



Daniel Hii Jun Chung

PhD Student (Building)

Supervisor:

Professor Wong Nyuk Hien

Research Areas:

Anthropogenic heat, urban climate, natural ventilation, pollutant dispersion, urban morphology, virtual reality & augmented reality

Qualifications:

- Bachelor (Hons) Architecture, NUS, 2005
- Masters of Art (Architecture), NUS, 2007
- EC-Council Ethical Hacking and Countermeasures (CEHv6), Score: 94%, 2010
- Apply Engineering Simulation Fundamentals, Professional Engineers Board, Singapore, 2012
- Perform CFD Simulation For Design Verification, Professional Engineers Board, Singapore, 2012
- Perform Structural Simulation for Design Verification, Professional Engineers Board, Singapore, 2013
- Perform Engineering Simulation for Built Environment and HVAC Design, Professional Engineers Board, Singapore, 2013.
- Sports and Building Aerodynamics, Prof. Bert Blocken, Eindhoven University of Technology, Coursera, 2016. Completed with distinction (Grade Achieved: 99.4%)
(<http://www.coursera.org/account/accomplishments/certificate/CXALH38UBC>)

Awards:

- Croucher Advanced Study Institute 2015-2016, Student Travel Sponsorship, CUHK, Hong Kong, 2015
- PhD Research Scholarship, NUS, 2012-2015
- Masters Research Scholarship, NUS, 2005-2007

Publications:

Poster:

•Wong, N. H., Hii, J. C. D. & Jusuf, S. K. (2015). Raytracing of solar radiation for urban microclimate study, 9th International Conference on Urban Climate, 20th-24th July, 2015, Toulouse, France.

Conference:

•Martin, M., Hii, D. J. C., Wong, N. H. & Ignatius, M. (2016). Predictability of urban air temperature changes from variations of PM2.5 concentration during the 2015 Southeast Asian transboundary haze episode, 4th International Conference on Countermeasures to Urban Heat Island, 30-31 May and 1 June 2016, National University of Singapore, Singapore.

•Martin, M., Hii, D. J. C., Ignatius, M. & Wong, N. H. (2016). Comparison between a simplified and detailed building energy model coupled with an urban canopy model, 4th International Conference on Countermeasures to Urban Heat Island, 30-31 May and 1 June 2016, National University of Singapore, Singapore.

•Hii, D. J. C., Wong, N. H. & Jusuf, S. K. (2016). Anthropogenic heat impact on air temperature in the Singapore Central Business District in 2014, 4th International Conference on Countermeasures to Urban Heat Island, 30-31 May and 1 June 2016, National University of Singapore, Singapore.

•Zhang, J. & Hii, D. J. C. (2016). A preliminary simulation study of the impact of building typology on cooling loads and outdoor thermal comfort potential in the tropical context, 4th International Conference on Countermeasures to Urban Heat Island, 30-31 May and 1 June 2016, National University of Singapore, Singapore.

•Hii, D. J. C. & Wong, N. H. (2015). Solar radiation simulation for high density tropical Singapore, International Joint-Conference SENVAR-INTA-AVAN 2015, 24-26 November 2015, Universiti Teknologi Malaysia, Johor Bahru, Malaysia.

•Hii, D. J. C., Wong, N. H. & Jusuf, S. K. (2015). Microscale anthropogenic heat in a tropical high density city, 31st International PLEA Conference, Bologna, Italy, 9-11 September.

•Zhang, J., Hii, D. J. C. & Wong, N. H. (2015). The relationship between building form typology and cooling loads in the tropical climatic context, 31st International PLEA Conference, Bologna, Italy, 9-11 September.

•Hii, D. J. C., Wong, N. H. & Jusuf, S. K. (2015). Anthropogenic heat contribution to air temperature increase at pedestrian height in Singapore's high density Central Business District (CBD), 9th International Conference on Urban Climate, 20th-24th July, 2015, Toulouse, France.

- Hii, D. J. C. (2013). Understanding anthropogenic heat profile in the tropical high density urban environment, Postgraduate Student Consortium, CAADRIA 2013: Open Systems, Department of Architecture, National University of Singapore.
- Zhang, J., Heng, C. K., Malone-Lee, L. C., Huang, Y. C., Janssen, P., Hii, D. J. C., & Ibrahim, N. (2012). Preliminary evaluation of a daylight performance indicator for urban analysis: Facade vertical daylight factor per unit floor area, SimBuild 2012, Madison, Wisconsin, USA.
- Hii, D. J. C., Heng, C. K., Malone-Lee, L. C., Zhang, J., Ibrahim, N., Huang, Y. C. & Janssen, P. (2011). Solar radiation performance evaluation for high density urban forms in the tropical context, Building Simulation 2011: 12th Conference of International Building Performance Simulation Association, Sydney, 14-16 November.
(http://www.ibpsa.org/proceedings/BS2011/P_1804.pdf)
- Hii, D. J. C., Heng, C. K., Malone-Lee L. C. & Zhang, J. (2011). Analyzing the Ventilation Performance of Tropical High Density Residential Precincts using Computational Fluid Dynamics, The 14th International Conference on Computer Aided Architectural Design futures, 4-8 July, Liege, Belgium, 351-366.
- Hii, D. J. C. & Malone-Lee, L. C. (2010). Computational Fluid Dynamics for Urban Design, CAADRIA2010, 7-10 April, Chinese University of Hong Kong, 357-366.
- Karlekar, J., Zhou, Z. Y. S., Lu, W., Loh, Z. C., Nakayama, Y. & Hii, D. J. C. (2010). Positioning, Drift-free Tracking and Mapping for Outdoor Augmentation, ISMAR 2010, Seoul, South Korea, 175-184.
- Karlekar, J., Zhou, Z. Y. S., Nakayama, Y., Lu, W., Loh, Z. C., Hii, D. J. C. (2010). Model-Based Localization and Drift-Free User Tracking for Outdoor Augmented Reality, ICME 2010, Singapore, 1178-1183.
- Zhou, Z. Y. S., Karlekar, J., Hii, D. J. C., Schneider, M., Lu, W. Q. & Wittkopf, S. K. (2009). Robust Pose Estimation for Outdoor Mixed Reality with Sensor Fusion". Proceeding of HCI International 2009. San Diego, CA: Springer. 19 – 24 July, Town and Country Resort & Convention Center, San Diego, CA, United States).
- Hii, D. J. C., Zhou, Z. Y. S., Karlekar, J., Schneider, M. & Lu, W. Q. (2009). Outdoor Mobile Augmented Reality For Past and Future On-Site Architectural Visualizations". Joining Languages Cultures and Visions, ed. Temy Tidafi & Tomas Dorta. Montreal: pum.umontreal. (CAAD futures 2009, 17 - 19 Jun 2009, University De Montreal, Montreal, Canada).
- Karlekar J., Zhou, Z. Y. S., Lu, W. Q., Nakayama, Y. & Hii, D. J. C. (2009). Robust Statistical Sensor Fusion for Outdoor Augmented Reality. International Symposium on Mixed and Augmented Reality (18 - 22 Oct, Orlando, Florida, United States).

- Tan, B. K. & Hii, D. J. C. (2008). The Acceptable Visual Quality of Stereoscopic Virtual Reality Architectural Visualisation. CAADRIA 2008: Proceedings of the 13th International Conference on Computer Aided Architectural Design Research in Asia, Chiang Mai, Thailand), 9-12 April.
- Tan, B. K. & Hii, D. J. C. (2007). Integrating Advanced Shader Technology For Realistic Architectural Virtual Reality Visualization. CAADFutures 2007: Proceedings of the 12th International Conference on Computer-Aided Architectural Design Futures, The University of Sydney, Sydney, Australia, 11-13 July.
- Tan, B. K. & Hii, D. J. C. (2007). Optimising real-time virtual reality presentation. CAADRIA 2007: Proceedings of the 12th International Conference on Computer-Aided Architectural Design Research in Asia, Southeast University, Nanjing, China, 19-22 April.
- Hii, D. J. C. (2007). Best practice for achieving real-time virtual reality architectural visualization, CAADRIA 2007. Proceedings of the 12th International Conference on Computer-Aided Architectural Design Research in Asia, Southeast University, Nanjing, China, 19-22 April.

Book Chapter:

- Karlekar, J., Hii, D. J. C., Zhou, Z.Y., Lu, W. & Nakayama, Y. (2010). Mixed Reality on Mobile Devices, User Interfaces, IN-TECH, Vienna.

Journal:

- Martin, M., Hii, D. J. C., Ignatius, M. & Wong, N. H. Comparison between simplified and detailed EnergyPlus models coupled with an urban canopy model, Energy & Buildings. (Invitation – end 2016).
- Hii, D. J. C., Wong, N. H. & Jusuf, S. K. Anthropogenic heat impact on air temperature, Urban Climate. (Invitation –end 2016).
- Martin, M., Hii, D. J. C., Wong, N. H. & Ignatius, M. PM2.5 predictability with air temperature, Urban Climate. (Invitation – end 2016).
- Zhang, J., Heng, C. K., Malone-Lee, L. C., Hii, D. J. C., Janssen, P., Leung, K. S. & Tan, B. K. (2012). Evaluating Environmental Implications of Density: A comparative case study on the relationship between density, urban block typology and sky exposure, Automation in Construction, 22 (2012), 90-101.
- Hii, D. J. C. & Malone-Lee, L. C. (2011). Computational Fluid Dynamics for Urban Design: The Prospects for Greater Integration, International Journal of Architectural Computing, 9 (1), March 2011, 33-54.

Miscellaneous:

- Urban Microclimate Scale CFD Simulation, 2016 CAD-IT ANSYS Convergence.(<http://www.cadit.com.sg/Convergence2016/img/presentation/s/4.pdf>)
- Anthropogenic heat impact at urban canyon of high density urban Singapore, Croucher Advanced Study Institute 2015-2016: Changing urban climate and the impact on urban thermal environment and urban living, 2015.
(<https://www.arch.cuhk.edu.hk/asi2015/en/Sources/Presentation/Daniel%20Hii%20-%20PDF.pdf>)
- Joint editor, Department of Building Research Report 2012.
(http://www.bdg.nus.edu.sg/files/Research_Report.pdf)
- Use of CFD for Wind Flow Analysis in Urban Areas, HPC E-newsletter Issue No 31, Nov 2011.
(<http://comcen.nus.edu.sg/technus/wpcontent/uploads/2011/11/GreenBldg.pdf>)

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