Zibin Zhao

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EDUCATION

Ph.D., Bioengineering — The Hong Kong University of Science and Technology 2022 – present

Hong Kong PhD Fellowship Scheme (HKPFS) + Redbird Award · Hsing Lab

B.S., Biomedical Engineering — University of Melbourne 2018 – 2020

First Class Honours

SELECTED PUBLICATIONS (100 citations · h-index 4 · i10 3 — Google Scholar; ★ first-author / featured)

2026 · X Wu, WH Lam, **Z Zhao**, et al. "DNA-guided CRISPR–Cas12a effectors for programmable RNA recognition and cleavage." *Nature Biotechnology.* ★

2026 · IM Hsing, X Wu, Y Li, Y Cao, **Z Zhao**, et al. "Thermodynamically programmed one-pot CRISPR platform for point-of-care SNP genotyping."

2025 · **Z Zhao**, H Lin, HY Lau, H Chen, IM Hsing. "Structure-enhanced deep learning accelerates aptamer selection for small-molecule families like steroids." *Briefings in Bioinformatics, 26(6).* ★

2025 · Y Cao, H Lin, et al. (incl. **Z Zhao**). "Benchtop to at-home test: amplicon-depleted CRISPR-regulated LAMP at skin-temperature for viral load monitoring." *Biosensors and Bioelectronics, 267.*

2025 · H Lin, **Z Zhao**, X Feng, SY Yeung, IM Hsing. "DNA hydrogel-interfaced organic electrochemical transistor for binding-induced conformational change of small-molecule aptamers." *ACS Applied Materials & Interfaces, 17(37).*

2025 · IM Hsing, X Wu, **Z Zhao**, Y Cao, H Lin, X Feng. "DNA-guided CRISPR/Cas effector for programmable RNA-recognition and cleavage."

2023 · Y Li, **Z Zhao**, A Veronica, S Yu Yeung, IM Hsing. "Skin-adherent elastomer-hydrogel patch for continuous 12-lead cardiac ambulatory monitoring during physical activities." *Advanced Materials Technologies, 8(18).*

2023 · X Zhuang, **Z Zhao**, X Feng, GCY Lui, D Chan, SS Lee, IM Hsing. "Integrating magnetic-bead sample extraction and molecular barcoding for one-step pooled RT-qPCR of viral pathogens." *Analytical Chemistry, 95(14).*

2023 · **Z Zhao**. "Transforming ECG diagnosis: an in-depth review of transformer-based deep-learning models in cardiovascular disease detection." *arXiv:2306.01249.* ★

EXPERIENCE

Co-founder & CEO — PealthMed Ltd Present

Research Assistant — The Hong Kong University of Science and Technology 2021 – 2022

- Built a real-time acquisition system for wireless, ambulatory 12-lead ECG monitoring (LabVIEW).
- Designed an innovative filter bank for ECG noise removal and a deep-learning pipeline for heart-disease classification.
- Wrote and reviewed manuscripts and funding proposals.

Teaching Assistant — Shanghai Jiao Tong University 2020 – 2021

Laboratory Intern — Haihe Animal Science & Technology Co., Ltd. 2018 – 2019

SKILLS, LANGUAGES & LEADERSHIP

Software Python, C, MATLAB, LabVIEW, SolidWorks

Languages Mandarin & Cantonese (native), English (professional)

Focus Computational biology, deep learning, molecular dynamics, diagnostics

Leadership President & Event Director — Chinese Music Group, University of Melbourne (5,000+ members)