

Chris, Ngai Lam Chung

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Education

Final Year DPhil in Biochemistry, University of Oxford Oxford, UK

Investigating the dynamics and interactions involved in oligomerisation of the Influenza A matrix 1 protein

Schnell Lab, Department of Biochemistry

Oct 2020 - Now

- Carried out a 4-year long independent research project to understand the structural changes involved in the oligomerisation of the influenza A matrix 1 (M1) protein, and how it can be exploited for developing novel antivirals
- Designed and optimised novel membrane-mimetic assay to screen M1 stability, binding events and oligomerisation
- Identified and comprehensively probed the structural dynamics of M1 through extensive NMR experiments, sequence analysis and molecular dynamics
- Combined 40 sets of varying NMR relaxation data into a single kinetic model describing M1 self-oligomerisation
- Performed custom analysis on M1NT molecular dynamics data using Python to extract atomic relationships
- Managed collaboration with a CRO (Evotec), meeting key result deadlines and producing report presentations
- Initiated and established 3 academic collaborations to gain EM insights and in vivo implications in flu viruses
- Led and supervised all 10 undergraduate and Masters students in obtaining key results for a separate project on the anti- α -synuclein aggregation properties of the molecular chaperone DNAJB6
- Adapted published biophysical assays for DNAJB6 to investigate the rate of α -synuclein fibrillation
- Advocated student interests and COVID-related concerns as the graduate year representative of DPhil Biochemistry
- Awarded the Hong Kong Jockey Club Graduate Scholarship (2020) in recognition of leadership capabilities, strength of character and commitment to community service

MSc by Research in Biochemistry, University of Oxford

Oxford, UK

Investigating potential allostery in the transcription factor CREB

Shammas Lab, Department of Biochemistry

Oct 2019 - Oct 2020

- Investigated the biophysical properties and DNA-binding kinetics of the full-length disordered proto-oncoprotein CREB
- Developed and optimised a novel purification strategy for the HaloTagged CREB construct
- Determined kinetic parameters for CREB-DNA interaction using fluorescent anisotropy and stopped-flow spectroscopy
- Discovered inconsistencies with past results and devised a solution involving the allosteric effects of CREB
- Brainstormed application of innovative technologies such as molecular tweezers and mass photometry
- Liaised with industrial partners such as LUMICKS and Refeyn to establish research collaborations

BSc & ARCS Biochemistry, Imperial College London

London, UK

Final Grade: First Honours

Oct 2016 - June 2019

- Developed a bioinformatics toolkit to characterize proline cis-trans isomerisation in disordered proteins via large-scale sequence and molecular trajectory analysis in Python

Awards

Invited Speaker at Max Planck Ringberg Symposium, Max Planck Schools

July 2023

Invited Speaker at NMR Discussion Group Christmas Meeting, Royal Society of Chemistry

Dec 2022

Best Poster Presentation, Royal Society of Chemistry NMR Discussion Group

June 2022

Croucher Scholarship for Doctoral Study, The Croucher Foundation

Oct 2021 - Sept 2023

Hong Kong Jockey Club Graduate Scholarship, Hong Kong Jockey Club Charities Trust

Oct 2020 - Sept 2023