

# **CURRICULUM VITAE**

## **Huabo Duan, Ph.D**

Associate Professor  
College of Civil & Transportation Engineering  
Shenzhen University  
3688 Nanhai Ave  
Shenzhen, Guangdong, 518060 China  
Phone: (+755) 8667-4644  
E-mail: huabo@szu.edu.cn

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### **Education**

- 2006–2010.** Ph.D. degree in Environmental Science and Engineering, Tsinghua University, Beijing China.
- 2003–2006.** M.Sc. degree in Environmental Science and Engineering, Chinese Research Academy of Environmental Sciences, Beijing China.
- 1999–2003.** B.Sc. degree in Environmental Science and Engineering, Wuhan University of Science and Technology, Wuhan, China.
- 2010 Sep.** Competitively selected for participating in NVMP-StEP Summer School (in The Netherland). United Nations University.
- 2009 July.** Competitively selected for participating in the course on Regional Environmental Sustainable Development Program for PhD students. Tohoku University (Japan), Korea Advanced Institute of Science and Technology (South Korea).

### **Academic and Professional Experience**

- 12/2014-Present,** Associate Professor, College of Civil & Transportation Engineering, Shenzhen University, China
- 04/2011-10/2013** Postdoctoral Associate. Materials Systems Laboratory, Engineering Systems Division. Massachusetts Institute of Technology.
- 09/2010-03/2011** Research Associate. Basel Convention Coordinating Center for Asia and the Pacific. School of Environment, Tsinghua University, Beijing China
- 09/2010-03/2011** Research assistant, Investigation on the overall environmental impacts of electronics Industry in China by using LCA. Swiss Federal Laboratories for Materials Testing and Research (EMPA). Switzerland.

## Research Interests

- Management Strategies, Legislation, Recycling Technologies and Environmental Implication of Urban Solid Waste (Construction & Demolition Waste)
- Urban Sustainable Development: Green Buildings and Sustainable Transpiration.
- Life Cycle Cost / Environmental Assessment for Products and Processes (LCCA/LCA)
  - Sustainable assessment (CO<sub>2</sub> potentials) by using LCA
  - LCA database development, uncertainty capture and data quality analysis

## Selected Scientific Publication

1. Li Q., Ma Y., Duan H\*, et al. Life cycle assessment and life cycle cost analysis of a 40MW wind farm with consideration of the infrastructure, *Renew Sust Energ Rev*, 2020-11-01
2. Sun P., Zhang N., Zuo J., & Duan H\*. Characterizing the generation and flows of building interior decoration and renovation waste: A case study in Shenzhen City, *J Clean Prod*, 2020-07-01.
3. Cao Z., Myers R.J., Lupton R.C., Duan H.et. al. The sponge effect and carbon emission mitigation potentials of the global cement cycle, *Natural Communication*, 2020-07-01.
4. Zhang N., Duan H\*, Sun P. Characterizing the generation and environmental impacts of subway-related excavated soil and rock in China, *J Clean Prod*, 2020-03-01.
5. Zhang N., Tam V.W.Y., & Duan H\*. A dynamic analysis of the global warming potential associated with air conditioning at a city scale: an empirical study in Shenzhen, China, *Environ Imp Assess Rev*, 2020-03-01.
6. Kang P., Zhang H., Duan H\*. Characterizing the implications of waste dumping surrounding the Yangtze River economic belt in China, *J Hazard Mat*, 2020-02-01.
7. Kang P., Song G., Chen D., Duan H\*. Zhong R. Characterizing the generation and spatial patterns of carbon emissions from urban express delivery service in China, *Environ Imp Assess Rev*, 2020-01-01.
8. Zhang N., Duan H\*, Miller T.R.et. al. Mitigation of carbon dioxide by accelerated sequestration in concrete debris, *Renew Sust Energ Rev*, 2020-01-01.
9. Huang Y., Duan H\*, Dong D.et. al. How to evaluate the efforts on reducing CO<sub>2</sub> emissions for megacities? Public building practices in Shenzhen city, *Resour Conserv Recy*, 2019-10-01.
10. Zhang N., Zheng L., Duan, H\*.et. al. Differences of methods to quantify construction and demolition waste for less-developed but fast-growing countries: China as a case study, *Environ Sci Poll Res*, 2019-09-01.
11. Wang H., Chen D., Duan H\*.et. al. Characterizing urban building metabolism with a 4D-GIS model: A case study in China, *J Clean Prod*, 2019-08-01.
12. Zhao S., Song Q., Duan H., et al., Uncovering the lifecycle GHG emissions and its reduction opportunities from the urban buildings: A case study of Macau. *Resour Conserv Recy*, 2019-05-10.
13. Liu Q., Liu G., Duan H., et al., Product and metal stocks accumulation of China's megacities: Patterns, drivers, and implications. *Environ Sci Technol*, 2019-05-13.
14. Cao Z., Liu G., Duan H., et al., Unravelling the mystery of Chinese building lifetime: A

- calibration and verification based on dynamic material flow analysis. *Applied Energy*, 2019-01-02.
15. Duan H., Miller T.R., Liu G., Tam V.W.Y. Construction debris becomes growing concern of growing cities, *Waste Manage*,2019-01-01.
  16. Dong D., Duan H\*, Mao R.et. al. Towards a low carbon transition of urban public transport in megacities: A case study of Shenzhen, China, *Resour Conserv Recy*, 2018-07-01.
  17. Duan H., Miller T.R., Liu G\*.et. al. Chilling Prospect: Climate Change Effects of Mismanaged Refrigerants in China, *Environ Sci Technol*, 2018-06-01.
  18. Yu D., Duan H\*, Song Q\*.et. al. Characterizing the environmental impact of metals in construction and demolition waste, *Environ Sci Poll Res*, 2018-05-01.
  19. Duan H., Li J. & Liu G\*. Developing countries: Growing threat of urban waste dumps. *Nature*, 546, 599. 2017-07-01
  20. Duan H.\*, Zhang H., Huang Q.\*, et al. Characterization and environmental impact analysis of sea land reclamation activities in China. *Ocean Coast Manage*. 2016, 130, 128-137. (SCI, IF:1.75)
  21. Duan H., Li J\*. Construction and demolition waste management: China's lessons. *Waste Manage Res* 2016, 34(5), 397-398. (SCI, IF:1.35)
  22. Wu H., Duan H\*, Zheng L., et al. Demolition waste generation and recycling potentials in a rapidly developing flagship megacity of South China: Prospective scenarios and implications. *Constr Build Mater* 2016, 113, 1007-1016. (SCI, IF:2.42)
  23. Duan H.,Wang J., Liu L., et al. Rethinking China's Strategic Mineral Policy on Indium: Implication for the Flat Screens and Photovoltaic Industries. *Progress in Photovoltaics: Research and Applications (Prog Photovolt: Res. Appl.)*. 2016, 24, 83-93. (SCI, IF:7.37)
  24. Wu H., Wang J.\*, Duan H.\*, et al. An innovative approach to managing demolition waste via GIS: A case study in Shenzhen city, China. *J Clean Prod* 2016, 112, 494-593. (SCI, IF: 4.96)
  25. Duan H., Hu M., Zhang Y., et al. Quantification of carbon emissions for the transport service sector in China by using streamlined LCA. *J Clean Prod* 2015, 95, 109-116. (SCI, IF:4.96)
  26. Duan H., Wang, J. Encouraging the environmentally sound management of C&D wastes in China: An integrative review and research agenda. *Renew Sus Energ Rev*. 2015, 43, 611-620. (SCI, IF:6.80)
  27. Duan H., Huang Q., Wang Q., et al. Hazardous waste generation and management in China: A review. *J Hazard Mater*. 2008, 158: 221-227. (SCI, IF: 4.84)
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