of building ventilation during wildfires and pandemics using artificial intelligence.	(233)
Co-PI. Past. BOSCH. 12/2019-4/2021. Study of the impact of VRF delivery air temperature and movement in an occupied space under controlled chamber conditions. (SGD 50k)	37.1
Collaborator. Past. 10/2020-01/2021. Central Gap Fund (Covid-19 Challenge): Coupling UVC lamps and occupancy sensing for extensive disinfection in built-environment. Singapore National Research Foundation. (SGD 49.6k)	36.8
Co-PI. Current. Shanken. 7/2017-5/2022. Field study for radiant installation in BCA ZEB^{PLUS}.	88
PI and Theme Leader. Current. 9/2017-9/2022. SinBerBEST. Singapore Berkeley Building Efficiency and Sustainability in the Tropics. ~$170k/year for 5 years to be used in Berkeley. ~880k/year for 5 years for Theme A to be used in Singapore.	5250
PI. Past. Siebel Energy Institute. 5/2017-11/2017. Incorporating Real-time Thermal Comfort and Indoor Occupancy into Building Management Systems	50
PI. Past. Lawrence Berkeley National Laboratory. 5/2015 – 9/2015. Fabrication of Thermal Manikins for Testing in LBNL's FLEXLAB	20.3

Co-PI. Past. Electric Program Investment Charge. 07/2015-06/2018. Approved on 11/19/2014. Optimizing Radiant Systems for Energy Efficiency and Comfort	2,939.964
PI. Past. BEARS. 09/2014-03/2018. $425,000. SinBerBEST. Singapore Berkeley Building Efficiency and Sustainability in the Tropics	425
PI. Past. BEARS. 10/2014-10/2015. Building performance modeling of SinBerBEST energy saving strategies	85
PI. Past, Berkeley Educational Alliance for Research in Singapore (BEARS)/SinBerBEST project. 2014	38.7
Energy Efficient Fan in Warm Indoor Environment--A Human Response Study in the Tropics	
PI. Not funded, ASHRAE American Society of Heating, Refrig and Air Cond. 03/2014-02/2016. New Investigator Award	(65)
Co-PI. Past, California Energy Commission, PIER. 06/2012-01/2015. PON 12-503	1,629.4 Pier
Changing the rules: Innovative low-energy occupant-responsive HVAC controls and systems	192.5 CBE
PI. Not funded. U. S. Green Building Council. IEQ Strategies and Occupant Satisfaction: understanding what works.	(245.7)
Co-PI. Past. California Energy Commission, PIER. 06/2012-01/2015	300
Space conditioning in near zero-net-energy (ZNE) buildings.	
Co-PI. Not funded. NSF National Science Foundation. 07/2012-06/2016. SEP: Smart People, Products and Building on the Smart Grid	(1,993)

Gift

Agency, Start date and End date (if any) and Title	***Total (k$)***
SANKEN. 05/2022. Gift given to me to support research on radiant systems	140
View Inc. 05/2021. Gift given to CBE (I am the lead contact) to support research on window view quality.	77
SANKEN. 05/2020. Gift given to me to support research on radiant systems	140
Aeratron. 9/2017. Donation of 23 Ceiling Fan to the SinBerBEST project	19
Dyson. 05/2017. Donation of 75 Bladeless Fan to the SinBerBEST project.	22
Price Industries. 02/2014. Gift given to Ed Arens to support research on HVAC. Paul Raftery, Fred Bauman, and I worked on this gift.	15

TEACHING

Teaching Record

Arch 140 - Energy and Environment: S22, S21, S19, S18, S17, S15, S14, S13, S12

Arch 246 - Building Energy Simulations: F21, F18, F16, S14, S13

Arch 241 - Research Methods in Building Science: F20, F18, F17, F15, F13, F11

Arch 298 - Faculty Research Colloquium: S18, F16

Arch 249/ER 290 - Assessing Building Energy Use and IEQ: F15, F14, F13

Arch 249 - Integrated Mechanical Design for Zero Energy Buildings: F14

Arch 249 - Climate and Energy Analysis for Bay Area buildings: S12

Arch 298 - Cooling: mechanical systems in commercial buildings: F10

Arch 249 - Using R for building science (IOR): S22

PhD mentoring internal (Student. Title of the dissertation. Role. First work after graduation. Date)

Chai Um. Main supervisor.

Ruijin Sun. Main supervisor.

Arfa Aijazi. Secondary supervisor.

Won Hee Ko. View and environmental quality in buildings. Main supervisor. Served in the Qualification exam (13/03/2019). Assistant Professor at NJIT. 08/2021

Jonathan Woolley. A multi-method investigation into design and control of radiant cooling and heating systems. Main supervisor. Served in the Qualification exam (12/05/2017). 06/2020

Carlos Roa Duarte. Design and control of high thermal mass radiant systems. Main supervisor. Served in the Qualification exam (12/11/2017). Postdoc at UC Berkeley. 07/2020

Joyce Kim. Advancing comfort technology and analytics to personalize thermal experience in the built environment. Served as Chair of the Qualification exam (3/14/2016). Assistant Professor at the University of Waterloo. 04/2018

Caroline Karmann. Thermal comfort and acoustic quality in buildings using radiant systems. Arup and Postdoc at EPFL. Main supervisor. Served in the Qualification exam (2/6/2015). 06/2017

Jingjuan Dove Feng. Design and control of hydronic radiant cooling systems. Chair. LBNL/ Taylor Engineering. 05/2014

PhD mentoring external

Neal Jackson. Served in the Qualification exam (07/15/2021). EECS

Gabe Fierro. Self-Adapting Software for Cyberphysical Systems. Dissertation committee member. EECS. 05/2021

Hari Prasanna Das. Served in the Qualification exam (04/02/2021). EECS

Ioanna Kavvada. Served in the Qualification exam (12/14/2020). CEE

Fiona Greer. Life-cycle environmental and economic management of airport infrastructure and operation. Served in the Qualification exam (11/23/2020) and in the dissertation committee. Postdoc at UC Berkeley. 12/2021 CEE

Matias Alberto Quintana Rosales. Served in the Qualification exam (06/22/2020) and external supervisor. National University of Singapore

Daniela Maria Martinez Lopez. Served in the Qualification exam (2/4/2019). CEE

Baihong Jin. Incipient anomaly detection with ensemble learning. Served in the Qualification exam (5/2/2018) and in the dissertation committee. Postdoc at UC Berkeley EECS. 08/2020

Antony Kim. Served as Chair of the Qualification exam (12/4/2017). Arch

Ioannis Konstantakopoulos. Statistical learning towards gamification in human-centric cyber-physical systems. Served in the Qualification exam (10/13/2016) and in the dissertation committee. EECS. Amazon. 12/2018

Olga Kavvada. Spatial modeling of decentralized wastewater infrastructure: The case for water reuse and nitrogen recovery. Served in the Qualification exam (04/29/2016) external advisor. CEE. 11/2017

Ming Jin. Data-efficient analytics for optimal human-cyber-physical systems. Served in the Qualification exam (4/29/2016). EECS. 12/2017. Postdoc at UC Berkeley.

Imran Sheikh. Served in the Qualification exam (S/2016). ERG

Alex Mead. Hardware-in-the-loop modeling and simulation methods for daylight systems in buildings. Served in the Qualification exam (12/07/2015) and external advisor. CEE. 05/2017

Aashish Ahuja. Simulation of innovative solutions for energy efficient building façades. Served as external dissertation committee member (12/2015) and external advisor. ME

Eric Burger. Served in the Qualification exam (11/20/2015), external dissertation committee member and external advisor. CEE.

Yuxun Zhou. Statistical learning for sparse sensing and agile operation. Served in the Qualification exam (5/5/2015), external dissertation committee member and external advisor. EECS. 05/2017

Matthew Vannucci. Human-centric Indoor Air Quality. Served in the Qualification exam (2/6/2015), external dissertation committee member and external supervisor. CEE. 06/2018

Zhaoyi Kang. Efficient multi-level modeling and monitoring of end-use energy profile in commercial buildings. Served in the Qualification exam (03/01/2013), external dissertation committee member and external advisor. EECS. 06/2015

Monika Frontczak. Human comfort and self-estimated performance in relation to indoor environment parameters and building features. Main supervisor Pawel Wargocki. Civil Engineer at Asplan Viak. Norway. 11/2011

MS mentoring

Emily Lamon. Boiler retrofits and decarbonization in existing buildings: HVAC designer interviews. Tangible Materials. 03/2022.

Emily Miller. The effect of control and optionality on occupant satisfaction in shared living environments. Arup. 06/2022.

Jing Yuan. A review of multisensory studies in built environment: Implications for biophilic design studies. Johnsons & Johnsons. 12/2021.

Isabelle Hens. Life cycle impacts of timber unitized curtain wall. Atelier Ten. 12/2021

Hari Prasanna Das. Graphical Lasso based Cluster Analysis in Energy-Game Theoretic Frameworks. 09/2021.

Yuming Xu. Capturing energy savings from correcting VAV box minimums on campus. Mayers+ Engineers. 05/2021

Dana Miller. Cooling energy savings and occupant comfort in a two year field study of automated ceiling fans installed as retrofits in 7 air conditioned buildings. EnelX. 05/2020

Benjamin Taube. Energy and comfort performance assessment for a new occupancy sensing thermostat in residential buildings. Navigant. 05/2020

Megan Dawe. Field evaluation of occupant satisfaction and energy performance in eight LEED-certified buildings using radiant systems. Carbon Lighthouse. 06/2019

Sebastian Cohn. Development of a Personal Heater Efficiency Index. Association for Energy Affordability. 09/2017

Jared Landsman. Performance, prediction and optimization of night ventilation across different climates. Integral Group. 06/2016

Priya Ghandi. Commercial office plug load energy consumption trends and the role of occupant behavior. WSP Flack + Kurtz. 06/2015

Kristine Walker. Indoor environment quality in green-rated buildings: Understanding the people and conditions affecting performance. Chair. PG&E. 06/2015

Bin Chen. Assessment and improvements of the CBE Underfloor Air Distribution (UFAD) Cooling Load Design Tool. Chair. WSP Flack + Kurtz. 06/2014

David Heinzerling. Commercial building indoor environmental quality evaluation: Methods and tools. Chair. Taylor Engineering. 12/2012

Alberto Piccioli. Thermal comfort visualizations on a web-based tool for ASHRAE 55 Standard. MS UCL (London). 3/26/2013

Gwen Fuertes. Simulated and actual energy use: The role of plug loads. Chair. MS. 05/2014. Leddy Maytum Stacy Architects

Brennan Less. Indoor air quality in 24 California residences designed as high performance green homes. LBNL. 12/2012

Chandrayee Basu. Critical simulation based evaluation of thermally activated building systems (TABS) design models. UC Berkeley. 12/2012

Christian Ampò. Fan pressurization tests (blower door) in residential building in Italy. HVAC/AHU sale manager at FAIT Aeraulica, Italy. 04/2009

Clara Peretti. Evaluation of Indoor Environment Quality with a Web-based Occupant Satisfaction Survey: a Case Study in Northern Italy. PhD at Padua University. 12/2009

Other mentoring

Ciera Gordon. March thesis. Embedded architecture. 1-6/2022

Hannah Wong. Undergraduate (math major). Thermal comfort tool. 2-8/2016

Feifei Cao. MArch. Oblique Explorations. Urban infrastructural hybrid. 1-5/2013

Elizabeth Kee. March. I guided her on the sustainable and indoor air quality design of a tuberculosis clinic and lab for the Karen department of Health and Welfare in a refugee camp. 05/2012-13

Shiyang Chen. Undergraduate. Thermal comfort tool graphical visualization. 7/2011-1/2012

Visiting Scholar

JaeHan Lim. Ewha Womans University.1/2022-2/2023

Kwow Wai Tham. National University of Singapore. 5-6/2019
Kwow Wai Tham and Chandra Sekhar. National University of Singapore. 5-6/2018
Veronica Soebarto. The University of Adelaide. 8/2017-1/2018
Sergio Altomonte. University of Nottingham. 8/2012-2/2013 and 7-9/2016 and 4-5/2017

Visiting Students

Federico Dallo (Venice U). Haida Tang (Tsinghua U), Baisong Ning (Hunan U), Eleftherios Bourdakis (DTU), Alan Kabanshi (Galve U), Yongmei Xuan (Zhejiang U), Monika Frontczak (DTU), Alberto Piccioli (Bologna U).

Postdoctoral Students

16. Federico Dallo. PhD University of Ca'Foscari Venezia. Main Supervisor. 02/2022-now
15. Zhibin Wu. PhD Hunan University. Main Supervisor. 08/2020-08/2021. Postdoc at Karlsruhe Institute of Technology (KIT)
14. Jose Ali Porras Salazar. PhD at University of BioBio. Main Supervisor. 09/2019-12/21. Assistant Professor at Univeristy of Costa Rica.
13. Federico Tartarini. PhD at University of Wollongong. Main Supervisor. 06/2019-now
12. Thomas Parkinson. PhD at University of Sydney. Main Supervisor 05/2018-05/2019. Professional researcher at UC Berkeley.
11. Baisong Ning. PhD at Hunan University. Main Supervisor. 06/2018-05/2020. Assistant Professor at Zhengzhou University.
10. Michael Kent. PhD at University of Nottingham. Main Supervisor. 09/2018-now
9. Jiayu Li. PhD at Tianjin University. 08/2018-now.
8. Asit Mishra. PhD at Indian Institute of Technology Kharagpur. Main Supervisor 05/2018-12/2020. Postdoc at National University of Ireland.
7. Liu Shuo. PhD at National University of Singapore. Main Supervisor 10/2016-09/2017. Huawei
6. Aleksandra Lipczyńska. PhD at Silesian University of Technology, Poland and Technical University of Denmark. Main supervisor 1/2016-12/2018. Assistant Professor at Silesian University of Technology.
5. Dexiang Zhou. PhD at Nanyang Technological University. Main supervisor. 01/2016-04/2017
4. Chin To (Toby) Cheung. PhD at Honk Kong Polytechnic University. Main supervisor. 10/2015-12/2021. Researchers at National University of Singapore.
3. Shichao Liu. PhD at University of Texas Austin. Main supervisor. 01/2015-12/2017. Assistant Professor at Worcester Polytechnic Institute (WPI)
2. Donghyun Rim. PhD at University of Texas Austin. Co-supervisor with Bill Nazaroff. I supervise roughly 20% of his research time.01/2013-06/2014. Assistant Professor at The Pennsylvania State University
1. Bin Yang. PhD at Technical University of Denmark, National University of Singapore. Co-supervisors with Bill Nazaroff. I supervise roughly 50% of his research time. 03/2013-06/2014. Assistant Professor at Umeå University.

Professional researcher

Thomas Parkinson. PhD at University of Sydney. 5/2019-now

Jovan Pantelic. PhD at National University of Singapore. 1/2016-12/2020

External PhD examiner

Maíra André. University of Santa Catarina, Brazil. Qualify exam committee member on 07/2021.

Haein Cho. University of Geneva. 11/2020

Roshanak Ashrafi. UNC Charlotte. PhD committee member since 07/2019. Qualify exam committee member on 04/2021.

Panu Mustakallio. Aalto University. 10/2017

Shan Xin. Nanyang Technological University. 11/2017

Fan Zhang. The University of Sydney. 05/2016

Jungsoo Kim. The University of Sydney. 09/2013

Faculty review examiner

Tenure review, anonymous, external member, 12/2021

Tenure review, anonymous, external member, 07/2021

SERVICE

Conference activities

Healthy Buildings 2023 Asia and Pacific Rim international conference Tianjin, China. International Scientific Committee Advisory, Reviewer. 07/2022-07/2023.

CATE 22. Comfort At The Extremes. Edinburgh, UK. International Scientific Committee Advisory, Reviewer. 05/2022-010/2022.

17th International Conference of the International Society of Indoor Air Quality & Climate (IA2022), Kuopio, Finland. International Scientific Committee Advisory, Reviewer. 01/2022-06/2022

Co-organized and moderate the first Symposium on Research and Design Practice Related to Window Views. 10/2021. Online.

COBEE 2022. 5th International Conference on Building Energy and Environment. Committee Advisory and reviewer. Montreal, Canada. 08/2021-07/2022.

HB2021. Healthy Buildings 2021 Europe. Committee Advisory and reviewer. Oslo, Norway. 09/2020-07/2021.

ISHVAC2021. 12th International Symposium on Heating, Ventilation and Air-conditioning. Oslo, Seoul, Korea. 12/2020-11/2021.

SimAUD 2020. Symposium on Simulation for Architecture and Urban Design. International Scientific Committee Advisory and reviewer. Vienna, Austria. 02/2020-05/2020

11th Windsor Conference. Windsor, UK. International Scientific Committee Advisory, reviewer. 8/2019-04/2020.

16th International Conference of the International Society of Indoor Air Quality & Climate (IA2020), Seoul, Korea. International Scientific Committee Advisory, Reviewer. 08/2019-07/2020

10th International Conference on Indoor Air Quality, Ventilation and Energy Conservation in Buildings (IAQVEC 2019), Bari, Italy. International Scientific Committee Advisory, Reviewer. 09/2018-09/2019

SimAUD 2019. Symposium on Simulation for Architecture and Urban Design. International Scientific Committee Advisory and reviewer. Atlanta, Georgia. 09/2018-04/2019

Building Simulation 2019. Rome, Italy. Reviewer. 07/2018-09/2019.

Indoor Air 2018. Philadelphia, Pennsylvania. International Scientific Committee Advisory and reviewer. 01/2018-07/2018

SimAUD 2018 Conference. Delft, Netherlands. International Scientific Committee Advisory, reviewer 11/2017-06/2018

10th Windsor Conference. Windsor, UK. International Scientific Committee Advisory, reviewer. 8/2017-04/2018. Chaired a workshop on Personal Comfort Models.

Co-organized with Susan Ubbelohde and Christoph Reinhart DIVA DAY 2017 in Berkeley. 10/27/2017

International Roomvent and Ventilation 2018 Conferences. Espoo. Finland. http://www.roomventilation2018.org International Scientific Committee Advisory, reviewer. 02/2017-06/2018

International Building Physics Conference. Syracuse, NY, USA. International Scientific Committee Advisory, reviewer. 02/2017-09/2018

Healthy Buildings Europe. Lublin, Poland. International Scientific Committee Advisory, reviewer. 10/2016-07/2017

9th Windsor Conference. Windsor, UK. International Scientific Committee Advisory, reviewer. 8/2015-04/2016

9th International Conference on Indoor Air Quality, Ventilation and Energy Conservation in Buildings (IAQVEC 2016), Seoul (Songdo), Korea. International Scientific Committee Advisory, Reviewer. 07/2015-10/2016

14th International Conference on Indoor Air Quality and Climate 2016. Ghent, Belgium. International Scientific Committee Advisory, reviewer, Chair. 06/2015-07/2016

Healthy Building America 2015. Boulder, Colorado, US. http://hb2015-america.org International Scientific Committee Advisory, reviewer. 12/2014-06/2015

9th International Symposium on Heating, Ventilation and Air Conditioning (ISHVAC) and the 3rd International Conference on Building Energy and Environment (COBEE). 07/12-15/2015. Tianjin, China. International Scientific Committee Advisory, reviewer. 10/2015-07/2015

13th International Conference on Indoor Air Quality and Climate 2014. Hong Kong. International Scientific Committee Advisory, reviewer, Chair. 5/2013-08/2014

After 3.11: New Architecture + Engineering. Berkeley, US. Panelist. 2-3/2014

International Conference Counting the Cost of Comfort in a Changing World 2014. Windsor, UK. International Scientific Committee Advisory, reviewer. 8/2013-05/2014

International Conference RoomVent 2014. San Paulo, Brazil. International Scientific Committee Advisory, reviewer. 8/2013-10/2014

ASHRAE Indoor Air Quality 2013. Environmental health in low energy buildings. Vancouver, British Columbia, Canada. Reviewer. 5-10/2013

International Conference CLIMA 2013, Prague, Czech Republic. Section chair, reviewer. 8/2012-06/2013

2nd International Conference on Building Energy and Environment 2012, Boulder, Colorado, US. International Scientific Committee Advisory. 9/2011-08/2012

12th International Conference on Indoor Air Quality and Climate 2011, Austin, Texas, US. Conference attendance, oral presentation. 06/2011

IAQVEC 2010, Syracuse, New York, US. Chair, reviewer, oral presentation. 01-08/2010

SimBuild 2010 Building Simulation, New York, US. Reviewer. 01-08/2010

29th International AIVC Conference (Advanced building ventilation and environmental technology for addressing climate change issues), Kyoto, Japan. Poster presentation. 10/2008

11th International Conference on Indoor Air Quality and Climate, Copenhagen, Denmark. www.indoorair2008.org. Conference attendance, oral presentation. 08/2008

46th International Conference AICARR-Expocomfort, Milan, Italy. Conference attendance, oral presentation. 03/2008

10th International Conference on Air Distribution in Rooms, Roomvent 2007, Helsinki, Finland. Conference attendance, oral presentation. 06/2007

Peer Reviewer *(chronological order with date of first review in parenthesis)*
Rapid Reviews: COVID-19 (09/20). Nature Energy (04/17). Building Research & Information (08/14). Indoor and Built Environment (06/14). Indoor Air (12/12). Advances in Building Energy Research (11/12).

Architectural Science Review (09/2011). Energy and Buildings (02/10). HVAC&R Research (08/09). Environmental Engineering Proceedings (06/09). Building and Environment (06/09). ASHRAE Journal (03/09); ASHRAE Transactions (03/09)

Professional activities

Association - role	***Begin***	***End***
I was offered to be in the Editorial Board of Buildings & Cities but I declined	11/2021	ongoing
US TAG ISO/TC 163. Voting Member	09/2021	ongoing
I was offered to be in the Editorial Board of Buildings but I declined.	04/2021	04/2021
I was offered to be in the Editorial Board of Scientific Reports (part of Nature Portfolio of journals) but I declined.	04/2021	04/2021
I was offered to be in the Editorial Board of Technology | Architecture + Design [TAD] but I declined.	2/2021	2/2021
I was offered to become an Editor of Building and Environment but I declined.	11/2020	11/2020
Member of the Editorial Board of the journal of Building and Environment	11/2020	ongoing
Member of the Environmental Health Advisors Board at View	12/2019	ongoing
Member of the Editorial Board of the journal of Energy and Buildings	10/2019	ongoing
Reviewer for grants at UNC Charlotte.	03/2019	04/2019
Reviewer for the Office of Research Administration at New York University Abu Dhabi	03/2018	03/2019
Advisor for the International WELL Building Institute - WELL Air & Thermal Comfort	06/2018	ongoing
Reviewer for WELL v2 standard	03/2018	05/2018
Member of the Editorial Board of the journal of Advances in Building Energy Research (Taylor & Francis)	02/2018	ongoing
Reviewer for the Research Grants Council (RGC) of Hong Kong	03/2015	ongoing
ASHRAE TC 6.5 Radiant Heating and Cooling– non voting member. http://sspc55.ashraepcs.org/	01/2015	ongoing
U.S. Green Building Council LEED Technical Advisory Group on Indoor Environmental Quality. Voting member	07/2014	07/2015
ASHRAE SPC 216 Methods of test for determining application data of overhead circulator fans. Voting member. We develop a standard from zero. The new standard was published in 2020.	03/2014	01/2021
Reviewer of the book: "Behind the green door: A critical look at sustainable architecture through 600 objects" by Rotor.	03/2014	03/2014
Alembic Goods. Advisory Board member	07/2013	01/2019

Cariplo Foundation (one of the European largest grant-making foundation). Advisor Board for the peer-reviewing of research projects www.fondazionecariplo.it	05/2013	05/2015
Offered Vice-Chair ASHRAE TC 2.1 "Physiology and Human Environment".	01/2013	01/2013
ASHRAE TRG7 Underfloor Air Distribution (UFAD) - corresponding Member. http://trg79-ufad.ashraetcs.org/	01/2011	01/2013
ASHRAE SSPC 55 Thermal environment conditions for human occupancy– non voting member. http://sspc55.ashraepcs.org/	06/2011	ongoing
ASHRAE TC 2.1 Physiology and human environment – corresponding member. http://tc21.ashraetcs.org/	01/2011	ongoing

Professional Memberships

ASHRAE: American Society of Heating, Refrigerating and Air-Conditioning Engineers, Associate 2008-18; Member since 2018
IBPSA US: International Building Performance Simulation Association – US chapter, since 2009-2017
SBSE: Society of Building Science Educators, since 2011-13
BPSA IT: International Building Performance Simulation Association – IT chapter, 2011-13
AICARR: Associazione Italiana Condizionamento dell'Aria Riscaldamento Refrigerazione, 2005-11
BTES: Building Technology Educators Society, 2011-14

Honors and Awards

Date	Honors and awards received by me for research achievements
11/2021	2021 WELL community award by International WELL Building Institute for my WELL Advisor work to transform buildings, organizations and communities around the world to prioritize health, in particular in the aspect concerning thermal comfort.
1/2019	Three out of three 2018 Best Paper Awards given by Building and Environment. Building and Environment journal received more than 3000 submissions in 2018, out of which 640 were published, and only three were selected for the award award, which is given in recognition of the papers' originality, contributions to the field, quality of presentation, and soundness of the science. For the three papers see reference above. Kim et al (2018); Földváry et al (2018) and Jin et al (2018).
12/2018	Best paper award at PLEA 2018. 34th International Conference on Passive and Low Energy Architecture, 10-12 Dec 2018, Hong Kong for the paper: "Karmann C, Schiavon S, Graham LT, Raftery P, Bauman F. 2018. Occupant satisfaction in 60 radiant and all-air buildings: Comparing thermal comfort and acoustical quality."
09/2017	Faculty Award for Excellence in Postdoctoral Mentoring given by The Berkeley Postdoctoral Association. "this award shows that you are going above and beyond your academic responsibilities by fostering your postdocs' professional and scientific development. We received great nominations this year and it was extremely challenging to decide… your nomination stood out and you deserved to win."
02/2013	Ralph G. Nevins Physiology and Human Environment Award 2013 by the American Society of Heating, Refrigeration and Air Conditioning Engineers (www.ashrae.org). The Ralph G. Nevins Physiology and Human Environment Award is given once each year to a young researcher who has distinguished himself in human's response to the environment, which may include thermal, moisture, visual, acoustical, toxic, allergic, olfactory, vibrational, and microbiological effects on man's health, comfort, and well being.

06/2010 REHVA young scientist award. The award is given for outstanding research work of a young researchers (less than 35 years old) on subjects covered by the fields of the European Federation of Heating Ventilation and Air Conditioning Associations (REHVA) competence. REHVA represent more than 100 000 engineers from 28 European countries.

10/2008 Best poster award at the 29th International AIVC Conference (Advanced building ventilation and environmental technology for addressing climate change issues), Kyoto, Japan.

Public lectures and presentations

73. Keynote lecture. "Providing thermal comfort with air movement". Roomvent 2022 www.roomvent2022.com. Xi'An, China. 10/16-19/2022
72. Keynote lecture. "Cooling people with air movement, a sustainable and affordable alternative to AC". CATE22 www.comfortattheextremes.com. Edinburgh, UK. 10/5-6/2022
71. University of Toronto Dept of Civil & Mineral Engineering Distinguished Lecture Speaker. I was invited and I accepted to give a lecture in the Fall 2021. I did not include this in this current review.
70. Keynote lecture. "How to Improve Well-being and Reduce the Environmental Impact of Buildings". C3.ai DTI Digital Transformation of the Built Environment. 10/26-28/2021
69. "Effect of Carbon Dioxide on Occupant Cognitive Performance and Physiological Parameters" NASA IEQ committee. 04/07/2021
68. "Future cooling, less AC and more air movement". Past, Present and Future of Binnenmilieu. 03/18/2020
67. "How to design and operate buildings to be resilient to pandemics". Ministry of National Development (MND) of Singapore webinar on: "Beyond COVID19 : Rethinking Planning/ Design/ Construction/ Maintenance". 08/19/2020
66. "The future of cooling". CREATE Symposium on Climate Change. Singapore. 12/6/2019
65. "Move the air, don't cool it - Electric fans as alternative or augmentation to air conditioning for mitigation and adaptation to climate change". ICPA 2019. The 14th International Congress of Physiological Anthropology. Singapore. 10/24-27/2019
64. "First move the air, then cool it". International Built Environment Week at BCA Academy. Singapore. 09/02/2019
63. "Elevated air speed overview". SinBerBEST symposium. Singapore. 08/05/2019
62. "The accuracy of the PMV/PPD model and on what to do in simulations". IBPSA-USA SFBA chapter. San Francisco, US. 5/28/2019
61. Keynote lecture. "The Future of Thermal Comfort in a Warming Climate". SimAUD 2019. Atlanta, US. 04/8/2019
60. "Personalized Comfort Modeling for Occupant-centric Environmental Control". Presentation at the 2019 ASHRAE Winter Conference. Atlanta, US. 1/13/2019
59. "Energy efficient building technologies". CED Executive Education program "Thinking outside the walls: innovative strategies for affordable & sustainable housing". Berkeley, CA 03/23/2018.
58. "Personal thermal comfort models based on physiological parameters measured by wearable sensors". Windsor Conference, Windsor, UK. 04/12-15/2018.
57. "Personalize Comfort: Incorporating Real-time Thermal Comfort and Indoor Occupancy into Building Management Systems". Siebel Energy Institute Workshop "Digital Transformation: Smart Energy Systems and Beyond" in Turin, Italy. 2/15/2018
56. "Center for the Built Environment Overview". DIVA Day. Berkeley, CA. 10/28/2017
55. "Personalized comfort". AtelierTen. San Francisco, CA. 7/25/2018
54. "Increased air movement for thermal comfort and energy savings" WOHA, Singapore. 06/27/2017
53. "Quantified-self thermal comfort". Quantified Self Show&Tell. Berkeley, CA. 1/26/2017
52. "Building energy simulations" Energy policy and simulation in Northern California and Japan. Berkeley, CA. 11/10/2016

51. “Cooling load for radiant systems” IBPSA SF. Berkeley, CA. 10/26/2016
50. “Personalized comfort” MIT Building Technology Lecture Series. Massachusetts Institute of Technology. Cambridge, MA. 10/17/2016.
49. “Real-time personal continuous monitoring of air temperature, relative humidity, carbon dioxide, and thermal and perceived air quality acceptability in Singapore” and “Dynamic clothing model”. Windsor Conference, Windsor, UK. 04/7-10/2016
48. “Annex 69 Subtask A: Collecting field data and modeling occupant adaptation”. Presented for Ed Arens. University College of London. Annex 69 Workshop “Strategy and practice of adaptive thermal comfort in low energy buildings”. London, UK. 04/06/2016
47. “CBE research program overview”. Presentation at Nottingham University, Department of Architecture and Build Environment. Nottingham, UK. 04/05/2016.
46. “Thermal comfort and indoor air quality: CBE and SinBerBEST perspectives”. Lecture at University of Padua. Padua, Italy. 03/30/2016.
45. “CBE research program overview”. Presentation at Lawrence Berkeley National Laboratory. Berkeley, California. 03/15/2016
44. “Healthy Buildings”. Lecture at University of Oregon, Department of Architecture, Arch 491/591 ECS, Professor Alison Kwok. Eugene, Oregon. 03/01/2016.
43. “Indoor Environmental Quality and Cognitive Performance when Personally Controlled Air Movement is Used by Tropically Acclimatized Persons” and “Energy assessment of SinBerBEST Technologies: Final results”. SinBerBEST Annual Meeting. Singapore. 01/12-13/2016
42. “Whole building energy modeling of SinBerBEST technologies: Baseline model and examples of energy saving solutions” SinBerBEST Midreview. Singapore. 08/03/2015
41. “A classification scheme for radiant systems based on thermal time constant”, “Effect of air temperature and personally controlled air movement on thermal comfort for tropically acclimatized persons”, “Do radiant systems provide better thermal comfort than all-air systems? A short critical literature review” International Conference COBEE 2015. Tianjin, China. 07/12-15/2015
40. “Dynamic clothing model & CBE Thermal Comfort Tool” COBEE 2015 Workshop. Tianjin, China. 07/14/2015
39. “Cooling load differences between radiant and air systems” COBEE 2015 Workshop. Tianjin, China. 07/15/2015
38. “Indoor environmental quality and energy efficiency. Technical University of Crete. Chania, Greece. 06/18/2015
37. “Building occupant satisfaction in office buildings”. NIOSH 1st International Symposium to Advance Total Worker Health, Bethesda, US. 09/7/2014
36. “Indoor environmental quality and energy efficiency: How to achieve both.” Workshop of Building Efficiency (Peder Sather Center Grant). Berkeley, US. 9/15/2014
35. “Stratification prediction model for perimeter zone UFAD diffusers based on laboratory testing with solar simulator”, “A comparison between two underfloor air distribution (UFAD) design”, and “Sensation of draft at ankles for displacement ventilation and underfloor air distribution systems”. International Conference Indoor Air 2014, Hong Kong. 07/8-11/2014
34. “Underfloor air distribution: An overview”. International Conference Indoor Air 2014, Hong Kong. July 8.
33. “UFAD Cooling Load Design Tool”. Stefano Schiavon. ASHRAE Winter meeting. New York. 01/21/2014.
32. “Unveiling the Built Environment: Energy Efficiency and Indoor Environmental Quality”. SinBerBEST Annual Meeting. Singapore. 01/08/2014
31. “Occupant satisfaction and indoor environmental quality: What matters, LEED rating, and clothing behaviour”. CERC-BEE Forum on Human Behavior and Integrated Design for High Performance Buildings, LBNL, Berkeley. 07/18/2013

29. “Temperature Stratification in a High Cooling Load Office with a Combined Chilled Ceiling and Displacement Ventilation System”. 11th International Conference CLIMA 2013, Prague, Czech Republic. 06/17/2013
28. “Thermal comfort and air change effectiveness in a combined chilled ceiling and displacement ventilation system”. With Fred Bauman and Julian Rimmer. Golden Gate ASHRAE, Oakland, CA. 02/21/2013.
26. “Design Zone Cooling Loads for Radiant Systems”. Fred S. Bauman, Jingjuan Feng and Stefano Schiavon. ASHRAE Winter meeting. Dallas, TX. 01/28/2013.
25. “Climate analysis for sustainable building design”. MUD course. Berkeley, US. 10/26/2012
24. “Introduction to the use of citations and RefWorks”. Brown Bag Lunch, Berkeley, US. 09/04/2012
23. “Room Air Stratification and Ventilation Performance In Combined Chilled Ceiling and Thermal Displacement Ventilation Systems”. ASHRAE Annual meeting, San Antonio, US. 06/04/2012
21. “UFAD cooling load design calculations”. Optimizing energy and comfort performance of Underfloor Air Distribution Systems: Guidelines, tools, and lessons from a decade of research and practice. PG&E Pacific Energy Center, San Francisco, US. 04/18/2012
20. “Predictive clothing insulation model based on outdoor air and indoor operative temperatures”. 7th Windsor Conference: The changing context of comfort in an unpredictable world Cumberland Lodge, Windsor, UK. 04/14/2012
19. “Underfloor air distribution and personal environmental control systems”. LoCal meeting. Berkeley, US. 09/30/2011.
18. “Ventilation effectiveness in combined chilled ceiling and displacement ventilation systems”. Indoor Air conference 2011, Austin, US. 06/05/2011.
17. “UFAD cooling airflow design tool”, MIT, US. 02/10/2011.
16. “UFAD overview and cooling airflow design tool” and "Unveiling the built environment", Graduate School of Design, Harvard University, US. 02/8-9/2011.
15. “Wireless cart for the performance Measurement Protocol”. Emerging Technologies Conference, section "Best Practices in the Emerging Technologies Field Testing". Sacramento, US. 11/8/2010.
14. “Room air stratification in combined chilled ceiling and displacement ventilation systems”. IAQVEC conference, Syracuse, US. 08/17/2010.
13. “Energy analysis of personalized ventilation system”. IAQVEC post conference workshop, Ottawa, Canada. 08/19/2010.
12. “UFAD cooling airflow design tool”. CBE meeting. Berkeley, US. 04/22/2010.
11. “Energy analysis of a personalized ventilation system in a cold climate: influence of the supplied air temperature”. The 29th International AIVC 2008 Conference Kyoto, Japan.
7. “Energy saving and improved comfort by increased air movement”. 11th International Conference on Indoor Air Quality and Climate. Indoor Air 2008. Copenhagen, Denmark.
6. “Energy savings strategies of personalized ventilation” at 3rd workshop on PECS, EXHAUSTO. Denmark. 08/15/2008.
5. ”Indoor Climate and Productivity in office buildings” at the 46th International Conference AICARR-Expocomfort, Milan, Italy. 03/12/2008.
4. ”Saving energy with increased air velocity” 3-03/04/2008. Lyngby, ICIEE, DTU, Denmark. DTU-IBP-TU Muchen-Fraunhofer PhD student meeting.
3. ”Saving energy with personalized micro environment (PEM)” about “Saving energy with increased air movement” Lyngby, ICIEE, DTU, Denmark. The workshop was organized by TNO and ICIEE. 10/9-10/2007.
2. "Design of Displacement Ventilation System and experimental Results" at the workshop on Advanced HVAC systems. Padua, Italy. 09/28/2007.
1. ”An Index for Evaluation of Air Quality Improvement in Rooms with Personalized Ventilation Based on Occupied Density and Normalized Concentration” at the International Conference on Air Distribution in Rooms, Roomvent 2007. Helsinki, Finland, 06/13-15/2007.

Language skills

Italian: Mother tongue
English: Proficient
Spanish: Independent
Chinese: Intermediate. I obtain the first level certification of Chinese language from Beijing Language and Culture University (北京语言大学) Beijing, China (20 hours per week for six months). I lived and studied at Tsinghua University (清华大学) for a year. Since mid 2019 I restarted studying Chinese and I reached HSK 3 in June 2022 (~1500 words).

Computer skills and competences

Energy analysis of building: EnergyPlus and several interfaces (e.g. DesignBuilder, Simergy); IDA-ICE. Computer Fluid Dynamics: Flovent; AirPak. Solar analysis and shading: Ecotect. Automation and measurement: LabView. Heat transfer: Windows; Comfen; Heat 2 and 3; Therm. Multizone airflow: Contam. Refrigeration: CoolPack. Statistics: R-statistic (advanced user); RStudio. Optimization: GenOpt. CAD: AutoCAD; Rhino. GitHub.