

Dr. Daniel C.W. Tsang

Academic Positions:

Assistant Professor (2012-present), Civil and Environmental Engineering, Hong Kong Polytechnic University

IMETE Scholar (Nov 2015), Bioscience Engineering, Ghent University, Belgium

Visiting Scholar (Jan-Feb 2011, Jul-Aug 2012, Jun-Aug 2013), Civil and Environmental Engineering, Stanford University, USA

Senior Lecturer (2011-2012), Lecturer (2008-2010), Civil and Natural Resources Engineering, University of Canterbury, New Zealand

Post-Doctoral Fellow (2007-2008), Civil and Environmental Engineering, Imperial College London, UK; **Post-Doctoral Fellow (2006-2007)**, Institute for the Environment, Hong Kong University of Science and Technology

Academic Qualifications:

Postgraduate Diploma (2010), Tertiary Teaching, University of Canterbury, New Zealand

PhD (2006), Civil Engineering, Hong Kong University of Science and Technology

BEng (2002), Civil and Structural Engineering, Minor Degree in Social Science, Hong Kong University of Science and Technology

Relevant Research Grants:

- Developing a high-throughput vegetable waste valorisation technology to produce high-value green substitutes of petroleum derivatives. HK Environment and Conservation Fund, **PI**, 2016

- Transforming food waste at the Hong Kong International Airport into value-added chemicals. Hong Kong International Airport Environmental Fund, **PI**, 2015

- Integrating biodegradable chelant-enhanced metal extraction with biochar soil amendment for low-impact remediation, HK Research Grants Council, General Research Fund, **PI**, 2015

- Recycling used timber formwork into lightweight thermal-insulating cement-bonded particleboards, HK Construction Industry Council Research Fund, **PI**, 2014

- Fate and transport of chromium(VI)/arsenic(V)-loaded nanoscale zero-valent iron in groundwater. Natural Science Foundation of China, Youth Programme, **PI**, 2014

- Elucidating the fate and transport of heavy metals and bacteria in stormwater harvesting, HK Research Grants Council, Early Career Scheme, **PI**, 2013

Publication Records:

[Journal Articles: 81; Edited Book: 1; Book Chapters: 5; Invited Seminars: 21; Conference Presentations: 102] [h-index: 22 (*Google Scholar*), 18 (*Scopus*), 17 (*Web of Science*)]

1. Lau, A.Y.T.; **Tsang, D.C.W.***, Graham, N.J.D.; Ok, Y.S.; Yang, X.; Li, X.D. Surface-modified biochars in a bioretention system for *Escherichia coli* removal from stormwater. *Chemosphere*, 2017, 169, 89-98.

2. Chen, S.S.; Sun, Y.; **Tsang, D.C.W.***; Graham, N.J.D.; Ok, Y.S.; Feng, Y.*; Li, X.D. Insights into the subsurface transport of As(V) and Se(VI) in flowback water from hydraulic fracturing. *Environ. Pollut.*, 2017, 223, 449-456.

3. Chen, S.S.; Sun, Y.; **Tsang, D.C.W.***; Graham, N.J.D.; Ok, Y.S.; Feng, Y.*; Li, X.D. Potential impact of flowback water from hydraulic fracturing on agricultural soil quality: Metal/metalloid bioaccessibility, Microtox bioassay, and enzyme activities. *Sci. Total. Environ.*, 2017, 579, 1419-1426.

4. Igalavithana, A.D.; Lee, S.E.; Lee, Y.H.; **Tsang, D.C.W.***; Rinklebe, J.; Kwon, E.E.; Ok, Y.S.* Heavy metal immobilization and microbial community abundance by vegetable

- waste and pine cone biochar of agricultural soils. *Chemosphere*, 2017, 174, 593-603.
5. Sun, Y.; Chen, S.S.; **Tsang, D.C.W.***; Graham, N.J.D.; Ok, Y.S.; Feng, Y.*; Li, X.D. Zero-valent iron for the abatement of arsenate and selenate from flowback water of hydraulic fracturing. *Chemosphere*, 2017, 167, 163-170.
 6. Yu, I.K.M.; **Tsang, D.C.W.***; Yip, A.C.K.; Chen, S.S.; Wang, L.; Ok, Y.S.; Poon, C.S. Catalytic valorization of food waste into hydroxymethylfurfural (HMF): Controlling relative kinetics for high productivity. *Bioresource Technol.*, 2017, in press.
 7. Wang, L.; Chen, S.S.; **Tsang, D.C.W.***; Poon, C.S.; Dai, J.G. CO₂ curing and fibre reinforcement for green recycling of contaminated wood into high-performance cement-bonded particleboards. *J. CO₂ Util.*, 2017, 18, 107-116.
 8. Yu, I.K.M.; **Tsang, D.C.W.***; Yip, A.C.K.; Chen, S.S.; Ok, Y.S.; Poon, C.S. Valorization of food waste into hydroxymethylfurfural: Dual role of metal ions in successive conversion steps. *Bioresource Technol.*, 2016, 219, 338-347.
 9. Wang, L.; Chen, S.S.; **Tsang, D.C.W.***; Poon, C.S.; Shih, K. Recycling contaminated wood into eco-friendly particleboard using green cement and carbon dioxide curing. *J. Clean. Prod.*, 2016, 137, 861-870.
 10. Rajapaksha, A.U.; Chen, S.S.; **Tsang, D.C.W.***; Zhang, M.; Vithanage, M.; Mandal, S.; Gao, B.; Bolan, N.S.; Ok, Y.S.* Review on engineered/designer biochar for contaminant removal from soil and water: Potential and implication of biochar modification. *Chemosphere*, 2016, 148, 276-291.

Professional Experience:

Academic:

- Excellence in Review Award, *Chemosphere*, Elsevier (2016)
- Excellence in Review Award, *Environmental Science and Technology*, ACS (2014)
- Editorial Board, *Chemosphere* (2015-); Coordinating Editor, *Environmental Geochemistry and Health* (2014-); Subject Editor, *Journal of Soils and Sediments* (2016-)
- One PhD student awarded with Fulbright-RGC Hong Kong Research Scholar Award Program (2017); two FYP students awarded with HK PhD Fellowships (\$750,000) (2014, 2015), three PhD students received Best Conference Poster Award (2014, 2015, 2016), four PhD students awarded with PolyU Micro Fund for Entrepreneurship (\$100,000) (2015), two FYP students received Award of Merit in ICE Paper Competition (2013, 2014)
- Students Feedback Questionnaire: 4 times ranked Top 10% and 1 time ranked Top 10-25% in large-class teaching (> 100); 4 times ranked Top 10% and 7 times ranked Top 10-25% in medium-class teaching (30-60) (2012-2016)
- Awarded three Teaching Development Grants as **PI** (2016)

Industry:

- Gold Medal, 45th International Exhibition of Inventions of Geneva (2017)
- Champion Prize, Environmental Paper Award, Environmental Division of Hong Kong Institution of Engineers (HKIE) (2015)
- Executive Committee (Honorary Secretary), Hong Kong Waste Management Association (2014-2017); Executive Committee (Co-Opted Member), International Water Association, Hong Kong (2015-2017)
- Research Projects Vetting Subcommittee & Energy Conservation Projects Vetting Subcommittee, Environment and Conservation Fund, Hong Kong (2012-2018)
- Eco Building Fund Vetting Committee, CLP Power HK Ltd, Hong Kong (2014-2018)
- Professional Review Panel, Green Products Accreditation and Standards, Green Building Council, Hong Kong (2016-2018)