

Resume

Name: Dr. To-Hung TSUI, Thomas

Position Title: Postdoctoral Research Associate, Purdue University

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Research Interests:

Technology Integration; Systems analysis; Sustainability assessments; Food & Urban Systems

Relevant Skills:

Biosystem Design and Retrofitting; Process Intensification; Biofilm Engineering; Metagenomics
Life-cycle Assessment; Techno-economic Analysis; Geospatial Analysis; Material Flow Analysis;
Network Analysis; Stochastic Optimization; Multi-criteria Analysis; Machine Learning

Citations: 1261; **H-index:** 20

Education:

PhD in Civil Engineering, Hong Kong University of Science and Technology 2017

Postgraduate Certificate, UNESCO-IHE Institute for Water Education, the Netherlands 2016

BEng in Civil & Environmental Engineering, Hong Kong University of Science and Technology 2013

Research and professional experience:

Postdoctoral Research Associate, Purdue University

2024–Now

Affiliation: Department of Food Science

Contents: As a researcher under an \$11 million USDA initiative, I develop multi-scale computational frameworks for controlled-environment aquaculture analysis, creating new quantitative capabilities for resilient seafood supply chains in the Midwest. My research focuses on enhancing system efficiency and sustainability. Key contributions:

- Develop a novel cognitive life-cycle computation methodology for analyzing closed-loop aquaculture systems
- Facilitate interdisciplinary collaboration among research teams for data integration and analysis
- Deliver guest lectures on life-cycle assessment for food science students
- Lead machine learning applications development for USDA and DOE proposals as senior personnel.
- Mentored graduate students within the project's objective team

Postdoctoral Researcher, University of Oxford

2022–2023

Affiliations: Oxford Martin School; Department of Engineering Science (Systems Engineering)

Contents: As a researcher in the Agile Initiative, a £10 million university-wide program supported by the Natural Environment Research Council, pioneered fast-paced and systems-level solutions for regional sustainability challenges through science-policy integration. My research focused on analyzing the critical metabolic interplay between engineering infrastructures and food systems transformation, particularly being disrupted during the Russo-Ukrainian War crisis. Key contributions:

- Developed cutting-edge digital twins using machine learning algorithms for infrastructure analysis
- Designed an integrated framework combining technical, economic, and environmental assessments
- Provided technical solutions to food systems group from Environmental Change Institute for developing stakeholder workshops

Research Fellow , National University of Singapore Affiliations: E2S2-CREATE; Department of Chemical and Biomolecular Engineering Contents: As part of the E2S2-CREATE framework, a collaborative initiative between Singapore and Shanghai governments bringing together 60 research teams to address sustainability challenges in mega-cities. My research concentrated on developing and implementing cutting-edge environmental biotechnologies for resource recovery from organic wastes, with focus on integrating fundamental discoveries into practical applications. Key contributions: <ul style="list-style-type: none"> • Upgraded designs in novel modular devices for organic waste recycling in urban settings • Developed decision-support framework through techno-economic-environmental analysis. • Applied machine learning for integrated system analysis and experimental designs • Piloted decentralized solutions for food waste recycling in mega-cities' real-world settings 	2020–2022
Principal Investigator & Postdoctoral Fellow , Hong Kong Baptist University Affiliations: Institute of Bioresource and Agriculture; Department of Biology Contents: Within the HKSAR's New Agricultural Policy initiative for organic agriculture development, supported by HSBC's 150th Anniversary Charity Programme. My research centered on the applications of biotechnical and thermochemical technologies for food waste management, while leading an externally funded project from HKSAR Environmental Bureau for upgrading full-scale organic resource recovery centre (OPark 2). Key contributions: <ul style="list-style-type: none"> • Led applied research of metabolic pathways regulation for anaerobic digester's efficiency • Secured external funding for OPark 2 upgrade project supporting urban agriculture • Engaged key stakeholders, including China Resources (Food Supplier), Jardine Engineering (Infrastructure Consultant), and China State Construction (Main Contractor) • Supervised one postdoctoral fellow as the project's Principal Investigator 	2018–2020
PhD & Postdoctoral Fellow , Hong Kong University of Science and Technology Affiliation: Department of Civil and Environmental Engineering Contents: Part of Hong Kong's largest sponsored environmental project, jointly funded by the Drainage Services Department and Innovation & Technology Fund, focusing on scaling up the laboratory-scale SANI (Sulphate Reduction, Autotrophic Denitrification and Nitrification Integrated) Process to full-scale implementation. My research concentrated on process intensification through biofilms aggregation and their microbiological responses in extreme environments. Key contributions: <ul style="list-style-type: none"> • Advanced the fundamental understanding of biofilm behavior and control in extreme conditions • Innovated a compact system designs, earning the HKIE Innovation Award Grand Prize • Assisted in drafting a five-year theme-based proposal for saline sewage treatment in coastal cities 	2013–2018
Visiting Fellow , UNESCO-IHE Institute for Water Education, the Netherlands Received specialized training in waste and water infrastructure design	2016
UG Thesis , Hong Kong University of Science and Technology Investigated sulfate-reducing bacteria applications for heavy metal recovery	2012 – 2013
UROP Candidate , Hong Kong University of Science and Technology Studied water scarcity and heavy metal pollution challenges in developing countries	2011 – 2012

Awards and honors

Postdoctoral Fellowship (Research Talent Hub)	2020
Postdoctoral Fellowship (Postdoctoral Hub)	2018–2019
Chinese National Innovation Competition “Challenge Cup”, Second Class	2017
Hong Kong Institution of Engineers (HKIE) Innovation Award, Grand Prize	2016
Institution of Engineering and Technology (IET) Competition “YPEC”, 1st Runner up	2016
Jardine Engineering Corporation Outstanding Engineering Project, Merit Award	2016
HKUST Postgraduate Studentship	2013–2017
Hong Kong Housing Society Award	2011–2013
Lau Fu Wing Award	2011–2013

Service activities

HKUST Residential Hall Education, Hall Tutor	2013–2017
HKUST Judo Club and Team Member of the University, Vice-Captain	2012–2017
Volunteer, Habitat for Humanity at Pokhara, Nepal	2011 Winter

Teaching experience

Life-Cycle Assessment of Food Production System	2024
Biological Waste Treatment	2017
Modeling of Biological Treatment	2016
Industrial Training (Engineering drawing)	2015
Water and Wastewater Engineering	2015
Environmental Assessment and Management	2014
Process Design of Environmental Engineering Facilities	2014

Supervision of research students

CHIN Hui Qi (NUS-UG)	Sustainable floriculture in urban environments
LIM Shuhan (NUS-UG)	Machine learning for integrated system design
CHOO Yi Xuan (Singapore-High school)	Food waste recycling in Singapore
LIN Yi Jie (Singapore-High school)	Food waste recycling in Singapore
TANG Shiu-wa (HKUST-UG)	Biological metal removal and recovery process
CHIU Chun Wing (HKUST-UG)	Energy harvesting in sulfide-driven microbial fuel cell
WONG Hoi Ching (HKUST-UG)	Bio-electrochemical systems for aqueous sulfide removal
Dr. WU Hao (HKBU Postdoc)	Microbial electrolysis cell for resource recovery

Project Experience

Title: When Blue Is Green - Sustainable Blue Food Systems Driven by Integrated Aquaponics, Postdoctoral Research Associate

Funding source: U.S. Department of Agriculture, Sustainable Agriculture Systems

Title: A Near-zero-pollution Aquaculture Production System Comprising Phycoremediation, Anaerobic Digestion, and Emission Mitigation, Postdoctoral Research Associate

Funding source: U.S. Department of Agriculture, The Inter-Disciplinary Engagement in Animal Systems

Title: Systemic Innovation to Transform Regional Nutrient Flows for Environmental, Economic, and Social Benefits - Agile initiatives, Postdoctoral Researcher

Funding source: UKRI/NERC Changing the Environment programme

Title: Energy and Environmental Sustainability Solutions for Megacities, Research Fellow

Funding source: National Research Foundation, Prime Minister's Office, Singapore

With 30 research teams each from the National University of Singapore and Shanghai Jiao Tong University, it aims to facilitate the holistic understanding, design, and implementation of sustainability solutions and infrastructure in future megacities.

Title: On-site pilot trial using anaerobic digestion of food waste for energy and resource recovery at East Coast Lagoon Food Village (ECLFV), 2020–2022, Team Member
Funding source: National Environment Agency, Singapore

Title: Biological pretreatment of TRIA plant-based packaging material: Design, fabrication, operation and optimization of bioreactors and microbial community, 2021, Team Member
Funding source: Industry grant by TRIA Pte Ltd

Title: Development of a laminated fluidized foaming and shelf-life prediction technology for the production of degradable, lightweight, and thermo insulation products, 2020, Team member
Funding source: Innovation and Technology Commission (Platform Research Project), Hong Kong

Title: Developing more integrated organic wastes treatment in Hong Kong: anaerobic co-digestion of food wastes and slaughterhouse waste, 2019–2020, Principal Investigator
Funding source: Environment and Conservation on Fund, Hong Kong

Title: Granulation Simulation for Organic Waste Treatment Facilities Phase 2, Co-Investigator
Funding source: Industry grant by AJA Joint Venture

Title: Establishing the “Institute of Bioresource and Agriculture” (IBA), Team Member
Funding source: HSBC Limited 150th Anniversary Charity Programme
Use Organic Agriculture as a vehicle to cultivate the sustainability in the general public, preserve the indigenous bioresource and biodiversity as well as to strengthen the agricultural development in Hong Kong.

Title: Integration of next-generation rhamnolipid production into anaerobic digestion: New prospects for advanced biorefineries. 2018–2020, Team Member
Funding source: Innovation and Technology Commission (Seed Project), Hong Kong

Title: Biochar assisted co-digestion of food waste and sludge for enhancing organic loading efficiency – A special reference to Hong Kong. 2019–2020, Team Member
Funding source: Environment and Conservation on Fund, Hong Kong

Title: Large-scale study on realization and application of SANI Process in sewage treatment in Hong Kong. 2015 – 2017, Student Member
Funding source: Innovation and Technology Commission (Innovation and Technology Support)

Full Publications

1. Dar, R.A., **Tsui, T.H.**, Zhang, L., Smoliński, A., Tong, Y.W., Rasmey, A.H.M. and Liu, R., 2025. Recent achievements in magnetic-field-assisted anaerobic digestion for bioenergy production. *Renewable and Sustainable Energy Reviews*, 207, p.114902.
2. Cai, M., Javed, J., Wu, H., Zhou, Y., Liyang, H., Yang, C., **Tsui, T.H.**, Song, B. and Zhang, Q., 2024. Valorizing waste activated sludge incineration ash to S-doped Fe₂+@ Zeolite 4A catalyst for the treatment of emerging contaminants exemplified by sulfamethoxazole. *Journal of Environmental Management*, 369, p.122382.
3. **Tsui, T. H.**, Zhang, W., Ng, K.S., Yang, A. (2023) Digital twin by machine learning in MFA reconstruction of biomass valorization. 11th International Conference on Industrial Ecology (ISIE2023). (https://is4ie.org/mediafiles/ISIE2023_Leiden_Book_of_Abtracts.pdf).
4. Yang A, Ng KS, Thompson I, **Tsui TH**, Zhang W, Nair P, Qiu S, Ingram J, Zurek M, Gupta B, Hasnain S. (2023) Re-organising nutrients flows in Leicestershire: systemic innovation to transform nutrient flows for environmental and socioeconomic benefits. (<http://dx.doi.org/10.5287/ora-mnoz6emp>). Oxford Martin School.
5. Sharma, P., Parakh, S.K., **Tsui, T.H.**, Bano, A., Singh, S.P., Singh, V.P., Lam, S.S., Nadda, A.K. and Tong, Y.W., 2024. Synergetic anaerobic digestion of food waste for enhanced production of biogas and value-added products: strategies, challenges, and techno-economic analysis. *Critical Reviews in Biotechnology*, 44(6), pp.1040-1060.

6. Dar, R.A., **Tsui, T.H.**, Zhang, L., Tong, Y.W., Sharon, S., Shoseyov, O. and Liu, R., 2024. Fermentation of organic wastes through oleaginous microorganisms for lipid production-Challenges and opportunities. *Renewable and Sustainable Energy Reviews*, 195, p.114328.
7. Zhang, L., **Tsui, T.H.**, Loh, K.C., Dai, Y., Zhang, J. and Tong, Y.W., 2024. Biogas Production from High-solid Anaerobic Digestion of Food Waste and Its Co-digestion with Other Organic Wastes. *Biogas Plants: Waste Management, Energy Production and Carbon Footprint Reduction*, pp.85-99.
8. Lee, J.T., Dutta, N., **Tsui, T.H.**, Lim, E.Y., Dai, Y. and Tong, Y.W., 2024. Pretreatment of Lignocellulosic Materials to Enhance Biogas Recovery. *Biogas Plants: Waste Management, Energy Production and Carbon Footprint Reduction*, pp.37-72.
9. **Tsui, T.H.**, Zhang, L., Lee, J.T., Dai, Y. and Tong, Y.W., 2024. Financial Sustainability and Stakeholder Partnerships of Biogas Plants. *Biogas Plants: Waste Management, Energy Production and Carbon Footprint Reduction*, pp.211-220.
10. Zhang, L., **Tsui, T.H.**, Tong, Y.W., Aggarangsi, P. and Liu, R., 2024. Applying current-carrying-coil-based magnetic field (CCC-MF) to promote anaerobic digestion of chicken manure: Performance evaluation, mitigation of ammonia inhibition, microbial community analysis, and pilot-scale validation. *Energy Conversion and Management*, 300, p.117908.
11. Zhang, L., **Tsui, T.H.**, Tong, Y.W., Sharon, S., Shoseyov, O. and Liu, R., 2023. Biochar applications in microbial fermentation processes for producing non-methane products: Current status and future prospects. *Bioresource Technology*, p.129478.
12. Ren, X., Han, Y., Zhao, H., Zhang, Z., **Tsui, T.H.** and Wang, Q., 2023. Elucidating the characteristic of leachates released from microplastics under different aging conditions: Perspectives of dissolved organic carbon fingerprints and nano-plastics. *Water Research*, 233, p.119786.
13. Zhou, Y., Ren, X., **Tsui, T.H.**, Barcelo, D., Wang, Q., Zhang, Z. and Yongzhen, D., 2023. Microplastics as an underestimated emerging contaminant in solid organic waste and their biological products: Occurrence, fate and ecological risks. *Journal of Hazardous Materials*, 445, p.130596.
14. Tong, Y.W., Sharma, P., Tian, H., **Tsui, T.H.**, Lam, H.T. and Tong, Y.W., 2023. Startup performance and microbial communities of a decentralized anaerobic digestion of food waste. *Chemosphere*, 318, p.137937.
15. **Tsui, T.H.**, van Loosdrecht, M.C., Dai, Y. and Tong, Y.W., 2023. Machine learning and circular bioeconomy: Building new resource efficiency from diverse waste streams. *Bioresource Technology*, 369, p.128445.
16. Wang, Z., Zhao, M., Xie, J., Wang, Z., **Tsui, T.H.**, Ren, X., Zhang, Z. and Wang, Q., 2022. Insight into the fraction variations of selenium and their effects on humification during composting. *Bioresource Technology*, 364, p.128050.
17. Ren, X., Wang, Z., Zhao, M., Xie, J., Zhang, Z., Yang, F., **Tsui, T.H.**, Wang, Q. and Ding, Y., 2022. Role of selenite on the nitrogen conservation and greenhouse gases mitigation during the goat manure composting process. *Science of the Total Environment*, 838, p.155799.
18. Lee, J.T., Dutta, N., Zhang, L., **Tsui, T.H.**, Lim, S., Tio, Z.K., Lim, E.Y., Sun, J., Zhang, J., Wang, C.H. and Ok, Y.S., 2022. Bioaugmentation of *Methanosarcina thermophila* grown on biochar particles during semi-continuous thermophilic food waste anaerobic digestion under two different bioaugmentation regimes. *Bioresource technology*, 360, p.127590.
19. Lee, J.T., Lim, E.Y., Zhang, L., **Tsui, T.H.**, Tian, H., Yan, M., Lim, S., bin Abdul Majid, M., Jong, M.C., Zhang, J. and Wang, C.H., 2022. *Methanosarcina thermophila* bioaugmentation and its synergy with biochar growth support particles versus polypropylene microplastics in thermophilic food waste anaerobic digestion. *Bioresource technology*, 360, p.127531.
20. Zhang, L., Jiang, Z., **Tsui, T.H.**, Loh, K.C., Dai, Y. and Tong, Y.W., 2022. A review on enhancing *Cupriavidus necator* for poly (3-hydroxybutyrate)(PHB) production from low-cost carbon sources. *Frontiers in bioengineering and biotechnology*, 10, p.946085.
21. **Tsui, T.H.**, Zhang, L., Zhang, J., Dai, Y. and Tong, Y.W., 2022. Methodological framework for wastewater treatment plants delivering expanded service: Economic tradeoffs and technological decisions. *Science of the Total Environment*, 823, p.153616.
22. Zhang, L., Li, F., **Tsui, T.H.**, Yoh, K., Sun, J., Loh, K.C., Wang, C.H., Dai, Y. and Tong, Y.W., 2022. Microbial succession analysis reveals the significance of restoring functional microorganisms during rescue of failed anaerobic digesters by bioaugmentation of nano-biochar-amended digestate. *Bioresource Technology*, 352, p.127102.

23. Zhang, L., **Tsui, T.H.**, Fu, J., Dai, Y. and Tong, Y.W., 2022. Valorization of poly- β -hydroxybutyrate (PHB)-based bioplastic waste in anaerobic digesters of food waste for bioenergy generation: reactor performance, microbial community analysis, and bioplastic biodegradation. *Carbon Neutrality*, 1(1), p.8.
24. **Tsui, T.H.**, Zhang, L., Zhang, J., Dai, Y. and Tong, Y.W., 2022. Engineering interface between bioenergy recovery and biogas desulfurization: Sustainability interplays of biochar application. *Renewable and Sustainable Energy Reviews*, 157, p.112053.
25. Zhang, L., Yao, D., **Tsui, T.H.**, Loh, K.C., Wang, C.H., Dai, Y. and Tong, Y.W., 2022. Plastic-containing food waste conversion to biomethane, syngas, and biochar via anaerobic digestion and gasification: Focusing on reactor performance, microbial community analysis, and energy balance assessment. *Journal of Environmental Management*, 306, p.114471.
26. Zhang, L., **Tsui, T.H.**, Loh, K.C., Dai, Y. and Tong, Y.W., 2022. Acidogenic fermentation of organic wastes for production of volatile fatty acids. In *Biomass, Biofuels, Biochemicals* (pp. 343-366). Elsevier.
27. Zhang, L., Yan, M., **Tsui, T.H.**, Lee, J.T., Loh, K.C., Dai, Y. and Tong, Y.W., 2022. Functional microbial characteristics in acidogenic fermenters of organic wastes for production of volatile fatty acids. In *Biomass, Biofuels, Biochemicals* (pp. 367-394). Elsevier.
28. Zhang, L., **Tsui, T.H.**, Loh, K.C., Dai, Y. and Tong, Y.W., 2021. Effects of plastics on reactor performance and microbial communities during acidogenic fermentation of food waste for production of volatile fatty acids. *Bioresource Technology*, 337, p.125481.
29. Mao, L.¹, **Tsui, T.H.**¹, Zhang, J., Dai, Y. and Tong, Y.W., 2021. System integration of hydrothermal liquefaction and anaerobic digestion for wet biomass valorization: Biodegradability and microbial syntrophy. *Journal of Environmental Management*, 293, p.112981. (¹ Co-First Author)
30. **Tsui, T.H.**, Zhang, L., Lim, E.Y., Lee, J.T. and Tong, Y.W., 2021. Timing of biochar dosage for anaerobic digestion treating municipal leachate: Altered conversion pathways of volatile fatty acids. *Bioresource Technology*, 335, p.125283.
31. Mao, L.¹, **Tsui, T.H.**¹, Zhang, J., Dai, Y. and Tong, Y.W., 2021. Mixing effects on decentralized high-solid digester for horticultural waste: Startup, operation and sensitive microorganisms. *Bioresource Technology*, 333, p.125216. (¹ Co-First Author)
32. Lee, J.T.E., Ok, Y.S., Song, S., Dissanayake, P.D., Tian, H., Tio, Z.K., Cui, R., Lim, E.Y., Jong, M.-C., Hoy, S.H., Lum, T.Q.H., **Tsui, T.-H.**, Yoon, C.S., Dai, Y., Wang, C.-H., Tan, H.T.W., & Tong, Y.W. (2021). Biochar utilisation in the anaerobic digestion of food waste for the creation of a circular economy via biogas upgrading and digestate treatment. *Bioresource Technology*, 333, p.125190.
33. Song, B., Lin, R., Lam, C.H., Wu, H., **Tsui, T.H.** and Yu, Y., 2021. Recent advances and challenges of inter-disciplinary biomass valorization by integrating hydrothermal and biological techniques. *Renewable and Sustainable Energy Reviews*, 135, p.110370.
34. Wu, H., Yang, M., **Tsui, T.H.**, Yin, Z. and Yin, C., 2020. Comparative evaluation on the utilization of applied electrical potential in a conductive granule packed biotrickling filter for continuous abatement of xylene: Performance, limitation, and microbial community. *Journal of Environmental Management*, 274, p.111145.
35. Sun, Y., Ren, X., Pan, J., Zhang, Z., **Tsui, T.H.**, Luo, L. and Wang, Q., 2020. Effect of microplastics on greenhouse gas and ammonia emissions during aerobic composting. *Science of the Total Environment*, 737, p.139856.
36. **Tsui, T.H.**, Wu, H., Song, B., Liu, S.S., Bhardwaj, A. and Wong, J.W., 2020. Food waste leachate treatment using an Upflow Anaerobic Sludge Bed (UASB): Effect of conductive material dosage under low and high organic loads. *Bioresource technology*, 304, p.122738.
37. **Tsui, T. H.**, & Wong, J. W. (2019). A critical review: emerging bioeconomy and waste-to-energy technologies for sustainable municipal solid waste management. *Waste Disposal & Sustainable Energy*, 1-17.
38. **Tsui, T. H.**, Ekama, G. A., & Chen, G. H. (2018). Quantitative characterization and analysis of granule transformations: Role of intermittent gas sparging in a super high-rate anaerobic system. *Water research*, 139, 177-186.
39. Wang, B., Wu, D., Ekama, G. A., **Tsui, T. H.**, Jiang, F., & Chen, G. H. (2018). Characterization of a new continuous gas-mixing sulfidogenic anaerobic bioreactor: Hydrodynamics and sludge granulation. *Water research*, 135, 251-261.

40. Chen, L., **Tsui, T. H.**, Ekama, G. A., Mackey, H. R., Hao, T., & Chen, G. (2018). Development of biochemical sulfide potential (BSP) test for sulfidogenic biotechnology application. *Water research*, 135
41. **Tsui, T. H.**, Chen, L., Hao, T., & Chen, G. H. (2016). A super high-rate sulfidogenic system for saline sewage treatment. *Water research*, 104, 147-155.
42. **Tsui, T. H.**, Hao, T., & Chen, G. H. (2016). Gas-enhanced operation and stepwise organic stressing as a new alternative in realising successful sludge granulation in high-rate anaerobic bioreactor for wastewater treatment. *HKIE Transactions*, 23(4), 222-229.

Presentation

1. **Tsui, T. H.**, & Yang, A. (2023) Digital twin by machine learning in MFA reconstruction of biomass valorization. 11th International Conference on Industrial Ecology (ISIE2023).
2. **Tsui, T. H.** Interdisciplinary efforts for resource strategies. Focus group meeting (with academic, industrial and policy specialists) the Oxford Martin School. 19th June 2023
3. **Tsui, T. H.** National strategies for nutrient and water resource under global events. Stakeholder Engagement Workshop at Leicester. 15th May 2023
4. **Tsui, T. H.** The Agile Initiative: Exploring Technological Options. Stakeholder Engagement Workshop at the Oxford Martin School. 6th February 2023
5. **Tsui, T. H.**, & Tong, Y. W. Complementary potential and urban constraints of recycling aquaculture wastes and food wastes. 10th International Forum on Industrial Bioprocessing (IFIBiop 2022)
6. **Tsui, T. H.** Technological and methodological approaches supporting anaerobic digestion of food waste in urban environments. Young Scientist Workshop – E2S2-CREATE Webinar 2022
7. **Tsui, T. H.**, & Tong, Y. W. Techno-economic tradeoffs and system retrofitting in waste infrastructure, 9th International Conference on Sustainable Solid Waste Management – CORFU 2022
8. **Tsui, T. H.**, & Tong, Y. W. Challenges and potential of machine learning for complex waste systems, 9th International Conference on Sustainable Solid Waste Management – CORFU 2022
9. **Tsui, T. H.** Bioenergy recovery from sulfur-contaminated waste: Solution for microbial constraints, BESS Conference on Zero Waste and Circular Economy
10. **Tsui, T. H.**, & Wong, J. W. Accelerating biogas recovery in two-phase anaerobic digestion: Stimulation of electric syntrophy, International Conference on Solid Waste 2019.
11. **Tsui, T.H.**, Chen, L. Improve the surface structures of biocatalyst for high-rate anaerobic biotechnology: sewage treatment and resource recovery, 15th Challenge Cup National Round 2017
12. **Tsui, T. H.**, & Chen, GH. Facing up to high-rate anaerobic treatment of saline sewage in coastal regions: SANI Process and Granular Sludge. 7th IWA-ASPIRE Conference 2017 & Water Malaysia Exhibition 2017.
13. **Tsui, T.H.**, & Chen, L. High-rate Bio-engine for Sewage Treatment. Institution of Engineering and Technology (IET) Young Professionals Exhibition & Competition 2016

Invited reviewer

- **Grant Reviewer** (Machine learning application)
Environmental Research & Education Foundation, US
- **Journal Reviewer**
Bioresource Technology
Energy Conversion and Management
Environmental Science & Technology
Environmental Technology
Journal of Cleaner Production
Journal of Environmental Management
Science of The Total Environment
Sustainability
Waste Management
Water Research
Water Science & Technology