

Associate Professor (Professor) DONG Yahong, Caroline

Department of Environmental Science and Engineering

Faculty of Innovation Engineering

Macau University of Science and Technology



PhD. Supervisor

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Academic Qualification

PhD, Department of Civil Engineering, The University of Hong Kong

MPhil, Department of Civil Engineering, The University of Hong Kong

BSc, Department of Environmental Science, Ocean University of China

Teaching Area

Industrial Ecology, Sustainable Energy Systems, Introduction to Environmental Economics

Research Area

Life cycle assessment, Water quality modeling, Carbon neutrality, Sustainable development, Green buildings

Working Experience

Associate Professor, Department of Environmental Science and Engineering, Macau University of Science and Technology

Research Fellow (Distinguished), Institute of Low Carbon and Sustainable Development, Jinan University

Professor (Distinguished), Qingdao Research Center of Green Development and Ecological Environment, Qingdao University of Science and Technology

Teaching Fellow, Faculty of Science and Technology, Technological and Higher Education Institute of Hong Kong

Postdoctoral Fellow, Department of Architecture and Civil Engineering, City University of Hong Kong

Postdoctoral Fellow, Department of Civil Engineering, The University of Hong Kong

Life cycle sustainability assessment modeling of buildings, General Project, Natural Science Foundation of Shandong Province, RMB 100,000, 2022-2024, Principal Investigator.

Action Plan for Carbon Neutrality of Lingshan Island Provincial Nature Reserve. Shandong Provincial Nature Conservation Fund, RMB 442,400, 2021-2022, Principal Investigator.

Life Cycle Sustainability Assessment of Biodiesel Produced in Hong Kong, THEi Seed Grant, HK\$100,000, 2016-2017, Principal Investigator.

Research on theory and technology of large-scale seaweed carbon sequestration and sink enhancement, Southern Ocean Science and Engineering Guangdong Laboratory (Zhuhai) 2021 Independent Scientific Research Project (Key Project), 4,000,000 RMB, 2022-2024, Participated.

Guangdong Marine Industry Carbon Emission Accounting and Assessment System, Department of Natural Resources of Guangdong Province, 5,000,000 RMB, January 2022- December 2022, Participated.

Development of a HKGBC Green Building Product Labelling Scheme, Hong Kong Green Building Council (HKGBC), 2012-2014, Participated.

Establishing a Hong Kong based Carbon Labeling Framework for Construction Materials, Hong Kong Construction Industry Council Research Fund, 2012-2013, Participated.

Water Quality Forecast and Management System for Hong Kong (WATERMAN), Hong Kong Jockey Club Charities Fund, 2009-2011. Participated.

Selected peer-reviewed journal papers:

- **Y Dong***, YT Zhao, J Zhang, P Liu, 2022. Development of a framework of carbon accounting and management on the township level in China. *Journal of Environmental Management*. (IF: 8.910)
- **Y Dong**, YT Zhao, H Wang, P Liu, Y He, GY Lin*, 2022. Integration of life cycle assessment and life cycle costing for the eco-design of rubber products. *Scientific Reports*. (IF: 4.996)
- **Y Dong**, MU Hossain, H Li, P Liu*, 2021. Developing Conversion Factors of LCIA Methods for Comparison of LCA Results in the Construction Sector.

- **Y Dong**, ST Ng, P Liu*, 2021. A comprehensive analysis towards benchmarking of life cycle assessment of buildings based on systematic review. *Building and Environment*. (IF: 7.093; Google Citation: 8)
- MU Hossain, ST Ng*, **Y Dong**, B Amor, 2021. Strategies for mitigating plastic wastes management problem: A lifecycle assessment study in Hong Kong. *Waste Management*. (IF: 8.816)
- **Y Dong**, P Liu*, 2021. Evaluation of the completeness of LCA studies for residential buildings. *Clean Technologies and Environmental Policy*. (IF: 4.700)
- **Y Dong**, Y Zhao, MU Hossain, Y He, P Liu*, 2021. Life cycle assessment of vehicle tires: A systematic review. *Cleaner Environmental Systems*. (Google Citation: 9)
- **Y Dong**, P Liu, MU Hossain, Y Fang, Y He, H Li*, 2021. An Index of Completeness (IoC) of life cycle assessment: Implementation in the building sector, *Journal of Cleaner Production*. (IF: 11.072; Google Citation: 4)
- J Guo, **Y Dong**, JHW Lee*, 2020. A real time data driven algal bloom risk forecast system for mariculture management, *Marine Pollution Bulletin*. (IF: 7.001; Google Citation: 5)
- HY Li*, X Zhang, ST Ng, M Skitmore, **YH Dong**, 2019. Social sustainability indicators of public construction megaprojects in China, *Journal of Urban Planning and Development*. (IF: 2.361; Google Citation: 13)
- U Hossain, CS Poon*, **YH Dong**, 2018. Evaluation of environmental impact distribution methods for supplementary cementitious materials, *Renewable & Sustainable Energy Reviews*. (IF: 16.799; Google Citation: 86)
- U Hossain, CS Poon*, **YH Dong**, IMC Lo, JCP Cheng, 2018. Development of social sustainability assessment method and a comparative case study on assessing recycled construction materials, *International Journal of Life Cycle Assessment*. (IF: 5.257; Google Citation: 60)
- **YH Dong**, AK An*, YS Yan, S Yi, 2017. Hong Kong's Greenhouse Gas Emissions from the Waste Sector and its Projected Changes by Integrated Waste Management Facilities, *Journal of Cleaner Production*. (IF: 11.072; Google Citation: 16)
- **YH Dong**, ST Ng*, MM Kumaraswamy, 2016. Critical analysis of the life cycle impact assessment methods, *Environmental Engineering and Management Journal*, 2016, 15 (4): 879-890 (IF: 0.858; Google Citation: 11)
- **YH Dong**, ST Ng*, 2016. A modeling

Building Materials, 2015, 99: 39 – 53. DOI: 10.1016/j.conbuildmat.2015.08.145 (IF: 7.693;

Google Citation: 114)

- **YH Dong**, ST Ng*, 2015. A social life cycle assessment model for building construction in Hong Kong, International Journal of Life Cycle Assessment, 2015, 20 (8): 1166 – 1180. DOI: 10.1007/s11367-015-0908-5 (IF: 5.257; Google Citation: 93)
- **YH Dong**, ST Ng*, 2015. A Life Cycle Assessment model for evaluating the environmental impacts of building construction in Hong Kong, Building and Environment, 2015, 89: 183 – 191. DOI: 10.1016/j.buildenv.2015.02.020 (IF: 7.093; Google Citation: 129)
- **YH Dong**, ST Ng*, AHK Kwan, SK Wu, 2015. Substituting local data for overseas life cycle inventory – a case study of concrete products in Hong Kong, Journal of Cleaner Production, 2015,87: 414 – 422. DOI: 10.1016/j.jclepro.2014.10.005 (IF: 11.072; Google Citation: 36)
- **YH Dong**, ST Ng*, 2014. Comparing the midpoint and endpoint approaches based on ‘ReCiPe’ – a study of commercial buildings in Hong Kong, International Journal of Life Cycle Assessment, 2014, 19 (7): 1409 – 1423. DOI: 10.1007/s11367-014-0743-0 (IF: 5.257; Google Citation:123)

Selected Peer-reviewed Journal Papers (Chinese):

- _____ 2022
IF: 1.91,
- _____* 2021.
IF
1.303 CSSCI

Conferences:

- **Y Dong***, TY Yahong, ZY Xu, 2022, P Liu, Life cycle carbon assessment of buildings based on GB/T 51366: the pros and cons, The 6th Sustainable Process Integration Laboratory (SPIL) Scientific Conference, 14 – 15 November 2022 (Hybrid), Brno, Czech Republic. (Forthcoming)
- **Y Dong***, YT Zhao, P Liu, 2022. Achieving carbon emissions peak at township level: a case study in China., 5th SEE SDEWES Conference, 22 - 26 May, 2022, Vlore, Albania
- **Y Dong***, P Liu, 2022. Replacing natural gas with electricity: a life cycle carbon assessment of the Chinese liquor industry, 5th SEE SDEWES Conference, 22 - 26 May, 2022, Vlore, Albania
- **Y Dong***, P Liu, 2021. The influential factors of consumer purchasing of carbon-labeled products in the post-COVID-19 era, Energy, Water, Emission & Waste in Industry and Cities, The 5th Sustainable Process Integration Laboratory Scientific Conference, 4-5 November, 2021, Brno, Czech Republic.
- **Y Dong***, YT Zhao, P Liu, 2021. Development of a calculation tool of regional carbon

emissions(CToRCE) in China, Energy, Water, Emission & Waste in Industry and Cities, The 5th Sustainable Process Integration Laboratory Scientific Conference, 4-5 November, 2021, Brno,Czech Republic.

- **YH Dong**, ST Ng*, H Li, 2016. Development of a social life cycle impact assessment method for construction management in Hong Kong, International Conference on Advancement of Construction Management and Real Estate, 14-17 December, 2016, Hong Kong, China.
- **YH Dong***, 2016. Sustainability assessment of public residential buildings in Hong Kong based on LCSA, EcoBalance 2016, The 12th Biennial International Conference on EcoBalance, Responsible Value Chains for Sustainability, 3-6 October, 2016, Kyoto, Japan.
- **YH Dong**, L Jaillon*, CS Poon, 2016. Life cycle assessment of precast and cast-in-situ construction, Sustainable Built Environment Regional Conference, 15 – 17 June, 2016, Zurich, Switzerland.
- **YH Dong**, ST Ng*, 2015. A life cycle sustainability assessment framework for building construction, The First International Conference for Sustainable Development and Management, 28 – 30 June 2015, HKSAR, China.
- **YH Dong**, ST Ng*, 2014. Life cycle assessment of biodiesel in Hong Kong, EcoBalance 2014, The 11th International Conference on EcoBalance, Creating Benefit through Life Cycle Thinking, 27-30 October, 2014, Tsukuba, Japan.
- **YH Dong**, ST Ng*, 2013. Application of life cycle assessment to compare the environmental footprint of concrete methods, SETAC Europe 19th LCA Case Study Symposium: LCA in Market, Research, Policy: Harmonization beyond Standardization, 11-13 November, 2013, Rome, Italy.
- **YH Dong**, ST Ng*, 2013. LCA modeling for building construction processes, Sustainable Building 2013 Hong Kong Regional Conference – Urban Density & Sustainability, 12-13 September, HKSAR, China.
- **YH Dong**, CTC Wong, ST Ng*, JMW Wong, 2013. Life Cycle assessment of precast concrete units, International Conference on Civil, Environmental and Architectural Engineering, 28-29 March, Madrid, Spain.

Other publications:

- Book Chapter: Sustainable Building Assessment and Certification System, Rethinking Pathways to Sustainable Built Environment (In preparation).

- 吳 2022 - 2021-2022 -
- 2022 “ 產 ”

• 2021 “粵

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Professional Certification and Awards

The 4th National WebLCA Competition. 2022. The First Class Prize.

Top 10 Most Viewed Presentations, Developing a Calculation Tool of Regional Carbon Emissions (CToRCE): A Case Study of Lingshan Island in China, 5th Sustainable Process Integration

Laboratory Scientific Conference: Energy, Water, Emissions & Waste in Industry and Cities, November 4-5, 2021, Brno, Czech Republic.

BEAM Pro, accredited by Hong Kong Green Building Council (HKGBC)

Best Paper Award, International Conference for Sustainable Development and Management, June 2015, Hong Kong, China.

Certificate of Mental Health First Aid, Mental Health Association of Hong Kong (MHFA)

Journal Editorship

Editor, Sustainability (SI)

Personal Website

