

Chloe Kan

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Research Interest and Experience

- Neurodegenerative diseases (experience in Schizophrenia and Alzheimer's disease research, currently studying cell therapies for Multiple Sclerosis).
- Therapeutic and pharmacological interventions of neurodegenerative diseases.

Undergraduate Research Opportunities Program (UROP)

Feb 2020 – Oct 2021

Hong Kong University of Science and Technology (HKUST)

- Studied “Human Complex Disease Genomics and Bioinformatics”, specifically on the role of GABA_A receptors in schizophrenia and aged mice, supervised by **Prof. Hannah Xue Hong**.
- Handling of *Gabrb2*-knockout and wild-type mice with traditional Chinese medicine (TCM) therapy.
- AlphaFold2 prediction of the GABA(A) receptor homopentamers and heteropentamers.
- Scientific skills: SDS-PAGE, qPCR, gel electrophoresis, genotyping, mice behavioural tests, mice dissection (blood collection and brain isolation), protein purification, and negative staining.

Final Year Project

Sept 2022 – May 2023

Hong Kong University of Science and Technology (HKUST)

- Supervised by **Prof. Nancy Ip** and **Prof. Amy Fu** with the topic “Establishing a Screening Platform for Microglia Activators Using Migration and Phagocytosis Assays”.

Scientific skills: cell culture (BV2), migration assay with culture inserts, live imaging with ZEISS Celldiscoverer 7, phagocytosis assay with pHrodo beads, ICC staining and confocal microscopy.

Research Assistant

Sept 2023 – Jul 2024

Hong Kong University of Science and Technology (HKUST)

- Traditional Chinese Medicine (TCM) drug screening project at Ip Lab - Molecular Neuroscience Laboratory (**Prof Nancy Ip**).
- Investigating the role of soluble ST2 protein and IL-33/ST2 pathway in Alzheimer's disease.
- Scientific skills: cell culture (THP-1, HUVEC, NIH-3T3), cytotoxicity MTS assay, RNA extraction, BCA protein assay, ELISA, optimising migration and phagocytosis assays using high-content imaging.

PhD Candidate

Sept 2024 – present

The University of Hong Kong (HKU)

- Co-supervised by **Prof Rio R. Sugimura** and **Prof Raymond C.C. Chang** under the Li Ka Shing Faculty of Medicine, School of Biomedical Sciences.
- Thesis committee members: **Prof Rubén Hervas Millan** (HKU), **Prof Marco Peviani** (University of Pavia), **Prof Shoutang Wang** (HKU).
- Project title: Ameliorating symptoms of multiple sclerosis by targeting CD19⁺ B-cells and secreting anti-inflammatory cytokines from chimeric antigen receptor (CAR)-Microglia.

Peer-reviewed Publication

Kan, C., Ullah, A., Dang, S., & Xue, H. (2024). Modular Structure and Polymerization Status of GABAA Receptors Illustrated with EM Analysis and AlphaFold2 Prediction. *International journal of molecular sciences*, 25(18), 10142.

Education

Dual Degree in BSc Biotechnology & BBA General Business Management

2018 – 2023

Hong Kong University of Science and Technology (HKUST)

- Achieved Cumulative Grade Average (CGA): 3.725 (First Class Honors)
- Awarded the HKUST Admission Scholarship (Full Tuition) and the Technology and Management Elite Student Scholarship and achieved Dean's List for six semesters.

Other Work Experiences

Marketing Assistant

Jan 2021 – Feb 2021

Novartis Pharmaceuticals (HK) Limited

- Reviewed and designed educational materials on blood cancer diseases (DLBCL and B-cell ALL) and CAR-T cell therapy, creating a slide deck for insurance industry education.
- Presented a marketing plan for publicity of **KYMRIAH® (tisagenlecleucel) CAR-T therapy** to the business unit of Hong Kong Sanatorium & Hospital.

Compliance Intern

Jun 2022 – Aug 2022

Roche Diagnostics (Hong Kong) Limited

- Obtained hands-on experience in compliance monitoring in the pharmaceutical industry.
- Analysed data on business contracts with Excel and Tableau to create downstream business insights.
- Assisted in an internal company-wide training session on the updated HKAPI Code of Practice.

Project Experiences

GSK x HKUST Student Consultant

Sep 2021 – Jan 2022

GlaxoSmithKline Limited x HKUST

- Presented a team proposal to managers from GSK Hong Kong, providing business insights on marketing effort allocation decisions using mock historical sales data.
- Designed computational models to study previous data and provided advice for future digital campaigns.
- Identified KPIs and different marketing channels for engaging HCPs.

HKUST Special Project: “Urban Retrofitting Strategies for Arup”

Feb 2022 – May 2022

Arup x HKUST

- Proposed utilising water’s cooling effect to retrofit Hong Kong’s energy-inefficient high-rise commercial buildings per Hong Kong’s carbon-neutral target by 2050.
- Investigated the potential of biofuel and biotechnology (e.g. Algae panels) in generating energy.
- Awarded the “most valuable player (MVP) of the team”.

Extra-Curricular Activities and Volunteering

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| Volunteering for HKUST Connect: Green Playground for Dementia | 2019 |
| KPMG Data Analytics Consulting Virtual Internship (Forage) | 2021 |
| Volunteering for Heep Hong City Hunt @ Ma On Shan Park | 2021 |
| President of Golden Z Club, HKUSTSU | 2018 – 2022 |
| • Spearheaded the revival of the previously dormant Golden Z Club of HKUST to serve the community. | |
| • Liaised and communicated with our mother club - Zonta Club of Hong Kong East. | |
| Volunteering for Redress Winter 2024 Second Hand Pop-up | 2024 |
| Volunteering for Greeners South: Empower the people in Hong Kong to recycle glass | 2024 |
| Volunteering for Generations Connect (supervised by Prof. Sophia Chan Siu Chee, HKU) | 2024 – Present |

Qualifications, Hobbies and Other Experiences

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| Professional Association of Diving Instructors (PADI) Open Water Diver’s License | 2016 |
| Associated Board of the Royal Schools of Music (ABRSM) Grade 8 Piano | 2016 |
| Runner-up award: HKUST’s Centre for Aging Science, Logo Design Contest | 2020 |

Languages: Cantonese, English, Mandarin

Computer Skills: Microsoft Office, Apple iWorks, Google Workspace, basic Python and Excel VBA, PowerBI, Tableau, AlphaFold2, UCSF Chimera, ChimeraX, SnapGene, RStudio, FlowJo

Photography portfolio: <https://sites.google.com/view/chloekanphotography/home>

LinkedIn: <https://www.linkedin.com/in/chloe-kan/>