XINJIE HUANG

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EDUCATION BACKGROUND

Ph.D. in Civil and Environmental Engineering 2022-expect 2027
Princeton University, NJ, USA
Supervisor: Prof. Elie Bou-Zeid
Research area: urban climate modeling, urban cooling strategies, building materials

M.Phil. (master by research) in Mechanical Engineering 2020-2022
The University of Hong Kong, Hong Kong
Supervisor: Prof. Jiyun Song
Research areas: urban climate, urban green infrastructure, thermal comfort
Dissertation: unravelling the synergistic effect of urban heat and moisture islands towards healthy cities

B.Eng. in Building Environment and Energy Engineering 2016-2020
Southeast University, Nanjing, China
Supervisor: Prof. Cong Liu
Research areas: indoor air quality, indoor-outdoor air exchanges, ventilation

JOURNAL PUBLICATIONS (*: Corresponding author; †: Equal contribution)

1. **Huang, X.,** Bou-Zeid, E.*, Pigliautile, I., Pisello, A.L., Mandal, J., Optimizing retro-reflective surfaces to untrap radiation and cool cities. Accepted by *Nature Cities*.

2. **Huang, X.**, & Song, J.* (2023). Urban moisture and dry islands: Spatiotemporal variation patterns and mechanisms of urban air humidity changes across the globe. *Environmental Research Letters*, 18(10), 103003. https://doi.org/10.1088/1748-9326/acf7d7

3. **Huang, X.**, Song, J.*, Wang, C., & Chan, P. W. (2022). Realistic representation of city street-level human thermal stress via a new urban climate-human coupling system. *Renewable and Sustainable Energy Reviews*, 169, 112919. https://doi.org/10.1016/j.rser.2022.112919

4. Hu, H., **Huang, X.**, Zhao, Y., Qian, H., & Liu, C.* (2022). A new PM2.5-based PM-up method to measure non-mechanical ventilation rate in buildings. *Journal of Building Engineering*, 104351. https://doi.org/10.1016/j.jobe.2022.104351

5. **Huang, X.**, Song, J.*, Wang, C., Chui, T. F. M., & Chan, P. W. (2021). The synergistic effect of urban heat and moisture islands in a compact high-rise city. *Building and Environment*, 108274. https://doi.org/10.1016/j.buildenv.2021.108274

6. Song, J.*, **Huang, X.**, Shi, D., Lin, W. E., Fan, S., & Linden, P. F. (2021). Natural ventilation in London: Towards energy-efficient and healthy buildings. *Building and Environment*, 195, 107722. https://doi.org/10.1016/j.buildenv.2021.107722

7. Du, R., Song, J.*, **Huang, X.**, Wang, Q., Zhang, C., Brousse, O., & Chan, P. W. (2021). High-resolution regional modeling of urban moisture island: Mechanism and implications on thermal comfort. *Building and Environment*, 108542. https://doi.org/10.1016/j.buildenv.2021.108542

8. Liu, C.*†, **Huang, X.**†, & Li, J. (2020). Outdoor benzene highly impacts indoor concentrations globally. *Science of The Total Environment*, 137640. https://doi.org/10.1016/j.scitotenv.2020.137640

CONFERENCE PAPERS & PRESENTATIONS

1. **Huang, X.**, Bou-Zeid, E., Pigliautile, I., Pisello, A.L., Mandal, J., Retro-reflective surfaces for mitigating urban overheating: application, evaluation, and optimization, oral presentation, AGU fall meeting, Dec. 11-15, 2023, San Fransisco, CA, USA.

2. Song, J., **Huang, X.**, Shi, D., Development of a street-level human thermal stress prediction and warning system in Hong Kong, oral presentation, AMS 103rd Annual Meeting, Jan. 8-12, 2023, online.

2. **Huang, X.**, Song, J., The synergistic effect of urban heat and moisture islands in a compact high-rise city: mechanisms and mitigation strategies, poster presentation **(outstanding poster presentation award)**, AMS 102nd Annual Meeting, Jan. 23-27, 2022, online.

3. Song, J., **Huang, X.**, Urban climate-human coupling system: model development and case study, poster presentation, AMS 102nd Annual Meeting, Jan. 23-27, 2022, online.

4. Xia, F., **Huang, X.**, Tian, E., Mo, J., An electrostatically assisted air filter for removing indoor bioaerosols. Paper 609. The 11th International Symposium on Heating, Ventilation and Air Conditioning (ISHVAC 2019), July 12-15, 2019, Harbin, China. 2016YFE0102300-03, 51722807, 51521005.

HONORS, AWARDS, AND FUNDING

First Year Fellowship in Science and Engineering, Princeton University, NJ, USA 2022-2023

Outstanding Poster Presentation Award, the AMS's 13th Conference on Environment and Health on 102nd Annual Meeting, Houston, TX, USA 2022

Postgraduate Scholarship, the University of Hong Kong, Hong Kong 2020-2022

National First Prize in Energy Saving & Emission Reduction Competition, Ministry of Education, China (Top 2%, team leader, media coverage: Southeast University) 2019

Student Research Funding as the student PI in the National Research Training Program for University Students, Ministry of Education, China 2018

First Prize of Zhongnan Group Enterprise Scholarship (Top 10 out of ~16000 students), Southeast University, China 2018

TEACHING EXPERIENCE

Teaching Assistant at the University of Hong Kong 2020-2022
Courses: MECH3408: Mechanics of fluids; MECH2414: Thermofluids; ENVM8013: Air and noise pollution control and management; MECH4429: Integrated capstone experience (as the research mentor for three final-year undergraduate students)

SKILLS

Software: MATLAB, OriginLab, SketchUp, C++, QGIS, ArcGIS, CAD
Language: English (proficient), Chinese (native)