

**Kevin Ka-Lun LAU**

BEnvSc (Hons.), UNSW, Australia; PhD (Architecture), CUHK, Hong Kong

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**CONTACT INFORMATION**

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**ACADEMIC QUALIFICATIONS**

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**Doctor of Philosophy (Architecture)** 2009-2013

*School of Architecture, The Chinese University of Hong Kong, Hong Kong*

**Bachelor of Environmental Science (Hons., specialized in Physical Geography)** 2002-2006

*School of Biological, Earth and Environmental Sciences, The University of New South Wales, Australia*

**ACADEMIC EXPERIENCE**

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**Senior Lecturer** 2021-Present

*Division of Architecture, Department of Civil, Environmental and Natural Resources Engineering  
Luleå University of Technology (Luleå Tekniska Universitet), Sweden*

**Research Assistant Professor** 2016-2021

*Institute of Future Cities, The Chinese University of Hong Kong, Hong Kong  
CUHK Jockey Club Institute of Ageing, The Chinese University of Hong Kong, Hong Kong*

**Postdoctoral Fellow** 2015-2016

*School of Architecture, The Chinese University of Hong Kong, Hong Kong*

**Postdoctoral Researcher** 2013-2014

*Department of Earth Sciences, University of Gothenburg, Sweden*

**RESEARCH GRANTS, COLLABORATIONS AND PROJECTS**

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**External Competitive Grants as Principal Investigator or Lead Investigator**

*Cooling potential of tree species in different urban contexts using field measurements: A physical and physiological approach*

PROCORE-France/Hong Kong Joint Research Scheme, Research Grant Council, Hong Kong

Amount Granted: HKD 36,000; Project Period: Jan 2020 – Present

*The impacts of future urban development on the urban climate of Hong Kong: A numerical modelling approach*

PROCORE-France/Hong Kong Joint Research Scheme, Research Grant Council, Hong Kong

Amount Granted: HKD 86,400; Project Period: Jan 2019 – Present

*Increasing the resilience to the health impacts of extreme weather on elderly people under future climate change*

Research Impact Fund, Research Grant Council, Hong Kong

Amount Granted: HKD 10,000,000; Project Period: June 2019 – Present

*Analyzing the role of urban forms in making sustainable, healthy cities*

WUN Research Development Fund, World Universities Network

Amount Granted: GBP 29,921; Project Period: January 2019 – Present

*Designing better urban green spaces for active ageing in high-density cities*  
General Research Fund, Research Grant Council, Hong Kong  
Amount Granted: HKD 621,992; Project Period: January 2018 – Present

**External Competitive Grants as Co-Investigator**

*Climatic-responsive planning and action for mitigating heat-related health risk at community level in high density cities – A Case of Hong Kong*  
General Research Fund, Research Grant Council, Hong Kong  
Amount Granted: HKD 551,992; Project Period: January 2018 – Present

*A study on the long-term association between urban design and geography and mortality in Hong Kong: 2009-2013*  
General Research Fund, Research Grant Council, Hong Kong  
Amount Granted: HKD 430,040; Project Period: January 2018 – Present

*Developing a 3D NO<sub>2</sub> land-use regression (LUR) model for air pollution exposure study in mega-city*  
General Research Fund, Research Grant Council, Hong Kong  
Amount Granted: HKD 348,598; Project Period: January 2018 – Present

*Understanding urban transient human comfort for more pedestrian friendly design of urban spaces in the summer months of high-density tropical cities*  
General Research Fund, Research Grant Council, Hong Kong  
Amount Granted: HKD 734,134; Project Period: December 2016 – November 2019

*A study of “Local Climate Zone (LCZ)” of sub-tropical China’s Pearl River Delta (PRD) region by using The World Urban Database and Access Portal Tools (WUDAPT) method for better comfortable living and sustainable urban planning*  
General Research Fund, Research Grant Council, Hong Kong  
Amount Granted: HKD 685,970; Project Period: December 2016 – Present

*Applied Modeling and Urban Planning Laws: Urban Climate and Energy (Modélisation Appliquée et droit de l’Urbanisme: Climat urbain et Énergie)*  
Research Collaboration with Laboratoire Interdisciplinaire Solidarités, Sociétés, Territoires, France  
Amount Granted: EUR 1,000,000; Project Period: February 2016 – Present

*PLEA2018: Smart and Healthy within the 2-degree Limit*  
Environment and Conservation Fund, Environmental Protection Department, Hong Kong  
Amount Granted: HKD 500,000; September 2017 – February 2019

**Consultancy Projects as Principal Investigator**

*Study of design considerations for government infrastructures in Hong Kong under extreme temperatures*  
Architectural Services Department, Hong Kong SAR Government  
Amount of Funding: HKD 1,950,000; May 2018 – December 2018

*Urban crisis and disaster risk and vulnerability mapping in Hong Kong*  
Hong Kong Red Cross  
Amount of Funding: HKD 493,000; January 2018 – December 2018

## SELECTED PUBLICATIONS

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- Lau KKL**, Choi CY, 2021. The influence of perceived aesthetic and acoustic quality on outdoor thermal comfort in urban environment. *Building and Environment* 206: 108333.
- Lau KKL**, Yung CCY, Tan Z, 2021. Usage and Perception of Urban Green Space of Older Adults in High-density City of Hong Kong. *Urban Forestry & Urban Greening* (Accepted Manuscript)
- Lau KKL**, Fong KF, 2021. Editorial: Smart and healthy within the two-degree limit. *Architectural Science Review* 64(1-2): 1-4.
- Lan H, **Lau KKL**, Shi Y, Ren C, 2021. Improved urban heat island mitigation using bioclimatic redevelopment along an urban waterfront at Victoria Dockside, Hong Kong. *Sustainable Cities and Society* 74: 103172.
- Lin JS, Leung J, Yu B, Woo J, Kwok T, **Lau KKL**, 2021. Association of green space with bone mineral density change and incident fracture in elderly Hong Kong Chinese: Mr. OS and Ms. OS study. *Environmental Research* 201: 111547.
- Wang P, Goggine WB, Shi Y, Zhang X, Ren C, **Lau KKL**, 2021. Long-term association between urban air ventilation and mortality in Hong Kong. *Environmental Research* 197: 111000.
- Lin JS, Leung J, Yu B, Lu ZH, Woo J, Kwok T, **Lau KKL**, 2021. Socioeconomic status as an effect modifier of the association between built environment and mortality in elderly Hong Kong Chinese: A latent profile analysis. *Environmental Research* 195: 110830.
- Lin JS, Chan FYF, Leung J, Yu B, Lu ZH, Woo J, Kwok T, **Lau KKL**, 2020. Longitudinal association of built environment pattern with physical activity in a community-based cohort of elderly Hong Kong Chinese: A latent profile analysis. *International Journal of Environmental Research and Public Health* 17(12): 4275.
- Wang P, Goggins WB, Zhang X, Ren C, **Lau KKL**, 2020. Association of urban built environment and socioeconomic factors with suicide mortality in high-density cities: A case study of Hong Kong. *Science of the Total Environment* 739: 139877.
- Liu J, Hansen A, Varphese B, Liu Z, Tong M, Qiu H, Tian L, **Lau KKL**, E Ng, Ren C, Bi P, 2020. Cause-specific mortality attributable to cold and hot ambient temperatures in Hong Kong: a time-series study, 2006–2016. *Sustainable Cities and Society* 57: 102131.
- Morakinyo TE, Ouyang W, **Lau KKL**, Ren C, Ng E, 2020. Right tree, right place (urban canyon): Tree species selection approach for optimum urban heat mitigation-development and evaluation. *Science of the Total Environment* 719: 137461.
- Tan Z, **Lau KKL**, Roberts AC, Chao STY, Ng E, 2019. Designing urban green spaces for older adults in Asian cities. *International Journal of Environmental Research and Public Health* 16(22): 4423.
- Wang D, **Lau KKL**, Ren C, Goggins WB, Shi Y, Ho HC, Lee TC, Woo J, Ng E, 2019. The impact of extremely hot weather events on all-cause mortality in a highly urbanized and densely populated subtropical city: A 10-year time-series study (2006–2015). *Science of the Total Environment* 690: 923-931.

- Yu R, Cheung O, Leung J, Tong C, **Lau K**, Cheung J, Woo J, 2019. Is neighbourhood social cohesion associated with subjective well-being for older Chinese people? The neighbourhood social cohesion study. *BMJ Open* 9: e023332.
- Lau KKL**, Shi Y, Ng EYY, 2019. Dynamic response of pedestrian thermal comfort under outdoor transient conditions. *International Journal of Biometeorology* 63: 979-989.
- Lau KKL**, Chung SC, Ren C, 2019. Outdoor thermal comfort in different urban settings of sub-tropical high-density cities: An approach of adopting local climate zone (LCZ) classification. *Building and Environment* 154: 227-238.
- Tan Z, Chung SC, Roberts AC, **Lau KKL**, 2019. Design for climate resilience: influence of environmental conditions on thermal sensation in subtropical high-density cities. *Architectural Science Review* 62: 3-13.
- Shi Y, Ren C, Cai M, **Lau KKL**, Lee TC, Wong WK, 2019. Assessing spatial variability of extreme hot weather conditions in Hong Kong: A land use regression approach. *Environmental Research* 171: 403-415.
- Chokhachian A, **Lau KKL**, Perini K, Auer T, 2018. Sensing transient outdoor comfort: A georeferenced method to monitor and map microclimate. *Journal of Building Engineering* 20: 94-104.
- Lam CKC, **Lau KKL**, 2018. Effect of long-term acclimatization on summer thermal comfort in outdoor spaces: a comparative study between Melbourne and Hong Kong. *International Journal of Biometeorology* 62(7): 1311-1324
- Yu R, Wang D, Leung J, **Lau K**, Kwok T, Woo J, 2018. Is Neighborhood Green Space Associated with Less Frailty? Evidence from the Mr. and Ms. Os (Hong Kong) Study. *Journal of the American Medical Directors Association*, in press.
- Ho HC, **Lau KKL**, Ren C, Ng E, 2017. Characterizing prolonged heat effects on mortality in a sub-tropical high-density city, Hong Kong. *International Journal of Biometeorology* 61(11): 1935-1944
- Wang D, **Lau KKL**, Yu RHY, Wong SYS, Kwok TTY, Woo J, 2017. Neighboring green space and mortality of the Chinese elderly in Hong Kong: A retrospective cohort study. *BMJ Open* 7: e015794.
- Yu R, Cheung O, **Lau K**, Woo J, 2017. Associations between perceived neighborhood walkability and walking time, wellbeing, and loneliness in community-dwelling older Chinese people in Hong Kong. *International Journal of Environmental Research and Public Health* 14(10), 1199.
- Ho HC, **Lau KKL**, Yu R, Wang D, Woo J, Kwok TCY, Ng E, 2017. Spatial variability of geriatric depression risk in a high-density city: A data-driven socio-environmental vulnerability mapping approach. *International Journal of Environmental Research and Public Health* 14(9), 994.
- Lau KKL**, Ng E, Ren C, Ho JCK, Wan L, Shi Y, Zheng Y, Gong F, Cheng V, Yuan C, Tan Z, Wong KS, 2017. Defining the environmental performance of neighbourhoods in high-density cities. *Building Research & Information* 46: 540-551.

- Tan Z, **Lau KKL**, Ng E, 2017. Planning strategies for roadside tree planting and outdoor comfort enhancement in subtropical high-density urban areas. *Building and Environment* 120: 93-109.
- Shi Y, **Lau KKL**, Ng E, 2017. Incorporating wind availability into land use regression modelling of air quality in mountainous high-density urban environment. *Environmental Research* 157: 17-29.
- Morakinyo TE, Kong L, **Lau KKL**, Yuan C, Ng E, 2017. A study on the impact of shadow-cast and tree species on in-canyon and neighborhood's thermal comfort. *Building and Environment* 115: 1-17.
- Kong L, **Lau KKL**, Yuan C, Chen Y, Xu Y, Ren C, Ng E, 2017. Regulation of outdoor thermal comfort by trees in Hong Kong. *Sustainable Cities and Society* 31: 12-25.
- Wang D, **Lau KKL**, Yu RHY, Wong SYS, Kwok TCY, Woo J, 2016. Neighbouring green space and all-cause mortality in elderly people in Hong Kong: a retrospective cohort study. *The Lancet* 388: S82.
- Lau KKL**, Ren C, Ho J, Ng E, 2016. Numerical modelling of mean radiant temperature in high-density subtropical urban environment. *Energy and Buildings* 114: 80-86.
- Tan Z, **Lau KKL**, Ng E, 2016. Urban tree design approaches for mitigating daytime urban heat island effects in a high-density urban environment. *Energy and Buildings* 114: 265-274.
- Shi Y, **Lau KKL**, Ng E, 2016. Developing street-level PM2.5 and PM10 land use regression models in high-density Hong Kong with urban morphological factors. *Environmental Science and Technology* 50(15): 8178-8187.

## ACADEMIC ACTIVITIES

<b>Expert Member</b> <i>WMO Expert Network of the Commission for Observation, Infrastructure and Information Systems and the Commission for Weather, Climate, Water and Related Environmental Services and Applications.</i>	<b>2020-Present</b>
<b>Guest Editor</b> <i>Architecture Science Review, Special Issue for the PLEA 2018 Conference</i>	<b>2019-Present</b>
<b>Associate Researcher</b> <i>Laboratoire Interdisciplinaire Solidarités, Sociétés, Territoires, France</i>	<b>2018-Present</b>
<b>Organizing Committee</b> <i>International Conference on Passive and Low Energy Architecture 2018, held by the School of Architecture, The Chinese University of Hong Kong</i>	<b>2017-2018</b>
<b>Organizing Committee</b> <i>Croucher Advanced Study Institute 2011: Urban Climatology on Tropical and sub-Tropical Regions, held by the School of Architecture, The Chinese University of Hong Kong</i>	<b>2011</b>
<b>Organizing Committee</b> <i>The 15th International Conference of the Association of Computer-aided Architectural Design Research in Asia (CAADRIA2010), held by the School of Architecture, The Chinese University of Hong Kong</i>	<b>2010</b>

## **ACHIEVEMENT AN AWARDS**

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**Green Building Award 2019 - 'Grand Award' (under Research & Planning Category)**      **2019**  
*Urban Ventilation Assessment and Wind Corridor Plan for Chinese Cities*

**The AMS-IAUC Student Award**      **2012**  
*Jointly presented by American Meteorological Society and International Association of Urban Climate at the 8th International Conference on Urban Climate (ICUC-8)*

**Postgraduate Studentship**      **2009-2012**  
*School of Architecture, The Chinese University of Hong Kong, Hong Kong*

## **PROFESSIONAL MEMBERSHIP**

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BEAM Pro (New Buildings, Neighbourhood), Hong Kong Green Building Council      2017-Present  
Associate Member, Hong Kong Green Building Council      2017-Present  
International Society of Biometeorology      2013-Present  
Member, International Association for Urban Climate      2008-Present

## **JOURNAL REVIEWER**

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Building and Environment, Energy and Buildings, International Journal of Biometeorology, Cities, Urban Climate, Building Simulations, Architectural Science Review, Sustainable Cities and Society, Preventive Medicine Reports, PLoS ONE