

# JIN, LING NATHANAEL

Assistant Professor

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## *Statement of Expertise*

Jin has been working actively in the inter-disciplinary research fields between chemistry, toxicology, and microbiology as part of the global solutions to planetary health issues. Jin's ongoing research includes air pollution and human health, environmental transmission of antimicrobial resistance and pathogens in urban communities, and chemical-induced immunosuppression in endangered marine megafauna. He has published 55 peer-reviewed articles in leading journals and 5 book chapters (citation: 3,160, H-index: 28). His work on toxicity of air pollution attracted the attention from *Nature*, where he contributed a joint invited comment on global disparities of air-pollution health effects. The study co-first authored by Jin on airborne transmission of antibiotic resistance genes was recognized as one of the best papers in *Environmental Science and Technology Letters* in 2018. Between 2018 and 2020, Jin was an Editorial Board Member of *Environmental Toxicology and Chemistry*, a flagship journal under the Society of Environmental Toxicology and Chemistry (SETAC). He served as a Guest Editor for *Environmental Science and Technology* to co-organize the Special Issue on Urban Air Pollution and Human Health. Currently, he serves as an Editorial Board Member of *ACS Environmental Au* (American Chemical Society) and Youth Editor of *The Innovation* (Cell Press).

## *Education*

PhD, Environmental Toxicology, The University of Queensland, 2015

MPhil, Environmental Sciences, City University of Hong Kong, 2009

BSc (1<sup>st</sup> Hon), Environmental Science & Management, City University of Hong Kong, 2007

## *Professional Experience*

2021.09 - present	Assistant Professor (Presidential Young Scholar)	The Hong Kong Polytechnic University
2015.04 – 2021.08	Research Associate/Postdoctoral Fellow/Research Fellow/Research Assistant Professor	The Hong Kong Polytechnic University
2009.09 – 2011.01	Research Assistant	City University of Hong Kong
2008.02 – 2008.05	Visiting Student	National Institute of Advanced Industrial Science and Technology, Japan
2007.06 – 2007.08	Research Intern	University of California, Davis
2006.05 – 2006.07	Conservation Volunteer	Conservation Volunteers Australia

## ***Honours & Awards***

- FCE Dean's Award for Outstanding Research Funding, 2023
- PolyU Presidential Young Scholar, 2022
- *Environmental Science and Technology Letters* Best Paper Award, 2018
- The Hong Kong Polytechnic University Postdoctoral Fellowship, 2015-2017
- Society of Environmental Toxicology and Chemistry/Procter & Gamble Fellowship, 2014
- SETAC Australasia Student Travel Award, 2013
- Prime Minister's Australia Asia Endeavour Award, Australian Government, 2011-2014
- Dean's List, City University of Hong Kong, 2007
- Fang Brothers Whole Person Development Scholarship, City University of Hong Kong, 2007

## ***External Funding***

### ***As PI/Co-PI***

1. Climate- and environment-conscious urban growth in the Guangdong-Hong Kong- Macau Greater Bay Area (GBA): solutions and co-benefits (*HKD 3.5 M, 2023-2026, Funded by RGC Young Collaborative Research Fund, Co-PI*)
2. Transmission of antimicrobial resistance from hotspot sources to occupational populations and urban communities (*HKD 8,709,120, 2023-2026, RGC Collaborative Research Fund, Co-PI*)
3. Unravelling the black box between air pollution and public health for transformative air quality management (*HKD 44.521 M, 2023-2027, RGC Theme-based Research Scheme, Co-PI*)
4. Effects of urban airborne particulate matter and associated toxic components on pathogen receptor expression in human airway epithelial cells (*HKD 802,220, 2023-2025, RGC General Research Fund, PI*)
5. Understanding and managing the threats of toxic algae to the Chinese White Dolphin and Finless Porpoise in Hong Kong's southern and western waters (*HKD 289,600, 2022-2023, State Key Laboratory of Marine Pollution Seed Collaborative Fund, PI*)
6. Establishing species-specific neuronal cell lines for bioanalytical assessment of contaminant cocktails in Chinese white dolphins and finless porpoises (*HKD 1,120,500, 2021-2024, Hong Kong LNG Terminal Project Marine Conservation Enhancement Fund, PI*)
7. Contribution of selected toxic components and associated sources to differential mixture effects of city-specific PM<sub>2.5</sub> on human lung cells: How much of the iceberg have we seen? (*HKD 579,972, 2021-2023, RGC Early Career Scheme, PI*)
8. *In vitro* toxic potencies of city-specific fine particulate matter: Contribution of targeted toxic components and their emission sources (*RMB 240,000, 2021-2023, NSFC Youth Fund, PI*)
9. Dissecting the toxicity drivers of pollutant mixture effects in marine mammals of the south China coast using species-specific cell lines (*HKD 600,000, 2021-2022, Hong Kong Branch of Southern Marine Science and Engineering Guangdong Laboratory (Guangzhou) Open Collaborative Research Fund, PI*)

10. Novel tools to assess combined effect of bioaccumulative chemicals in marine wildlife (USD 15,000, 2014-2015, Society of Environmental Toxicology and Chemistry / Procter & Gamble Doctoral Fellowship in Environmental Science, Student PI)
11. Development of novel screening tools to assess chemical-induced immunotoxicity in sea turtles (AUD 40,000, 2013-2015, Funded by Sea World Research and Rescue Foundation, Inc., Australia, Student PI)

#### **As Co-I**

1. Regional dissemination of antibiotic resistance genes: Processes and mechanisms (RMB 2,900,000, 2022-2026, National Natural Science Foundation Major Program, Co-I)
2. Provision of Services for Routine Surveillance of Antimicrobial Resistant Microorganisms in Food in Hong Kong (HKD 4,477,000.00, 2022-2023, Food and Environmental Hygiene Department Contract Research, Co-I)
3. A novel assessment platform to delineate transmission of antimicrobial resistance from seafood-related marine ecosystems to coastal population (HKD 1,100,000, 2020-2022, Hong Kong Branch of Guangdong Southern Marine Science and Engineering Laboratory Open Collaborative Research Fund, Co-I)
4. Zoonotic transmission of antimicrobial resistance from seafood-related marine ecosystems to the coastal population in the Greater Bay Area (HKD 2,100,000, 2020-2023, State Key Laboratory of Marine Pollution Collaborative Research Fund, Co-I)
5. Guangdong-Hong Kong-Macau Joint Laboratory of Environmental Pollution Processes and Control (RMB 3,000,000, 2020-2022, Department of Science and Technology of Guangdong Province Guangdong-Hong Kong-Macau Joint Laboratory Scheme, Co-I)
6. Key technologies and applications for safe use of heavy metal-contaminated farmland (RMB 600,000, 2020-2022, Department of Science and Technology of Guangdong Province Key-Area Research and Development Program, Co-I)
7. Identifying the mixture effects and major toxicity drivers of ambient fine particulate matter: A comparative study of the Yangtze River Delta and Pearl River Delta regions (RMB 3,468,000, 2016-2019, National Natural Science Foundation of China Major Research Plan Key Project, Co-I)

#### **Publications (\*corresponding author; #co-first author)**

Total citations of 2,392, H-index of 25 (Web of Science); total citations of 3,160, H-index of 28 (Google Scholar);

#### **Peer-reviewed journal articles**

1. Xing HH, Yu XL, Sun JT\*, Lu GN, Zhu MF, Liang JH, **Jin L**, Zhu LZ. Interaction between phthalate ester and rice plants: Novel transformation pathways and metabolic-network perturbations. *Environ. Sci. Technol.* 2023, 57, 8870–8882.
2. Yu YY, Huang JH, **Jin L**, Yu M, Yu XL, Zhu XF, Sun JT\*, Zhu LZ. Translocation and metabolism of tricresyl phosphate in rice and microbiome system: Isomer-specific processes and overlooked metabolites. *Environ. Int.* 2023, 172, 107793.
3. Yu Y, Yu X, Zhang D, **Jin L**, Huang J, Zhu X, Sun JT\*, Yu M, Zhu LZ. Biotransformation of organophosphate esters by rice and rhizosphere microbiome: Multiple metabolic

- pathways, mechanism, and toxicity assessment. *Environ. Sci. Technol.* 2023, 57, 1776–1787.
4. He TT<sup>#</sup>, **Jin L**<sup>#</sup>, Li XD\*. On the triad of air PM pollution, pathogenic bioaerosols, and lower respiratory infection. *Environ. Geochem. Health* 2023, 45, 1067–1077. **(Invited perspective)**
  5. Li C, **Jin L**, Zhang C, Li S, Zhou T, Hua Z, Wang L, Ji S, Wang Y, Gan Y, Liu J\*. Destabilized microbial networks with distinct performances of abundant and rare biospheres in maintaining networks under increasing salinity stress. *iMeta* 2023, 2, e79.
  6. Zhao J, **Jin L**, Wu D, Xie JW, Li J, Fu XW, Cong ZY, Fu PQ, Zhang Y, Luo XS, Feng XB, Zhang G, Tiedje JM\*, Li XD\*. Global airborne bacterial community—interactions with Earth’s microbiomes and anthropogenic activities. *Proc. Natl. Acad. Sci. U.S.A.* 2022, 119, e2204465119.
  7. **Jin L**, Pruden A, Boehm A, Alvarez PJJ, Raskin L, Kohn T, Li XD\*. Integrating environmental dimensions of “One Health” to combat antimicrobial resistance: Essential research needs. *Environ. Sci. Technol.* 2022, 56, 14871–14874.
  8. **Jin L**, Apte JS, Miller SL, Wang SX, Tao S, Jiang GB, Li XD\*. Global endeavors to address the health effects of urban air pollution. *Environ. Sci. Technol.* 2022, 56, 6793–6798.
  9. **Jin L**, Li XD\*. ACS Environmental Au—Gold Open Access toward a Greener Future. *ACS Environ. Au* 2022, 2, 74–76.
  10. Chen YQ, Su JR, Zhao HY, Li JY\*, Wang Q, Yin J, **Jin L**. In-situ biochar amendment mitigates dietary risks of heavy metals and PAHs in aquaculture products. *Environ. Pollut.* 2022, 308, 119615.
  11. Yu YY, Mo WT, Zhu XF, Yu XL, Sun JT\*, Deng FC, **Jin L**, Yin H, Zhu LZ. Biodegradation of tricresyl phosphates isomers by a novel microbial consortium and the toxicity evaluation of its major products. *Sci. Total Environ.* 2022, 828, 154415.
  12. Wu D, **Jin L**, Xie JW, Liu H, Zhao J, Ye D\*, Li XD\* Inhalable antibiotic resistomes emitted from hospitals: Metagenomic insights into bacterial hosts, clinical relevance, and environmental risks. *Microbiome* 2022, 10, 19.
  13. Xie JW, **Jin L**, Wu D, Pruden A, Li XD\* Inhalable antibiotic resistome from wastewater treatment plants to urban areas: Bacterial hosts, dissemination risks, and source contributions. *Environ. Sci. Technol.* 2022, 56, 7040–7051.
  14. **Jin L**, Xie JW, He TT, Wu D, Li XD\* Airborne transmission as an integral environmental dimension of antimicrobial resistance through the “One Health” lens. *Crit. Rev. Environ. Sci. Technol.* 2022, 52, 4172–4193. **(Invited review)**
  15. Wu D<sup>#</sup>, Zheng HT<sup>#</sup>, Li Q\*, **Jin L**, Lyu R, Ding X, Huo YQ, Zhao B, Jiang JK, Chen JM, Li XD\*, Wang SX\*. Toxic potency-adjusted control of air pollution for solid fuel combustion. *Nat. Energy.* 2022, 7, 194–202.
  16. He TT<sup>#</sup>, **Jin L**<sup>#</sup>, Xie JW, Yue SY, Fu PQ, Li XD\* Intracellular and extracellular antibiotic resistance genes in airborne PM<sub>2.5</sub> for respiratory exposure in urban areas. *Environ. Sci. Technol. Lett.* 2021, 8, 128–134. **(Supplementary cover)**
  17. Li JY, Zhang L, Wang Q, Xu J, Yin J, Chen Y, Gong Y, Kelly BC, **Jin L**. Applicability of equilibrium sampling in informing tissue residues and dietary risks of legacy and current-use organic chemicals in aquaculture. *Environ. Toxicol. Chem.* 2021, 40, 79–87.
  18. Zhao Z, Luo XS\*, Jing Y, Li H, Pang Y, Wu L, Chen Q, **Jin L**. *In vitro* assessments of bioaccessibility and bioavailability of PM<sub>2.5</sub> trace metals in respiratory and digestive systems and their oxidative potential. *J. Hazard. Mater.* 2021, 409, 124638.

19. Wang X, Yu N, Yang J, **Jin L**, Guo H, Shi W, Zhang X, Yang L, Yu H, Wei S\*. Suspect and non-target screening of pesticides and pharmaceuticals transformation products in wastewater using QTOF-MS. *Environ. Int.* 2020, 137, 105599.
20. Xie JW, **Jin L**, Cui JL, Luo XS, Li J, Zhang G, Li XD\*. Health risk-oriented source apportionment of PM<sub>2.5</sub>-associated trace metals. *Environ. Pollut.* 2020, 262, 114655.
21. Wang Q, Chu L, Peng F, Li JY\*, Chen H, **Jin L**. Contribution of aquatic products consumption to total human exposure to PAHs in Eastern China: The source matters. *Environ. Pollut.* 2020, 266, 115339.
22. Sun JT, **Jin L**, He TT, Wei Z, Liu X, Zhu LZ\*, Li XD\*. 2020. Antibiotic resistance genes (ARGs) in agricultural soils from the Yangtze River Delta, China. *Sci. Total Environ.* 2020, 740, 140001.
23. Chen Y, Yu W, Zheng R, Li JY\*, Zhang L, Wang Q, Yin J, **Jin L**. Magnetic activated carbon (MAC) mitigates contaminant bioavailability in farm pond sediment and dietary risks in aquaculture products. *Sci. Total Environ.* 2020, 736, 139185.
24. Huang W, Pang Y, Luo XS\*, Chen Q, Wu L, Tang M, Hong Y, Chen J, **Jin L**. The cytotoxicity and genotoxicity of PM<sub>2.5</sub> during a snowfall event in different functional areas of a megacity. *Sci. Total Environ.* 2020, 741, 140267.
25. Li JY, Zhang L, Wang Q, Xu J, Yin J, Chen Y, Gong Y, Kelly BC, **Jin L**. Applicability of equilibrium sampling in informing tissue residues and dietary risks of legacy and current-use organic chemicals in aquaculture. *Environ. Toxicol. Chem.* 2020. DOI: 10.1002/etc.4912.
26. Li XD\*, **Jin L**, Kan HD. Air pollution: a global problem needs local fixes. *Nature* 2019, 570, 437-439.
27. **Jin L**, Xie JW, Wong CKC, Chan SKY, Abbaszade G, Schnelle-Kreis J, Zimmermann R, Li J, Zhang G, Fu PQ, Li XD\*. Contributions of city-specific PM<sub>2.5</sub> to differential in vitro oxidative stress and toxicity implications between Beijing and Guangzhou of China. *Environ. Sci. Technol.* 2019, 53: 2881-2891.
28. Xie JW, **Jin L**, He TT, Chen BW, Luo XS, Li J, Fu PQ, Feng BH, Huang W, Li XD\*. Bacteria and antibiotic resistance genes (ARGs) in PM<sub>2.5</sub> across China: Implications for human exposure. *Environ. Sci. Technol.* 2019, 53: 963-972.
29. Luo XS\*, Bing HJ\*, Luo Z, Wang Y, **Jin L**. Impacts of atmospheric particulate matter pollution on environmental biogeochemistry of trace metals in soil-plant system: A review. *Environ. Pollut.* 2019, 25, 113138.
30. Li JY, Yu W, Yin J, Chen Y, Wang Q, **Jin L**\*. Reduced bioavailability and ecological risks of polycyclic aromatic hydrocarbons in Yangshan port of East China Sea: Remediation effectiveness in the transition from construction to operation. *Sci. Total Environ.* 2019, 687, 679–686.
31. Li JY, He Q, Li JL, Chen YQ, Yin J, **Jin L**\*, Wang Q\*. Aquaculture contributes a higher share to children's daily intake of PAHs than to adults' in Eastern China. *Environ. Toxicol. Chem.* 2019, DOI:10.1002/etc.4389.
32. Wang Q, Peng F, Chen Y, **Jin L**, Lin J, Zhao X, Yin J, Li JY\*. Heavy metals and PAHs in an open fishing area of the East China Sea: Multimedia distribution, source diagnosis, and dietary risk assessment. *Environ. Sci. Pollut. Res.* 2019, 26, 21140–21150.
33. Chen Y, Yu W, **Jin L**, Wang Q, Yin J, Lin J, Li JY\*. Stabilization of hydrophobic organic contaminants in sediments by natural zeolites: bioavailability-based assessment of efficacy using equilibrium passive sampling. *J. Soil. Sediment.* 2019, 19, 3898–3907.



34. Chen Q, Luo XS, Chen Y, Zhao Z, Hong Y, Pang Y, Huang W, Wang Y, **Jin L**. Seasonally varied cytotoxicity of organic components in PM<sub>2.5</sub> from urban and industrial areas of a Chinese megacity. *Chemosphere* 2019, 230, 424–431.
35. Xie JW<sup>#</sup>, **Jin L**<sup>#</sup>, Luo XS, Zhao Z, Li XD\*. Seasonal disparities of airborne bacteria and associated antibiotic resistance genes in PM<sub>2.5</sub> between urban and rural sites. *Environ. Sci. Technol. Lett.* 2018, 5: 74–79.
36. Luo XS\*, Zhao Z, Xie JW, Luo J, Chen Y, Li HB, **Jin L**. Pulmonary bioaccessibility of trace metals in PM<sub>2.5</sub> from different megacities simulated by lung fluid extraction and DGT method. *Chemosphere* 2018, 218: 915-921.
37. Chen Y, Luo XS\*, Zhao Z, Chen Q, Wu D, Sun X, Wu LC, **Jin L**. Summer-winter differences of PM<sub>2.5</sub> cytotoxicity to human epithelial cells (A549) and the roles of transition metals. *Ecotoxicol. Environ. Saf.* 2018, 165:505-509.
38. Yu N<sup>#</sup>, Guo H<sup>#</sup>, Yang J, **Jin L**, Wang X, Shi W, Zhang X, Yu H, Wei S\*. Non-target and suspect screening of per- and polyfluoroalkyl substances in airborne particulate matter in China. *Environ. Sci. Technol.* 2018, 52: 8205–8214.
39. Li JY, Yang F, Jin L, Wang Q, Yin J, He PM, Chen Y\*. Safety and quality of the green tide algal species *Ulva prolifera* for option of human consumption: A contamination and nutrition study. *Chemosphere* 2018, 210: 1021-1028.
40. Li JY, Shi WX, Li ZH, Chen YQ, Shao L, **Jin L**\*. Equilibrium sampling informs seafood tissue residue and remediation measures for pyrethroid insecticides in mariculture. *Sci. Total Environ.* 2018, 616-617: 639-646.
41. Ming LL, **Jin L**, Li J, Fu PQ, Yang WY, Liu D, Zhang G, Wang ZF, Li XD\*. PM<sub>2.5</sub> in the Yangtze River Delta, China: Chemical compositions, seasonal variations, and regional pollution events. *Environ. Pollut.* 2017, 223: 200-212.
42. **Jin L**, Luo XS, Fu PQ, Li XD\*. Airborne particulate matter pollution in urban China: A chemical mixture perspective from sources to impacts. *Natl. Sci. Rev.* 2017, 4: 593–610.
43. Li JY, Su L, Wei FH, Yang JH, **Jin L**\*. Zhang XW\*. Bioavailability-based assessment of aryl hydrocarbon-receptor mediated activity in Lake Tai Basin from Eastern China. *Sci. Total Environ.* 2016, 22: 12355-12365.
44. Zhu X, **Jin L**, Yang J, Wu J, Zhang B, Zhang XW, Yu NY\*, Wei S\*, Wu J, Yu HX. Perfluoroalkyl acids in the water cycle from a freshwater basin to coastal waters in Eastern China. *Chemosphere* 2016, 168: 390-398.
45. Yu N, Wei S\*, Li M, Yang JP, Li K, **Jin L**, Xie Y, Giesy JP, Zhang XW, Yu HX\*. Effects of perfluorooctanoic acid on metabolic profiles in brain and liver of mouse revealed by a high-throughput targeted metabolomics approach. *Sci. Rep.* 2016, 6: 23963.
46. Li VWT, Tsui MMP, Chen X, Hui MNY, **Jin L**, Lam RHW, Yu RMK, Murphy MB, Cheng J, Lam PKS, Cheng SH\*. Effects of 4-methylbenzylidene camphor (4-MBC) on neuronal and muscular development in zebrafish (*Danio rerio*) embryos. *Environ. Sci. Pollut. Res.* 2016, 23: 8275-8285.
47. **Jin L**, Escher BI\*, Limpus CJ, Gaus C. Coupling passive sampling and in vitro bioassays to screen combined effect of bioaccumulative chemicals in blood of marine turtles. *Chemosphere* 2015, 138: 292-299.
48. **Jin L**, Gaus C, Escher BI\*. Adaptive stress response pathways induced by environmental mixtures of bioaccumulative chemicals in dugongs. *Environ. Sci. Technol.* 2015, 49: 6963–6973.
49. Li JY, Cui Y, Su L, Chen YQ, **Jin L**\*. Polycyclic aromatic hydrocarbons in the largest deepwater port of East China Sea: impact of port construction and operation. *Environ. Sci. Pollut. Res.* 2015, 22: 12355-12365.

50. Li J, Yu N, Zhang B, **Jin L**, Li M, Hu M, Zhang X, Wei S\*, Yu HX\*. Occurrence of organophosphate flame retardants in drinking water from China. *Water Res.* 2014, 54: 53-61.
51. Li JY\*, Tang JYM, **Jin L**, Escher BI. Understanding bioavailability and toxicity of sediment-associated contaminants by combining passive sampling with in vitro bioassays in an urban river catchment. *Environ. Toxicol. Chem.* 2013, 32: 2888-2896.
52. **Jin L**\*, Gaus C, van Mourik L, Escher BI. Applicability of passive sampling to bioanalytical screening of bioaccumulative chemicals in marine wildlife. *Environ. Sci. Technol.* 2013, 47: 7982-7988.
53. Leung HW, **Jin L**, Wei S, Tsui MMP, Zhou BS, Jiao L, Cheung PK, Chun YK, Murphy MB\*, Lam PKS\*. Pharmaceuticals in tap water: Human health risk assessment and proposed monitoring framework in China. *Environ. Health Perspect.* 2013, 121: 839-846.
54. Chan WH, Mak YL, Wu JJ, **Jin L**, Sit WH, Lam JCW, de Mitcheson S, Chan LL, Lam PKS, Murphy MB\*. Spatial distribution of ciguateric fish in Republic of Kiribati. *Chemosphere* 2011, 84: 117-123.
55. Mak YL, Taniyasu S, Yeung LWY, Lu G, **Jin L**, Yang Y, Lam PKS\*, Kannan K, Yamashita N\*. Perfluorinated compounds in tap water from China and several other countries. *Environ. Sci. Technol.* 2009, 43: 4824-4829.

### **Book chapters**

1. **Jin L**, Jiang GB, Li XD\*. **2020**. Transforming Environmental Chemistry and Toxicology to Meet the Anthropocene Sustainability Challenges Beyond *Silent Spring*. (eds, GB Jiang, XD Li) A New Paradigm for Environmental Chemistry and Toxicology, Springer Nature, Singapore. pp 263-276.
2. **Jin L**, Gaus C, Escher BI\*. **2015**. Bioanalytical approaches to understanding the toxicological implications of mixtures of persistent organic pollutants in marine wildlife. (ed., E.Y. Zeng) Persistent Organic Pollutants (POPs): Analytical Techniques, Environmental Fate and Biological Effects. Elsevier, UK. pp 650.
3. **Jin L**, Murphy MB, Lam JCW, Lam PKS\*, **2011**, Use of bioassays in Environmental Monitoring (eds, CX Wang, LZ Zhu, GB Jiang) Environmental Chemistry, Science Press, Beijing, China. (In Chinese)
4. **Jin L**, Lam JCW, Murphy MB, Lam PKS\*. **2011**. Temporal trends of polybrominated diphenyl ethers and hexabromocyclododecanes in marine mammals with special reference to Hong Kong, South China. (eds., B.G. Loganathan and P.K.S. Lam) Global Contamination Trends of Persistent Organic Chemicals. Taylor & Francis, Washington DC.
5. Murphy MB, **Jin L**, Lam PKS\*. **2010**. Temporal trends of organochlorines and trace elements in marine mammals from Hong Kong. (eds., T. Isobe, K. Nomiyama, A. Subramanian and S. Tanabe) Interdisciplinary studies on environmental Chemistry – Environmental Specimen Bank. TERRAPUB, Japan.

### **Technical reports**

1. Gaus C, Grant S, **Jin NL**, Goot K, Chen L, Villa AC, Neugebauer F, Qi L, Limpus C. **2012**. Haematology, blood chemistry and environmental contaminants in green turtle blood from the Gladstone Port, Report to: Gladstone Ports Corporation Limited and Department of Environment and Resource Management.
2. Poulsen A, Leusch F, Goodwin M, Tang J, Maylin E, **Jin L**, Escher BI. **2011**. Development of bio-analytical techniques to assess the potential human health impacts of recycled water.

Part A: Literature review of in vitro bioassays for assessing adverse effects of trace organic pollutants in water. Report number: WateReuse-10-07, Affiliation: WateReuse Research Foundation.

## ***Presentations***

### ***Invited Talks & Lectures***

1. *Interactions of airborne microbiome with Earth's surface microbiome and anthropogenic activities*. Southwest University, 27 July 2023
2. *Built environment microbiome and airborne transmission of antibiotic-resistant bacteria*. Chongqing University, 25 July 2023
3. *Identifying major toxicity drivers in the coastal habitat of endangered marine megafauna using species-specific cells*. 2023 East Asia Marine Cooperation Platform Qingdao Forum, Qingdao, China, 29 June 2023
4. *Some thoughts on Air pollution, pathogenic bioaerosols, and respiratory infection*. Sun Yat Sen University, 25 June 2023
5. *Air pollution, pathogenic bioaerosols, and respiratory infection*. 11<sup>th</sup> National Conference on Indoor Environment and Health, Hohhot, China, 17 June 2023
6. *Airborne transmission of antimicrobial resistance*. 2022 Annual Meeting of Division of Atmospheric Environment, Chinese Society of Environmental Sciences, 22 November 2022
7. *Airborne transmission of antimicrobial resistance*. Chongqing University, 14 October 2022
8. *Air pollution, pathogenic bioaerosols, and respiratory infection*. East China Normal University, 20 September 2022
9. *Implications of antibiotic resistomes in mariculture for coastal environmental quality and seafood safety*. 1<sup>st</sup> International Academic Forum on Marine Environmental Pollution Prevention and Marine Ecological Civilization Construction, Shanghai, 5 December 2021
10. *Toxicity assessment of chemical mixtures*. Training Session on Pollution Assessment and Management of East Asian Sea Congress 2021, Cambodia, 26 November 2021
11. *Advancing bioanalytical approaches to understanding health impacts of chemical mixtures in marine wildlife*. The 1<sup>st</sup> International Symposium on Marine Science and Engineering for Young Scientists and Postgraduates, Hong Kong, 12 July 2021
12. *Emerging approaches to understanding health impacts of pollutant cocktails in marine mammals*. 2021 International Cetacean Symposium, Hong Kong, 11 June 2021
13. *Hydrophobic Organic Contaminants: Application of Passive Sampling and Assessment of Mixture Toxicity*. Shanghai Ocean University, 10 April 2015

### ***Selected Conference Presentations***

1. 11<sup>th</sup> National Conference on Indoor Environment and Health, Hohhot, China, June 2023  
*Effect-based screening of major organic toxicants in particulate matter emitted from residential biomass burning* [Oral]
2. 11<sup>th</sup> Geomicrobiology Symposium of Chinese Society of Microbiology, Tianjin, China, June 2023  
*Community structure and source tracking of airborne fungi and bacteria at a coastal site* [Oral]
3. National Conference on Environmental Chemistry, Tianjin, China, August 2019  
*Contribution of metals, PAHs and endotoxins to PM<sub>2.5</sub>-induced oxidative stress* [Oral]



4. International High-Level Forum on Toxicology and Health of Air Pollution, Beijing, China, October 2018  
*Airborne bacteria and associated antibiotic resistance genes (ARGs) in PM<sub>2.5</sub> across China* [Poster]
5. National Conference on Environmental Chemistry, Hangzhou, China, October 2017  
*Contribution of toxic components to PM<sub>2.5</sub>-induced oxidative stress in human lung cells* [Oral]
6. Gordon Research Conference on Marine Molecular Ecology, Hong Kong, August 2015  
*Molecular approaches to assessing the biological cycling and mixture effects of chemical stressors in the marine ecosystem* [Poster]
7. International Conference on Environmental Specimen Banks, Shanghai, China, October 2013  
*Novel tools to facilitate effect screening of bioaccumulative chemicals in marine wildlife archives* [Oral]
8. SETAC Australasia, Melbourne, Australia, October 2013  
*Toxic potential of chemical cocktails in dugongs: A decade-long story* [Oral]
9. International Symposium on Halogenated Persistent Organic Pollutants (DIOXIN), Cairns, Australia, August 2012  
*Testing the applicability of passive sampling to chemical exposure and effect screening in marine wildlife* [Oral]
9. SETAC Asia Pacific Annual Meeting, Guangzhou, China, 4–7 June 2010  
*Endocrine-disrupting activity and neurotoxic effect of 4-methylbenzylidene-camphor, a common sunscreen ingredient* [Oral]
10. Copenhagen Workshop on Endocrine Disrupters, Copenhagen, Denmark, May 2009  
*Modulation of adrenocortical hormone production by UV filters in the H295R cell line* [Oral]

## **Teaching & Supervision Experience**

### **Grant**

1. “太湖-浦江”水域特徵耐藥菌群污染及潛在風險研究（線上線下相結合）(RMB 90,000, Funded by Ministry of Education Ten Thousand People’s Scheme, PI)

**Subjects taught** (average SFQ score of 4.4 from 2020/21 to 2022/23)

1. Environmental Impact Assessment (CSE508)
2. Environmental Management Systems (CSE539)
3. Environmental Impact Assessment: Theory and Practice (CSE40462)
4. Environmental Engineering (CSE29964)

### **Supervision – The Hong Kong Polytechnic University**

Supervised 6 Postdoctoral Fellows, 8 PhD students, 3 Research Assistants, 6 MSc projects, 22 undergraduate FYPs, and 8 summer interns

### **Service**

2023.07 – present	Member	CEE Departmental Partnership Committee
2023.07 – present	Deputy Programme Leader	BEng in Environmental Engineering & Sustainable Development

2023.07 – present	Officer	Summer Placement (Environmental Engineering & Sustainable Development)
2022.07 – 2024.06	Member	CEE Departmental Research Committee

### ***Editorial Board Membership***

Editorial Board Member of *ACS Environmental Au*, 2021 – now

Editorial Board Member of *The Innovation*, 2021 - now

Guest Editor of *Environmental Science and Technology*, 2021-2022

Editorial Board Member of *Environmental Toxicology and Chemistry*, 2018 – now

### ***Conference & Symposium Organisation***

1. Session Chair, Bioaerosol Session, 11<sup>th</sup> Geomicrobiology Symposium of Chinese Society of Microbiology, Tianjin, China, June 2023
2. Session Chair, Annual Meeting of Division of Atmospheric Environment, Chinese Society of Environmental Sciences, 22 November 2022.
3. Co-chair, Training Session on Pollution Assessment and Management of East Asian Sea Congress 2021, 26 November 2021
4. Organising Committee and Session Chair, The 1<sup>st</sup> International Symposium on Marine Science and Engineering for Young Scientists and Postgraduates, 12-14 July 2021

### ***Journal Review (10)***

*Environmental Science and Technology, Journal of Hazardous Materials, Environmental Pollution, Science of the Total Environment, Chemosphere, RSC Advances, Environmental Toxicology and Chemistry, Journal of Environmental Sciences, Regional Studies in Marine Science, Aerosol and Air Quality Research, Environmental Monitoring and Assessment, Environmental Science and Pollution Research*

### ***Grant Review (1)***

Czech Science Foundation, 2015

### ***Professional Affiliation***

Member, International Society of Microbial Ecology (ISME)

Member, Society of Environmental Toxicology and Chemistry (SETAC)

Member, American Chemical Society (ACS)

Member, State Key Laboratory of Marine Pollution, City University of Hong Kong

Member, Hong Kong Branch of Southern Laboratory of Ocean Science and Engineering  
Guangdong Laboratory (Guangzhou), The Hong Kong University of Science and Technology