



Dr. TAN CHUN LIANG

陈俊良

Ph.D (Building Science)

M.Arch

BA.Arch

Curriculum vitae

Updated 25th May 2023

Citizenship	Singapore Citizen
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Publons :	1339647
Researchgate :	Chun Liang Tan
Google Scholar :	Tan Chun Liang (h-index = 13)
Website :	www.ugl.sg

EDUCATIONAL QUALIFICATIONS

National University of Singapore (NUS)

- | | | | |
|--|-----------------|---|-----------------|
| • Doctor of Philosophy (Building Science) | Jan 2011 | - | May 2016 |
| • Master's degree in Architecture | Aug 2008 | - | May 2009 |
| • Bachelor's degree in Architecture, Honours | Aug 2004 | - | May 2008 |

Jurong Junior College

- GCE 'A' Levels

Jurong Secondary School

- GCE 'O' Levels

Jan 2000 - **Dec 2001**

Jan 1996 - **Dec 1999**

RESEARCH INTEREST

Urban climatic mapping and simulation

Climate-responsive urban planning practices

Vertical and rooftop greenery research

Landscape design optimisation

WORK / RESEARCH / ADMINISTRATIVE EXPERIENCE

National University of Singapore

Senior Lecturer, Department of Architecture (1/7/2020)

2020 - Present

- AR 5011 Research Methodology
- LA 5742a Dissertation Prep
- LA 5500 Proseminar
- LAD 2006 Design 3: Reading Landscapes
- LAD 3001 Design 5: Digitizing Landscapes
- LAD 2005 Introductory GIS for Landscape Architecture
- LAD 4012 / LA 5303 Urban Greening: Technologies and Techniques
- LA 5742 Dissertation
- AR 3101 Design 5 (Landscape Architecture Emphasis)

National University of Singapore

Centre for Sustainable Asian Cities, Research Fellow

2017 - 2020

- Part-Time Tutor (12/8/2019 to 9/5/2020), Department of Architecture
 - MLA Dissertation LA 5742
 - MLA Urban Greenery Technology and Techniques LA 5303
- Co-Principal Investigator (Since 2019)
 - NParks research project 1: Developing a Species-level Building Information Modelling (BIM) Vegetation Library (SGD 384,600), Department of Building
 - NParks research project 2: Benefits of greenery — Differences among tree species in providing cooling and sequestering carbon, and efficient methods to infer their abilities (SGD 655,206), Department of Architecture
- Research Thrust Leader and Principal Investigator (Since Apr 2018)
 - NUS-JTC I³C Urban Greenery Research Thrust (SGD 1,500,000)

National University of Singapore

Department of Building, Research Assistant

2010 - 2017

- Conducted climatic mapping, field measurement, analysis and report writing for the following projects:
 - Punggol township project with HDB
 - Tianjin EcoCity project with BCA
 - Cleantech Park and Jurong IBP project with JTC
- Main coordinator, field measurement, analysis and report writing for:
 - Evaporative cooling techniques to improve outdoor thermal comfort in the tropics
 - Green roof research project with Kajima Research Institute
 - Tree research project with JTC ICube @ NUS
 - Solar irradiance project with Akita Prefecture University, Okayama University of Science and Tokyo Metropolitan University, Japan

Focomoco LLP, Partner and Business manager

2008 - 2009

- Portfolio includes website design, product design, rendering and interior design works

RESEARCH PROJECTS

JTC research project – Solar PV Systems on Industrial Buildings and the Urban Heat Island Effect 28 Oct 2022 – 28 May 2024	Co-PI	2022
NUS Centre for Additive Manufacturing – AM.NUS Fellowship for Young Professor (FLY) Programme - 3D printed plant substrates 1 Oct 2021 – 30 Sep 2022	PI	2021
Learning Innovation Fund – Technology 2021 Augmenting and Virtualising Landscape Architectural Teaching and Learning 1 July 2021 – 30 June 2022	Co-PI	2021
Research and Design Investigation of the Redevelopment of Paya Lebar Air Base (PLAB)	Collaborator	2021
Presidents' Forum of Southeast and South Asia and Taiwan Universities (SATU) Joint Research Scheme: Soilless Wall Panel For Sustainable Green City	Co-PI	2021
MOE Tier One: Solar and crop yield optimization for the tropical building envelope Mar 2021 – Feb 2024	PI	2021
MOE Tier One: Life Cycle Analysis of Less-manicured Landscapes in Singapore Dec 2020 – Dec 2023	Co-PI	2020
Kajima research project: Evaluation of thermal comfort and cognitive performance at semi-outdoor space 5 Jun 2020 – 5 Jun 2022	Co-PI	2020
Kajima research project: Effects of Greenery on cognitive function and wellbeing of employees 5 Aug 2019 – 5 Aug 2021	PI	2019
NParks research project: Developing a Species-level Building Information Modelling (BIM) Vegetation Library 11 Feb 2019 – 11 Nov 2021	Co-PI	2019
NParks research project: Benefits of greenery — Differences among tree species in providing cooling and sequestering carbon, and efficient methods to infer their abilities 18 Mar 2019 – 18 Aug 2021	Co-PI	2019
JTC I3C Urban Greenery Research Thrust 1 Apr 2018 – 18 Sep 2021	PI	2018
JTC: Selection of Trees for Enhanced Cooling of the Built Environment Jul 2015 – Jul 2017	RA	2015
BCA: Urban Climatic Mapping Study of Tianjin Eco-city Jul 2014 – Jul 2015	RA	2014
JTC: Development of Climatic Mapping Tool for Estate Environmental Evaluation Dec 2011 – Dec 2013	RA	2011
HDB: Study of Township Climatic Conditions to Enhance Sustainability and Energy Efficiency Dec 2009 – Dec 2013	RA	2010

PI = Principal Investigator

Co-PI = Co-Principal Investigator

RA = Research Assistant

FUNDING / GRANTS

Solar PV Systems on Industrial Buildings and the Urban Heat Island Effect	SGD 354,900	2022
3D printed plant substrates	SGD 5,000	2021
Augmenting and Virtualising Landscape Architectural Teaching and Learning	SGD 23,712	2021
Solar and crop yield optimization for the tropical building envelope	SGD 100,000	2021
Life Cycle Analysis of Less-manicured Landscapes in Singapore	SGD 180,000	2020
Kajima research project: Evaluation of thermal comfort and cognitive performance at semi-outdoor space	SGD 140,400	2020
NParks research project: Developing a Species-level Building Information Modelling (BIM) Vegetation Library	SGD 384,600 TPV = SGD 1,985,120	2019
NParks research project: Benefits of greenery — Differences among tree species in providing cooling and sequestering carbon, and efficient methods to infer their abilities	SGD 655,206	2019
JTC I ³ C Urban Greenery Research Thrust	SGD 1,500,000	2018
Lifelong Learning Institute LearnSG seed fund	SGD 8,280	2017
NUS Enterprise Innovation and Entrepreneurship Practicum Grant	SGD 10,000	2014

AWARDS

NUS Annual Digital Education Award (ADEA) - Team submission with Dr Ervine Lin and Mr Kenya Endo	2023
NUS CDE College Educator Award - Team submission with Dr Ervine Lin and Mr Kenya Endo	2023
Ambassador - Cities of Love Awards 2019/2020	2019
Distinguished Award - Cities of Love Awards 2017	2018
Awardee - LearnSG Seed Fund (SGD 8,280)	2017
Best Presentation Award - Facilities Management Solutions Expo 2016	2016
Best Presentation Award - SENVA-iNTA-AVAN 2015 Int. Joint Conference	2015
Awardee - NUS Enterprise Innovation and Entrepreneurship Practicum Grant	2014
Finalist - International Facilities Management Association competition	2014
Winning Entry - Singapore BCA BIM Competition, Education Architecture	2013
Singapore National Day Award for Public Spiritedness - Snatch theft arrest	2012
Winning Entry - Novel Automobile Challenge – Ministry of Home Affairs	2011
Top 10 Entry - Fly-By-Night video competition	2008
Best score - Junior Home Décor Survivor – Media Corp Channel U	2008
Winning Entry - Nparks Greenthumbs - Cathay Greenscape Award	2007
Winning Entry - Singapore Technologies Engineering Pavilion Design	2007

JOURNAL PUBLICATIONS

1. Chen, S., Mihara, K., Wong, N.H., Lee, J.K.W., **Tan, C.L.** (2022). A Semi-Automatic Data Management Framework for Studying Thermal Comfort, Cognitive Performance, Physiological Performance, and Environmental Parameters in Semi-Outdoor Spaces, *Sustainability*, 2023, 15, 183.
2. Mihara, K., Chen, S., Hasama, T., **Tan, C.L.**, Lee, J.K.W., Wong, N.H. (2022). Transient thermal and physiological responses from air-conditioned room to semi-outdoor space in the tropics, *Building and Environment*, 109611, <https://doi.org/10.1016/j.buildenv.2022.109611>.
3. Châfer, M., **Tan, C.L.**, Cureau, R.J., Wong, N.H., Pisello, A.L. & Cabeza, L.F. (2022). Mobile measurements of microclimatic variables through the central area of Singapore, *Sustainable Cities and Society*, 103986, <https://doi.org/10.1016/j.scs.2022.103986>.
4. Lin, E.S., Gobeawan, L., Liu, X., Chi, C.W.L.C., He, Y., **Tan, C.L.**, Tan, P.Y., Wong, N.H., T.,K.,A., Yee. (2022). Deriving Green Plot Ratio (GnPR) from a Building Information Modelling (BIM) Vegetation Library. *Journal of Digital Landscape Architecture*, 7-2022, 224 – 235.
5. Lin, E.S., Gobeawan, L., Liu, X., Chi, C.W.L.C., He, Y., **Tan, C.L.**, Tan, P.Y., Wong, N.H., T.,K.,A., Yee. (2022). The Linking of Microclimatic Simulations and Planting Design Using a Species level Building Information Modelling (BIM) Vegetation Library. *Journal of Digital Landscape Architecture*, 7-2022, 236 – 248.
6. Endo, K., Lin, E.S., **Tan, C.L.** (2022). Augmenting and Virtualising Landscape Architectural Teaching and Learning. *Journal of Digital Landscape Architecture*, 7-2022, 592 – 607.
7. Mihara, K., Chen, S., Hasama, T., **Tan, C.L.**, Lee, J.K.W., Wong, N.H. (2022). Environmental satisfaction, mood and cognitive performance in semi-outdoor space in the tropics, *Building and Environment*, 109051, <https://doi.org/10.1016/j.buildenv.2022.109051>.
8. He, Y., Lin, E.S., Zhang, W., **Tan, C.L.**, Tan, P.Y., Wong, N.H. (2022). Local microclimate above shrub and grass in tropical city: A case study in Singapore, *Urban Climate*, 101142, <https://doi.org/10.1016/j.uclim.2022.101142>.
9. He, Y., Lin, E.S., **Tan, C.L.**, Yu, Z., Tan, P.Y., Wong, N.H. (2021). The effect of dynamic albedos of plant canopy on thermal performance of rooftop greenery: A case study in Singapore, *Building and Environment*, 108247, <https://doi.org/10.1016/j.buildenv.2021.108247>.
10. He, Y., Lin, E.S., **Tan, C.L.**, Yu, Z., Tan, P.Y., Wong, N.H. (2021). Model development of Roof Thermal Transfer Value (RTTV) for green roof in tropical area: A case study in Singapore, *Building and Environment*, 108101, <https://doi.org/10.1016/j.buildenv.2021.108101>.

11. He, Y., Lin, E.S., **Tan, C.L.**, Tan, P.Y., Wong, N.H. (2021). Quantitative evaluation of plant evapotranspiration effect for green roof in tropical area: A case study in Singapore, *Energy and Buildings*, 110973, <https://doi.org/10.1016/j.enbuild.2021.110973>.
12. Huang, Z., **Tan, C.L.**, Lu, Y., & Wong, N.H. (2021). Holistic analysis and prediction of life cycle cost for vertical greenery systems in Singapore, *Building and Environment*, 107735, ISSN 0360-1323, <https://doi.org/10.1016/j.buildenv.2021.107735>.
13. Wong, N.H., **Tan, C.L.**, Kolokotsa, D.D., & Takebayashi, H. (2021). Greenery as a mitigation and adaptation strategy to urban heat, *Nat Rev Earth Environ*, <https://doi.org/10.1038/s43017-020-00129-5>.
14. Chàfer, M., Cabeza, L.F., Pisello, A.L., **Tan, C.L.** & Wong, N.H. (2020). Trends and gaps in global research of greenery systems through a bibliometric analysis, *Sustainable Cities and Society*, 102608, ISSN 2210-6707, <https://doi.org/10.1016/j.scs.2020.102608>.
15. Tan, P.Y., Wong, N.H., **Tan, C.L.**, Jusuf, S.K., Schmiele, K., & Chiam, Z.Q. (2019). Transpiration and cooling potential of tropical urban trees from different native habitats, *Science of the Total Environment*, 705, 135764.
16. Tan, P.Y., Wong, N.H., **Tan, C.L.**, Jusuf, S.K., Chang, M.F., & Chiam, Z.Q. (2018). A method to partition the relative effects of evaporative cooling and shading on air temperature within vegetation canopy, *Journal of Urban Ecology*, 4(1): 1-11, <https://doi.org/10.1093/jue/juy012>.
17. Wong, N.H., **Tan, C.L.**, & Tong, S.S. (2018). Urban Greenery for the mitigation of Urban Heat Island effect in Singapore (利用城市绿化缓解新加坡热岛效应方面的研究), *Chinese Landscape Architecture (中国园林)*, 34: 13-17.
18. Tong, S.S., Wong, N.H., Jusuf, S.K., **Tan, C.L.**, Wong, H.F., Ignatius, M., & Tan, E. (2018). Study on correlation between air temperature and urban morphology parameters in built environment in northern China. *Building and Environment*, 127: 239-249.
19. Tong, S.S., Wong, N.H., **Tan, C.L.**, Jusuf, S.K., Ignatius, M., & Tan, E. (2017). Impact of urban morphology on microclimate and thermal comfort in northern China. *Solar Energy*, 155: 212-223.
20. **Tan, C.L.**, Wong, N.H., Tan, P.Y., Ismail, M., & Wee, L.Y. (2017). Growth light provision for indoor greenery: A case study. *Energy and Buildings*, 144, 207-217, Available online 24 March 2017, ISSN 0378-7788, <http://dx.doi.org/10.1016/j.enbuild.2017.03.044>.
21. **Tan, C.L.**, Tan, P.Y., Wong, N.H., Takasuna, H., Kudo, T., Takemasa, Y., Lim, C.V.J., & Chua, H.X.V. (2017). Impact of soil and water retention characteristics on green roof thermal performance. *Energy and Buildings*, doi:10.1016/j.enbuild.2017.01.011.
22. **Tan, C.L.**, Wong, N.H., Tan, P.Y., Jusuf, S.K. & Chiam, Z.Q. (2015). Impact of plant evapotranspiration rate and shrub albedo on temperature reduction in the tropical outdoor environment. *Building and Environment*, 94, 206-217.

23. **Tan, C.L.**, Wong, N.H., & Jusuf, S.K. (2014). Effects of vertical greenery on mean radiant temperature in the tropical urban environment. *Landscape and urban planning*, 127, 52-64.
24. **Tan, C.L.**, Wong, N.H., & Jusuf, S.K. (2013). Outdoor mean radiant temperature estimation in the tropical urban environment. *Building and Environment*, 64, 118-129.
25. Wong, N.H., Jusuf, S.K., & **Tan, C.L.** (2011). Integrated urban microclimate assessment method as a sustainable urban development and urban design tool. *Landscape and Urban Planning*, 100(4), 386-389.

CHAPTER-IN-BOOK PUBLICATIONS

Wong, N.H., **Tan, C.L.**, Tan, P.Y., Jusuf, S.K., Tong, S. & Hii, D.J.C. (2019). Cooling the urban environment: Effect of tree transpiration on outdoor air temperature. In I. Douglas (Ed.), *Routledge Handbook of Urban Ecology*, 2nd Ed. Chapter 61. Routledge.

Tan, C. L., Wong, N. H., & Jusuf, S. K. (2017). Plant Selection and Placement Criteria for Landscape Design. In T. H. Karyono, R. Vale, & B. Vale (Eds.), *Sustainable Building and Built Environments to Mitigate Climate Change in the Tropics Conceptual and Practical Approaches* (pp. 249-260). Springer.

MAGAZINE PUBLICATIONS

Tan, C.L. (2019, July). Going green in style, *RIE NEWS*, National Research Foundation, 6:4-7.

Tan, C.L. (2017, July). Plants for green roofs, *Green Pulse*, 1(4):18-19.

Tan, C.L. (2016, September). A case for climate-responsive landscape design, *SG Green*, 3:56-60.

EDITORIAL BOARD MEMBER

Frontiers in Sustainable Cities – Urban Energy End-Use (Review Editor) **2020**
Electronic ISSN: 2624-9634

Land (MDPI) **2019**
ISSN: 2073-445X

Frontiers Research of Architecture and Engineering **2018**
ISSN: 2591-7587 (Print) 2591-7595 (Online)

JOURNAL REFEREE

SAGE Journals – Environment and Planning B: Urban Analytics and City Science **2018**
ISSN: 2399-8083 (Print) 2399-8091 (Online)

SPECIAL ISSUE EDITOR

MDPI - Atmosphere - Contribution of Urban Greenery to Urban Heat Mitigation **2022**

MDPI - Atmosphere – Thermal and Energy Performance of Skyrise Greenery in High-Density Cities **2022**

ASSOCIATE EDITOR

Frontiers In Sustainable Cities – Urban energy end-use **2022**

WORKING GROUP MEMBER

Association of Pacific Rim Universities **2022**
APRU – Sustainable Cities and Landscapes
Sustainable Urban Design workgroup

CONFERENCE LIST

- **International**

Kuniaki, M., Chen, S., Takamasa, H., **Tan, C.L.**, Lee, J.K.W., Wong, N.H. (2023). Seasonal differences in thermal responses and cognitive performance in AC and semi-outdoor environments in Singapore. *Healthy Buildings Europe 2023*, 11 – 14 June 2023, Aachen, Germany.

Lin, E.S., Gobeawan, L., Liu, X., Chi, C.W.L.C., He, Y., Tan, C.L., Tan, P.Y., Wong, N.H., T.,K.,A., Yee. (2022). Deriving Green Plot Ratio (GnPR) from a Building Information Modelling (BIM) Vegetation Library. *Digital Landscape Architecture Conference DLA*, 9 – 10 June 2022, Harvard Graduate School of Design, Boston, USA. Paper published in Journal of Digital Landscape Architecture.

Lin, E.S., Gobeawan, L., Liu, X., Chi, C.W.L.C., He, Y., **Tan, C.L.**, Tan, P.Y., Wong, N.H., T.,K.,A., Yee. (2022). The Linking of Microclimatic Simulations and Planting Design Using a Species level Building Information Modelling (BIM) Vegetation Library. *Digital Landscape Architecture Conference DLA*, 9 – 10 June 2022, Harvard Graduate School of Design, Boston, USA. Paper published in Journal of Digital Landscape Architecture.

Endo, K., Lin, E.S., **Tan, C.L.** (2022). Augmenting and Virtualising Landscape Architectural Teaching and Learning. *Digital Landscape Architecture Conference DLA*, 9 – 10 June 2022, Harvard Graduate School of Design, Boston, USA. Paper published in Journal of Digital Landscape Architecture.

Kuniaki, M., Chen, S., Takamasa, H., **Tan, C.L.**, Lee, J.K.W., Wong, N.H. (2022). Acceptable environmental conditions for working in semi-outdoor space in the tropics. *Indoor Air 2022, 12-16 June 2022*, Kuopio, Finland. Poster presentation.

Huang, Z.Y., **Tan, C.L.**, & Long, X.P. (2020). Life cycle cost examination of vertical greenery systems in Singapore. Proceedings of the 35th PLEA Conference on Passive and Low Energy Architecture. A Coruña: University of A Coruña. DOI: <https://doi.org/10.17979/spudc.9788497497947>.

Ichinose, M., Shirai, M., Kumakura, E., Wong, N.H., **Tan, C.L.**, Kai, Z. (2019). Experimental study on improvement effect of thermal comfort in outdoor space by utilizing mist fans in the tropics. IC2UHI2019.

Yuan, C., Zheng, K., Ayu, S.A., **Tan, C.L.**, & Wong, N.H. (2018). Two-Phases Evaporative Cooling for Better Outdoor Thermal Comfort in High-Density Tropical Cities. *Passive and Low Energy Architecture (PLEA), 10-12 December 2018*, The Chinese University of Hong Kong, Hong Kong.

Wong, N.H., **Tan, C.L.**, & Tong, S.S. (2018). Urban Greenery for the mitigation of Urban Heat Island effect in Singapore. *International Conference on Landscape Architecture and Microclimate*. Tongji University, Shanghai, China. Published in proceedings.

Tan, C.L., Wong, N.H., & Tong, S.S. (2018). Comparison of thermal impact of vertical and rooftop greenery with a similar plant palette. *International Conference on Landscape Architecture and Microclimate*. Tongji University, Shanghai, China. Published in proceedings.

Tan, C.L., Wong, N.H., & Ignatius, M. (2017). Greenery in Green Building Rating Tools, *PLEA 2017*, Edinburgh, Scotland. Oral presentation by Ignatius, M., 2:1460-1466, Published in proceedings.

Tan, C.L., Wong, N.H., & Jusuf, S.K. (2015). Plant selection and placement criteria for vertical and rooftop greenery, *TAU Conference: Mitigating and Adapting Built Environments for Climate Change in the Tropics*. School of Architecture, Tanri Abeng University, Jakarta, Indonesia, Oral Presentation, Published in proceedings.

Tan, C.L., Wong, N.H., Jusuf, S.K., & Chiam, Z. (2015). Plant selection criteria for landscape planning in the tropical urban environment, *SiA 2015*, Universiti Teknologi Malaysia, Johor, Malaysia. Oral presentation, published in proceedings.

Wong, N.H., Jusuf, S.K., **Tan, C.L.**, & Chia, P.Y. (2013). Effect of cool roofs and green roofs on temperature in the tropical urban environment, *AIVC 2013*, Athens. Oral Presentation by Jusuf, S.K., Published in proceedings.

Jusuf, S.K., Wong, N.H., **Tan, C.L.**, & Tan, A. (2012). STEVE Tool: Bridging the Gap between Urban Climatology Research and Urban Planning Process, *ICSDC 2011*, Kansas, USA. Oral Presentation, Published.

Tan, C.L. (2011). A convenient method for estimating the mean radiant temperature in tropical outdoor urban settings, *Croucher Advanced Study Institute. Urban Climatology on Tropical and Sub-Tropical Regions*. The Chinese University of Hong Kong, Hong Kong. Poster presentation.

Wong, N.H., Jusuf, S.K., & **Tan, C.L.** (2011). Influence of Urban Morphology on Air Temperature Condition: A Case Study of Eco-Township in Singapore, *18th International Seminar on Urban Form*, Montréal, Canada. Oral Presentation, Published.

Wong, N.H., Jusuf, S.K., & **Tan, C.L.** (2011). Urban Climatic Map and STEVE Tool for Sustainable Urban Planning in Singapore, *PLEA 2011 - 27th International conference on Passive and Low Energy Architecture*, Louvaine La Nouve, Belgium. Oral Presentation, Published.

Wong, N.H., Jusuf, S.K., **Tan, C.L.**, Tan, E., & Nindyani, A.D.S. (2011). Influence of Water bodies on Outdoor Air Temperature in Hot and Humid Climate. *International Conference on Sustainable Design and Construction*, Kansas, USA. Oral Presentation, Published.

- **Local**

Tong, S.S., Wong, N.H., & **Tan, C.L.** (2016). Urban Heat Island Effect in a City Area in Northern China during Summer and Winter, *4th International Conference on Countermeasures to Urban Heat Island*, 30-31 May and 1 June 2016, National University of Singapore, Singapore.

Takasuna, H., Kudo, T., Takemasa, Y., Wong, N.H., Tan, P.Y., **Tan, C.L.**, Lim, C.V.J., & Chua, H.X.V. (2016). Impact of Soil and Water Retention Characteristics on Evapotranspiration Behaviour of Plants in a Green Roof, *4th International Conference on Countermeasures to Urban Heat Island*, 30-31 May and 1 June 2016, National University of Singapore, Singapore.

Wong, N.H., Tan, P.Y., **Tan, C.L.**, Lim, C.V.J., Chua, H.X.V., Takasuna, H., Kudo, T., & Takemasa, Y. (2016). Impact of Soil and Water Retention Characteristics on Green Roof Thermal Performance, *4th International Conference on Countermeasures to Urban Heat Island*, 30-31 May and 1 June 2016, National University of Singapore, Singapore. Oral presentation.

Tan, C.L., & Wee L.Y. (2016). Considerations for design and maintenance of indoor greenery, *Facilities Management Solutions Expo 2016, SMART Facilities Management Solutions Regional Focus Group Session*, Sands Expo & Convention Center, Singapore. Oral presentation.

Wong, N.H., Jusuf, S.K., & **Tan, C.L.** (2013). Scientific approaches to landscape design, *International Skyrise Greenery Conference*, Singapore Expo, Singapore. Poster Presentation.

Wong, N.H., Jusuf, S.K., & **Tan, C.L.** (2013). Selective placement of vertical and rooftop greenery, *SB 13*, Marina Bay Sands Expo and Convention Centre, Singapore. Oral Presentation, Published in proceedings.

Wong, N.H., Jusuf, S.K., **Tan, C.L.**, & Chia, P.Y. (2012). Effects of vertical greenery on mean radiant temperature in the tropical urban environment, *iNTA 2012*, National University of Singapore, Singapore. Oral Presentation, Published.

Wong, N.H., Jusuf, S.K., **Tan, C.L.**, & Chia, P.Y. (2012). Outdoor mean radiant temperature measurement in the tropical urban environment, *iNTA 2012*, National University of Singapore, Singapore. Oral Presentation, Published.

INVITED SPEAKER / LECTURING / TEACHING / CRITIQUE

Speaker at Green Thumbs Landscape Professional Conference	2023
- <i>“Cost-effective measures for incorporating greenery into design projects”</i>	
Speaker at Enhancing Biodiversity & Ecosystem Services on Buildings Symposium	2022
- <i>“Vertical Greenery design and placement for optimising temperature reduction”</i> - NTU	
Guest lecture at Harbin Institute of Technology (Shenzhen), School of Architecture	2022
- <i>“Greenery for Urban Heat Adaptation and Mitigation: Examples from Singapore”</i> Via Zoom	
Grand Renewable Energy 2022, Tokyo, Japan	2022
- International advisory member	
Invited lecture for Grand Renewable Energy 2022, Tokyo, Japan	2022
- No. 4 branch forum, <i>“Greenery in the tropical urban environment: opportunities for optimization”</i>	
Guest lecture at Shenzhen University, School of Architecture and Urban Planning	2021
- <i>“Greenery for Urban Heat Adaptation and Mitigation: Examples from Singapore”</i> Via Zoom	
Greenery in Urban Design and Architecture	2020
- Zoom sharing session with students of Nanyang Polytechnic School of Design	
Urban Greenery 101 workshop with SITLearn	2020
- Held at SIT	
Guest speaker for JTC Estate Management Appreciation event	2019
- Held at JTC Summit	
Co-Tutor for NUS Master of Landscape Architecture module	2019
- LA 5303 Urban Greening Technology and Techniques 12/8/2019 to 9/5/2020	
Tutor for NUS Master of Landscape Architecture module	2019
- LA 5742 MLA Dissertation module 12/8/2019 to 9/5/2020	
Guest speaker for COLA Awards 2019 as previous Distinguished Award winner	2019
- Held at Singapore Sustainable Academy	
Guest speaker at NParks CUGE Research	2019
- Presentation titled <i>“Roles of greenery in regulating urban temperature at different scale”</i>	
Urban greenery research presentation at Chulalongkorn University, Thailand	2019
- Landscape design department	
Guest lecture at Xi’an Jiao Tong University, China	2018
- Lecture titled <i>“Urban Greenery Research in Singapore”</i>	
Guest lecture at Xi’an Jiao Tong University, China	2018
- Lecture titled <i>“Notes on taking a PhD: From Conceptualization to Oral Defence”</i>	
Invited critique for NUS Department of Architecture postgraduate module	2018
- LA 5701 MLA Studio <i>“Everyday Cycling in Singapore”</i>	
Guest lecture for NUS Department of Architecture undergraduate module	2018
- AR 5801 Advanced Architectonics Design Lab <i>“Re-Forest City”</i>	
Invited speaker at Millennia Institute, Singapore	2018
- STEM talk <i>“On being a scientist”</i>	
Invited speaker at NUS SDE with Kajima Technical Research Institute (KATRI)	2018
- Joint workshop <i>“Greenery research topics for collaboration”</i>	
Guest lecture for NUS Department of Architecture postgraduate module	2018
- LA 5701 MLA Studio <i>“Everyday Cycling in Singapore”</i>	

Guest lecture at Tokyo Metropolitan University, Ichinose Lab, Japan	2017
- Lecture titled <i>"Climate responsive design strategies"</i>	
Guest lecture for NUS Department of Building undergraduate module	2013 - 2015
- FMD 1202 <i>"Green Building Technology for Sustainable Cities"</i>	
Guest lecture for NUS Department of Architecture masters module	2014
- LA 5303 <i>"Urban Greening: Technologies and Techniques"</i>	
Main organizer and conductor at NUS The Architecture Society (TAS)	2008
- 3D modelling + Photoshop workshop	

INVITED REVIEWER

Building and Environment - BAE-D-23-02032	2023
npj Urban Sustainability - NPJURBANSUSTAIN-00532	2023
Building and Environment - BAE-D-23-01233	2023
Landscape and Urban Planning - LANDUP-D-22-01385R1	2023
Urban Climate - UCLIM-D-22-01203	2023
Landscape and Urban Planning - LANDUP-D-22-01385	2022
Building and Environment - BAE-D-22-02301R1	2022
Journal of Building Physics (SAGE) - JEN-22-0093	2022
Buildings - buildings-1807193	2022
Applied Thermal Engineering - ATE-D-22-03745	2022
Building and Environment - BAE-D-22-02667	2022
Building and Environment - BAE-D-22-02547	2022
Building and Environment - BAE-D-22-02252	2022
Building and Environment - BAE-D-22-02301	2022
Building and Environment - BAE-D-22-02148	2022
Journal of Building Physics (SAGE) - JEN-22-0066	2022
Urban Climate - UCLIM-D-22-00799	2022
Brazilian Archives of Biology and Technology - BABT-2022-0323	2022
International Journal of Sustainable Tropical Design Research and Practice - TDRP-2021-0064.R1	2022
Landscape and Urban Planning - LANDUP-D-22-00358	2022
Urban Climate - UCLIM-D-21-00989_R1	2022
Energy and Buildings - ENB-D-22-00363	2022
Urban Climate - UCLIM-D-21-00961	2022
Urban Climate - UCLIM-D-22-00023	2022
Building and Environment - BAE-D-22-00185	2022
Urban Climate - UCLIM-D-21-00989	2021
Forests - forests-1497891	2021
Sustainable Cities and Society - SCSID-21-05420	2021
Urban Climate - UCLIM-D-21-00125	2021
Energy and Buildings - ENB-D-22-00363	2021
Land - land-1426477	2021
Sustainable Cities and Society - SCSID-21-05420	2021
Atmosphere - atmosphere-1285642	2021
Sustainability	2021
Atmosphere	2021
Landscape and Urban Planning	2021
Journal of Engineering (Hindawi)	2021

Urban Climate	2021
Applied Sciences	2021
Sustainability	2021
Urban Climate	2021
International Journal of Environmental Research and Public Health	2021
Building and Environment	2021
Cities	2020
Sustainability (Multidisciplinary Digital Publishing Institute)	2020
Urban Climate	2020
Urban Forestry & Urban Greening	2020
Sustainable Cities and Society - SCSID-20-04279	2020
International Journal of Environmental Research and Public Health	2020
Building and Environment	2020
Urban Forestry & Urban Greening	2020
Energy	2020
Landscape and Urban Planning	2020
Sustainability (Multidisciplinary Digital Publishing Institute)	2020
Energies (Multidisciplinary Digital Publishing Institute)	2020
Architectural Science Review	2020
Energy and Buildings	2020
Land (Multidisciplinary Digital Publishing Institute)	2020
Theoretical and Applied Climatology	2019
Sustainability (Multidisciplinary Digital Publishing Institute)	2019
Landscape and Urban Planning	2019
Sustainable Cities and Society	2019
Architectural Science Review	2019
Landscape and Urban Planning	2019
Sustainability (Multidisciplinary Digital Publishing Institute)	2019
Building and Environment	2019
Applied Sciences (Multidisciplinary Digital Publishing Institute)	2019
Sustainability (Multidisciplinary Digital Publishing Institute)	2019
Applied Sciences (Multidisciplinary Digital Publishing Institute)	2019
Science of the Total Environment	2018
Land (Multidisciplinary Digital Publishing Institute)	2018
Sustainability (Multidisciplinary Digital Publishing Institute)	2018
Landscape and Urban Planning	2018
Water (Multidisciplinary Digital Publishing Institute)	2018
Journal of Environmental Management	2018
Water (Multidisciplinary Digital Publishing Institute)	2018
Journal of Soil Science and Plant Health	2018
Urban Forestry & Urban Greening	2018
Architectural Science Review	2018
Sustainability (Multidisciplinary Digital Publishing Institute)	2018
Architectural Science Review	2018
Building and Environment	2018
International Journal of Environmental Research and Public Health (MDPI)	2017
Sustainability (Multidisciplinary Digital Publishing Institute)	2017
Applied Geography	2017
Sustainable Cities and Society	2017

Building and Environment	2017
Energy and Buildings – Guest reviewer for Special Issue: Countering UHI	2016

CONSULTANCY / ADVISORY EXPERIENCE

Kajima Technical Research Institute Singapore PV + Greenery hybrid system consultancy at GEAR building rooftop	2021
GWS Living Art Thermal transmission for green roof on bus	2019
Kajima Technical Research Institute Singapore Thermal comfort consultancy for Jurong Lake Gardens	2017
Swire Properties Ltd PV green roof installation in Taikoo Place, Hong Kong	2017
The Architects Circle Pte Ltd Climatic measurement of 158D Jalan Jurong Kechil	2017
City Developments Ltd Temperature measurement and energy simulation for Treehouse Condominium green wall	2015
Surbana Jurong Pte Ltd Report vetting for thermal comfort proposal for new Singapore Zoological Gardens	2015
Biomachines Pte Ltd Technical advisor for real-time temperature sensing platform for Jurong Lake District	2014
Building and Construction Authority Report vetting for façade proposal for new Media Corp building	2014
RSP Architects and Planners & Engineers Greenery optimization plan for INSEAD building	2014
WOHA Architects Wind tunnel testing and wind simulation for proposed university design	2012
Building System and Diagnostics Pte Ltd Climatic mapping of estate development in Kuala Lumpur, Malaysia	2012
Kaer Pte Ltd Energy simulation of NUH building with IES/VE	2011

NUS (MASTER OF LANDSCAPE ARCHITECTURE) LA 5742 DISSERTATION ADVISOR

Cao Naichun	Using social media data to evaluate perception of cultural ecosystem services (CES) in urban parks of Singapore	2022
Chai Xin Yi	A critique on edible rooftop garden design in Singapore: A case study on Nutopia Community Garden	2022
Shen Yunnan	The impact of pocket parks on thermal comfort in Singapore	2022
Wang Yu	Outdoor thermal comfort performance of blue-green infrastructure (BGI): A case study of Bishan-Ang Mo Kio Park	2022
Jiang Yuli	The effect of landscape compositions on the Singapore urban microclimate	2022
Li Xi	Thermal comparison of ground-level gardens and roof gardens in Singapore	2022
Ou Yeyao	Performance evaluation of green walls: a case study of Ventus Building in Singapore	2022
Zheng Qiaoyu	Evaluation of microclimate condition of thematic zones within Gardens by the Bay	2022
Zhu Wen	Impact of urban parameters on air temperature for a campus located in the tropics	2022
Zhou Xianfeng	Assessing the potential of HDB estates for plant-based farming in Singapore	2020
Zhong Yixin	On the significance of psychological security for urban park design: a case study on Tongjing Park, Suzhou	2020
Zhang Yifei	Comparison of albedo values of plants under in-situ and simulated conditions	2020
Chen Beifei	Study on the impact of various forms of exposure of greenery on stress level and productivity in an indoor environment	2019
Yu Xi	Water usage of plants and soil moisture profile of non-irrigated extension roof system under tropical climatic conditions	2019

NUS B.Sc. (PROJECT & FACILITIES MANAGEMENT) FYP ADVISOR

Lim Wei Bin, Raymond	Comparison of greenery coverage in major cities	2020
Joey Boo Hwee Yi	Equivalent thermal resistance (ETR) and passive ratio (PCR) of green roof under tropical climatic conditions	2020
Cheong Zheng Haw	Framework for BIM-based landscape design	2019
Nur Darlene Bte Nasril	Plant selection for solar photovoltaic and green roof systems	2018
Crystal Lim Mei Yin	Development of green wall assessment framework from installation to maintenance phase	2018
Ong Mei Chin Audrey	Factors concerning maintainability of green walls in industrial estates	2018
Cheng Sher Ler	Effect of tree canopy shape and size on average surface temperature in the tropical environment	2017
Lim Chin Voon Jesslyn	Impact of soil and water retention characteristics on evapotranspiration behaviour of plants in a green roof	2016
Chua Hui Xuan Valerie	Impact of soil and water retention characteristics on green roof thermal performance	2016
Chiam Zhi Quan	Impact of plant evapotranspiration rate and albedo on temperature reduction in the tropical environment	2015
Au Yong YiLing Alvina	Effects of plant evapotranspiration rate on outdoor mean radiant temperature in the tropical urban environment	2014
Wee Ling Yan	The impact of lighting on green walls	2014
Chia Pei Yu	A comparison of temperature reduction between cool roof and green roof	2013

URBAN GREENERY WORKSHOPS

Urban Greenery 101 (SITLEARN)	1 class	2020
Fuhua Primary School	1 class	2019
Northland Primary School	7 classes	2019
Greendale Primary School	1 class	2019
Tampines North Primary School	5 classes	2018
Canossa Convent Primary School	3 classes	2018
Yio Chu Kang Primary School	5 classes	2018
Northland Primary School	P3 – P4 (Learning Fest)	2018
Henry Park Primary School	1 class	2018
Tampines North Primary School	P1 – P6 (Learning Fest)	2018
Greendale Primary School	1 class	2018
Northland Primary School	6 classes	2018
Red Swastika School	1 class	2018
Montfort Junior School	3 classes	2018
Changkat Changi Secondary School	5 classes	2018
Boon Lay Garden Primary School	6 classes	2017
Tampines North Primary School	6 classes	2017
Sembawang Primary School	5 classes	2017
Madrasah Aljunied Al-Islamiah	4 classes, 2 sessions each	2017
Madrasah Al-Arabiah Al-Islamiah	1 class	2017
Rosyth School	1 class	2017
Sembawang Primary School	1 class	2017
Admiralty Primary School	1 class	2017
Cantonment Primary School	3 classes	2017
Brain Matter	2 classes	2017
Bukit Panjang Government High School	2 classes	2017
Commonwealth Secondary School	1 class	2017
Jurong Secondary School	1 class	2017
Tanjong Katong Girls' School	1 class	2017
Tampines North Primary School	6 classes	2016

CHINESE SCHOLARSHIP COUNCIL (CSC) STUDENT SUPERVISOR

Zhai Wen Ya Wuhan University June 2022 – May 2023	The effects and mechanism of 'blue-green' space on residents' health in urban China: Evidences from Wuhan	2022
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NUS Ph.D CANDIDATE THESIS COMMITTEE

Zhang Liqing	Nature-based solution for cooling tropical high-density cities: Vegetation as a flexible solution to mitigate UHI effect in urban design process	2022
Zhang Xudong	Assessing the Impact of Visual Landscape Quality using Image-Based Metrics on Restorative Effects	2022
Lu Yichun	Ecological Validity of Virtual Reality in Soundscape Research: Evaluation and Design	2022
Chen Shisheng	Development of Air Temperature Learning Algorithms (ATLAS) for microclimate simulation in a tropical city	2020
Huang Ziyou	The Multi-Perspective Evaluation Framework for the Impacts of Vertical Greenery Systems (VGS) on Built Environment	2019

NUS M.Sc. (ENVIRONMENTAL MANAGEMENT) STUDY REPORT SUPERVISOR / ADVISOR

Bhuiyan Md Samiur Rahman	Benefit and liability quantification for skyrise greenery: case study of an existing building in Singapore	2022
Tan Yun Ru Jessnike	An assessment of greenery provision and policies for built environments	2022
Yeo Renjie Wilfred	Optimising food and energy production on vertical facades using novel productive façade system	2021
Emily Tan Hui Ching	The wellness of Green Mark-certified buildings in Singapore	2021
Liew Shin Tsai	Life Cycle Costing (LCC) of Landscape in various settings in Singapore	2019
Toh Zhi Jian	Maintainability of greenery infrastructure in commercial buildings	2018

NUS M.Sc. (BUILDING) RESEARCH ADVISOR

Long Xinping Sherlyn	A framework for landscape design optimisation	2019
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INDEPENDENT STUDY MODULE EXAMINER / ADVISOR

Merve Esmebasi	Impact of Greenery on Sound Level Perception in Office Spaces	2022
Qiu Yeshan	Understanding how urban green space pattern affects avian biodiversity: Comparison cases in Singapore and Hong Kong	2022
Lu Yichun	Soundscape Research in Public Space in the Residential Context	2021

MEDIA EXPOSURE

The Japan Times 30/4/2023	How a scientific approach to urban greening could cool Japan's concrete jungles - Link	2023
BBC World News 20/11/2021	2045 Memories of the Future	2021
CNN 18/6/2019	Green roofs are sprouting up on buses	2019
China Global Television Network (CGTN) 18/6/2019	Singapore's Gardens on the Move: Green bus roofs bring biodiversity back to urban environment	2019
NewsRadio 938 FM 29/5/2019	Public buses with gardens on roofs	2019
Channelnewsasia, Mediacorp Ch 5 and Ch 8 News Tonight 5/5/2019	Moving garden: Singapore's first public buses with 'green roofs' hit the road	2019
The Straits Times and Mothership.sg 5/5/2019	Singapore's first ever public buses with gardens on roofs	2019
<The Skyrise Greening - 도시, 옥상에 봄>	TV documentary, Daegu MBC Broadcasting station, South Korea	2019
Green Pulse Vol. 1 Iss. 8 Pg 14 – 15.	Special Feature: Inaugural Cities of Love Awards	2018
Lian He Zao Bao (联合早报) 22/1/2019	Distinguished award – Cities of Love Awards	2018
Channel NewsAsia 30/3/2011	NAB winning entry interview	2011
Junior Home Décor Survivor (迷你摆家乐)	Media Corp Channel U – 1 episode	2008

ADVISORY PANEL

Green In Future	2018
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COURSES ATTENDED

Grow a Healthy, Productive Edible Garden - Edible Garden City - 1 day	Apr 2022
Python Designer - Archistar Academy - 3 hrs	Oct 2021
Python Essentials - Archistar Academy - 3 hrs	Oct 2021
Python Fundamentals - Archistar Academy - 2.5 hrs	Sep 2021
Modelling an Organic Roof - Archistar Academy - 2.5 hrs	Sep 2021
Grasshopper Extensions - Archistar Academy - 2.5 hrs	Sep 2021
Grasshopper Advanced - Archistar Academy - 3 hrs	Sep 2021
Grasshopper Designer - Archistar Academy - 3 hrs	Sep 2021
Grasshopper Essentials - Archistar Academy - 3 hrs	Sep 2021
Agriculture Technology - Republic Polytechnic - 100 hrs e-Learning	Nov 2020
ArcGIS Geostatistical Analyst - ESRI Singapore - 1 day	Aug 2020
ArcGIS Spatial Analyst - ESRI Singapore - 3 days	Aug 2020
Editing data with ArcGIS for desktop - ESRI Singapore - 2 days	July 2020
ArcGIS 3: Performing Analysis - ESRI Singapore - 2 days	July 2020
ArcGIS 2: Essential Workflows - ESRI Singapore - 3 days	June 2020
ArcGIS 1: Introduction to GIS - ESRI Singapore - 2 days	June 2020