

## Dr. XIONG, Qing

Research Assistant Professor

### **PROFESSIONAL EXPERIENCES**

- 7/2023–present      **Research Assistant Professor**  
Department of Health Technology and Informatics,  
The Hong Kong Polytechnic University
- 7/2023–present      **Honorary Research Associate**  
School of Biomedical Sciences, The Chinese University of Hong Kong
- 6/2022–7/2022      **Honorary Fellow**  
Murdoch Children’s Research Institute, Melbourne, Australia
- 11/2020–7/2023      **Postdoctoral Research Fellow**  
School of Biomedical Sciences, The Chinese University of Hong Kong

### **EDUCATION BACKGROUND**

- 8/2017–10/2020      **Doctor of Philosophy in Biomedical Sciences**  
School of Biomedical Sciences, The Chinese University of Hong Kong  
Supervised by Prof. TSUI, Kwok-Wing Stephen
- 9/2014–7/2017      **Master of Science in Pathogenic Microbiology**  
School of Basic Medical Sciences, Peking University, Beijing  
Supervised by Prof. PENG, Yihong
- 2/2013–6/2013      **Exchange student**  
Department of Life Science, National Chung Hsing University, Taiwan
- 9/2010–7/2014      **Bachelor of Science in Biological Sciences**  
School of Life Science, Sun Yat-Sen University, Guangzhou

### **RESEARCH EXPERTISE**

- Bioinformatics and genomics
- Allergy and infectious disease
- Metagenomics and microbiology
- Comparative genomics and evolutionary biology

### **SERVICE TO PROFESSIONAL SOCIETY**

- 4/2023–present      **Committee Member**  
Allergy Prevention and Treatment Professional Committee, Biomedical  
Promotion Association, Shenzhen, China

## ACADEMIC PUBLICATIONS

\* Co-first authorship. Impact factors refer to Journal Citation Reports 2023

1. **Xiong Q\***, Liu X\*, Wan ATY\*, Malainual N, Xiao X, Cao H, Tang MF, Ng JKW, Shin SK, Sio YY, Wang M, Sun B, Leung TF, Chew FT, Tungtrongchitr A, Tsui SKW (2023). Genomic Analysis Reveals Novel Allergens of *Blomia tropicalis*. *Allergology International*. (Accepted on 8 Nov. 2023). [**Impact Factor: 6.8, 6/28 in ALLERGY**]
2. Wan ATY\*, **Xiong Q\***, Xiao X\*, Ao KFK, Jang SW, Wong BSH, Wang M, Cao Q, Fung CSH, Chew FT, Sun B, Ngai SM, Leung TF, Jeong KY, Liu X, Tsui SKW (2023). Multi-Omic Analysis of *Tyrophagus putrescentiae* Reveals Insights into the Allergen Complexity of Storage Mites. *Clinical and Experimental Allergy*. [doi.org/10.1111/cea.14418](https://doi.org/10.1111/cea.14418). [**Impact Factor: 6.1, 7/28 in ALLERGY**]
3. Law CTY\*, Nivesvivat T\*, **Xiong Q\***, Kulkeaw K\*, Shi L, Ruenchit P, Suwanpakdee D, Suwanpakdee P, Tongkrajchang N, Sarasombath PT, Tsui SKW (2023). Mitochondrial Genomic Diversity of *Balamuthia mandrillaris* Revealed by a Fatal Case of Granulomatous Amoebic Encephalitis. *Frontiers in Microbiology*. [doi.org/10.3389/fmicb.2023.1162963](https://doi.org/10.3389/fmicb.2023.1162963). [**Impact Factor: 5.2, 38/135 in MICROBIOLOGY**]
4. Du Q\*, Peng F\*, **Xiong Q\***, Xu K, Yang KY, Wang M, Wu Z, Li S, Cheng X, Rao X, Wang Y, Tsui SKW, Zeng X (2023). Genomic Analysis of *Amphioxus* Reveals a Wide Range of Fragments Homologous to Viral Sequences. *Viruses*. [doi.org/10.3390/v15040909](https://doi.org/10.3390/v15040909). [**Impact Factor: 4.7, 15/36 in VIROLOGY**]
5. **Xiong Q**, Fung CSH, Xiao X, Wan ATY, Wang M, Ren Y, Yang KY, Cui Y, Liu X, Tsui SKW (2023). Endogenous Plasmids and Chromosomal Genome Reduction in the *Cardinium* Endosymbiont of *Dermatophagoides farinae*. *mSphere*. [doi.org/10.1128/msphere.00074-23](https://doi.org/10.1128/msphere.00074-23). [**Impact Factor: 4.8, 44/135 in MICROBIOLOGY**]
6. Wang L\*, **Xiong Q\***, Saelim N, Wang L, Nong W, Wan ATY, Shi M, Liu X, Cao Q, Hui HLJ, Sookrung N, Tungtrongchitr A, Tsui SKW (2022). Genome Assembly and Annotation of *Periplaneta americana* Reveal a Comprehensive Cockroach Allergen Profile. *Allergy*. [doi.org/10.1111/all.15531](https://doi.org/10.1111/all.15531). [**Impact Factor: 12.4, 2/28 in ALLERGY**]
7. Liang Y, Chiu PKF, Zhu Y, Wong CYP, **Xiong Q**, Wang L, Teoh JYC, Cao Q, Wei Y, Ye DW, Tsui SKW, Ng CF (2022). Whole-Exome Sequencing Reveals a Comprehensive Germline Mutation Landscape and Identifies Twelve Novel Predisposition Genes in Chinese Prostate Cancer Patients. *PLOS Genetics*. [doi.org/10.1371/journal.pgen.1010373](https://doi.org/10.1371/journal.pgen.1010373). [**Impact Factor: 4.5, 36/171 in GENETICS & HEREDITY**]

8. **Xiong Q\***, Wan ATY\*, Liu X, Fung CSH, Xiao X, Malainual N, Hou J, Wang L, Wang M, Yang KY, Cui Y, Leung ELH, Nong W, Shin SK, Au SWN, Jeong KY, Chew FT, Hui JHL, Leung TF, Tungtrongchitr A, Zhong N, Liu Z, Tsui SKW (2022). Comparative Genomics Reveals Insights into the Divergent Evolution of Astigmatic Mites and Household Pest Adaptations. *Molecular Biology and Evolution*. [doi.org/10.1093/molbev/msac097](https://doi.org/10.1093/molbev/msac097). [Impact Factor: 10.7, 4/52 in EVOLUTIONARY BIOLOGY]
9. **Xiong Q\***, Kulkeaw K\*, Wongkamchai S, Tsui SKW (2021). Mitochondrial Genome of *Brugia malayi* Microfilariae Isolated from a Clinical Sample. *Frontiers in Ecology and Evolution*. [doi.org/10.3389/fevo.2021.637805](https://doi.org/10.3389/fevo.2021.637805). [Impact Factor: 3.0, 66/169 in ECOLOGY]
10. Lin J, Huang N, Li J, Liu X, **Xiong Q**, Hu C, Chen D, Guan L, Chang K, Li D, Tsui SKW, Zhong N, Liu Z, Yang PC (2021). Cross-Reactive Antibodies against Dust Mite-Derived Enolase Induce Neutrophilic Airway Inflammation. *European Respiratory Journal*. [doi.org/10.1183/13993003-02375-2019](https://doi.org/10.1183/13993003-02375-2019). [Impact Factor: 24.3, 3/65 in RESPIRATORY SYSTEM]
11. **Xiong Q**, Wan ATY, Tsui SKW (2020). A Mini-Review of the Genomes and Allergens of Mites and Ticks. *Current Protein & Peptide Science*. [doi.org/10.2174/1389203720666190719150432](https://doi.org/10.2174/1389203720666190719150432). [Impact Factor: 2.8, 206/285 in BIOCHEMISTRY & MOLECULAR BIOLOGY]
12. Yang Z, Wan ATY, Liu XY, **Xiong Q**, Liu ZG, Tsui SKW (2020). Identification, Functional Annotation, and Stability Analysis of MiRNA in *Dermatophagoides pteronyssinus*. *Allergy*. [doi.org/10.1111/all.14123](https://doi.org/10.1111/all.14123). [Impact Factor: 12.4, 2/28 in ALLERGY]
13. Ni XF, Li X, Xu C, **Xiong Q**, Xie BY, Wang LH, Peng YH, Li XW (2020). Risk Factors for Death from Hand-Foot-Mouth Disease: A Meta-Analysis. *Epidemiology and Infection*. [doi.org/10.1017/S0950268819002279](https://doi.org/10.1017/S0950268819002279). [Impact Factor: 4.2, 43/96 in INFECTIOUS DISEASES]
14. **Xiong Q**, Wang Y, Xie B, Pei X, Peng Y (2017). Single-Step Construction of a Picornavirus Replicon RNA with Precise Ends. *Journal of Virological Methods*. [doi.org/10.1016/j.jviromet.2017.06.009](https://doi.org/10.1016/j.jviromet.2017.06.009). [Impact Factor: 3.1, 37/77 in BIOCHEMICAL RESEARCH METHODS]
15. Duan H, Zhu M, **Xiong Q**, Wang Y, Xu C, Sun J, Wang C, Zhang H, Xu P, Peng Y (2017). Regulation of Enterovirus 2A-Associated Viral IRES Activities by the Host Cell's ERK Signaling Cascade. *Antiviral Research*. [doi.org/10.1016/j.antiviral.2017.03.018](https://doi.org/10.1016/j.antiviral.2017.03.018). [Impact Factor: 7.6, 6/36 in VIROLOGY]
16. Xie BY, Xu C, **Xiong Q**, Zhu M, Duan H, Wang YY, Zhang H, Ni XF, Wang LH, Li XW, Shen T, Peng YH (2016). Gene Sequencing and Variable Site Analyzing of Coding Region of Two Enterovirus A71 Isolates with Different Clinical Phenotypes. *Infection Genetics and Evolution*. [doi.org/10.1016/j.meegid.2016.08.026](https://doi.org/10.1016/j.meegid.2016.08.026). [Impact Factor: 3.2, 58/96 in INFECTIOUS DISEASES]

## CONFERENCES

1. Law CTY, Nivesvivat T, **Xiong Q**, Kulkeaw K, Sarasombath PT, Tsui SKW (2023). Comparative Genomics of Brain-Eating Amoeba: *Balamuthia mandrillaris*. Poster presentation in *13th International Conference on Bioscience, Biochemistry and Bioinformatics (ICBBB) 2023*. January 13-16, Tokyo, Japan.
2. Ao FK, **Xiong Q**, and Tsui SKW (2023). Comparative Genomics of Group 7 Allergens (Bactericidal/Permeability-Increasing Proteins) in Astigmatic Mite. Poster presentation in *13th International Conference on Bioscience, Biochemistry and Bioinformatics (ICBBB) 2023*. January 13-16, Tokyo, Japan.
3. **Xiong Q**, Wan ATY, Malainual N, Tsui SKW (2022). Comprehensive Allergen Profile of *Blomia tropicalis* Provides Insights into the Component-Resolved Diagnosis of Mite Allergy. Oral presentation in *Asia Pacific Association of Allergy, Asthma and Clinical Immunology (APAAACI) 2022*. December 5–8, Manila, Philippines.
4. **Xiong Q**, Wan ATY, Malainual N, Tsui SKW (2020). The Comparative Genomics Analysis of House Dust Mites. Poster presentation in *Plant and Animal Genome XXVIII Conference*, January 11–15, San Diego, USA.
5. Tsui SKW, **Xiong Q**, Liu ZG, Wan ATY (2020). Allergen Profile and Metabolic Characteristics of *Tyrophagus putrescentiae* Revealed by Genome and Transcriptome Sequencing. Poster presentation in *Plant and Animal Genome XXVIII Conference*, January 11-15, San Diego, USA.
6. Wang L, **Xiong Q**, Shi M, Wan ATY, Tsui SKW, Tungtrongchitr A (2020). *De Novo* Assembly of a Chromosome-Level Reference Genome of *Periplaneta americana* Using Nanopore and Hi-C Sequencing. Poster presentation in *Plant and Animal Genome XXVIII Conference*, January 11-15, San Diego, USA.

## RESEARCH GRANTS

- |                |  |
|----------------|--|
| 1/2024–6/2025  | <b>Collaboration Scheme for HTI and Clinical Pathology (PYNEH)</b><br>Utilizing third-generation sequencing technology for rapid diagnosis of sepsis<br><b>[HKD 250,000, as Principal Investigator]</b>  |
| 10/2023–6/2025 | <b>Start-up Fund for RAPs under the Strategic Hiring Scheme</b><br>Exploring the pathogenicity of a novel <i>Bartonella</i> species identified in the house dust mite <i>Dermatophagoides farinae</i><br><b>[HKD 250,000, as Principal Investigator]</b> |
| 9/2023–10/2024 | <b>Funded by Water Supplies Department (Collaborative)</b>   |

Provision of Consultancy Services for Identification of 2-Methylisoborneol (MIB) Producing Microorganisms in Impounding Reservoirs in Hong Kong  
**[HKD 1,173,913, as Co-Principal Investigator]**

9/2023–3/2024 **Funded by Drainage Services Department**

Development of Passive Sampling of SARS-CoV-2 for Sewage Surveillance  
**[HKD 591,304, as Co-Principal Investigator]**

6/2022–5/2024 **Guangdong-Hong Kong Technology Cooperation Funding Scheme**

The genomics and transcriptomics study of house dust mite (*Dermatophagoides pteronyssinus*) and the development and industrialization of the diagnostic kits for testing dust mite allergen components  
**[HKD 999,360 and CNY 6,000,000, as Co-Investigator]**

### **TEACHING EXPERIENCE**

11/2023–12/2023 **Lecturer**

HTI44003 Human Genetics, BSc (Hons) in Medical Laboratory Science, Department of Health Technology and Informatics, The Hong Kong Polytechnic University

9/2023–11/2023 **Lecturer**

HTI35008 Bioinformatics for Molecular Diagnostics, BSc (Hons) in Medical Laboratory Science, Department of Health Technology and Informatics, The Hong Kong Polytechnic University

10/2023–11/2023 **Lecturer**

HTI5603 Molecular Technology in the Clinical Laboratory, MSc in Medical Laboratory Science, Department of Health Technology and Informatics, The Hong Kong Polytechnic University

1/2022–5/2022 **Lecturer**

GNBF5070 Genome Informatics, MSc in Genomics and Bioinformatics, School of Biomedical Sciences, The Chinese University of Hong Kong

### **PRESS CONFENERCES**

1. **Fighting allergies: CUHK unravels the genome profile of the American cockroach** (2023). *CUHK in Touch*. <https://cuhkintouch.cpr.cuhk.edu.hk/2023/03/27815/>
2. **Mites evolution discovery promises intervention in dangerous allergies** (2022). *CUHK in Touch*. <https://cuhkintouch.cpr.cuhk.edu.hk/2022/09/8429/>