

Education

- 2024-2028** **University of Oxford | DPhil Engineering Biology**
Machine learning guided control and evolution of biological systems
- 2021-2024** **Australian National University | Bachelor of Philosophy (Science) (Honours)**
Research intensive undergraduate degree focussing on Synthetic Biology
First Class Honours, GPA: 7/7, Weighted Average Mark: 87/100
- 2020-2021** **Imperial College London | CertHE in Molecular Bioengineering**
One-year course on applying engineering principles to biological systems
- 2014-2019** **Tonbridge School | A-levels**
A*A*A*AB in Mathematics, Physics, Biology and Chemistry and Further Mathematics

Research Experience

- 2023-2024** **Jackson Lab | ARC Centre of Excellence in Synthetic Biology**
- Protein engineering and bioinformatics for health and environmental applications
 - Applied AI protein design methods, phylogenetics and sequence similarity networks to design improved enzymes
 - Engineered *Vibrio natriegens* as a platform for waste valorisation.
- 2023-2024** **ANU iGEM Team**
- Founded and led the ANU iGEM in 2023 and mentored the 2024 team
 - Both teams achieved silver medals at the iGEM jamboree
 - In 2023 we focussed on protein encapsulation for heavy metal bioremediation
 - In 2024 we worked on engineering symbiotic bacteria to mitigate coral bleaching
- 2022-2023** **Huber Lab | ANU Research School of Chemistry**
- In silico design and experimental validation of novel nanobodies against CD markers and sodium channels.
- 2022** **Brock Lab | ANU Australasian Synthetic Biology Challenge Team 2022**
- Nanobody engineering for crop disease resistance
- 2022** **Fischer Lab | John Curtin School of Medical Research**
- Designing and testing dCas-RNaseH fusion proteins for R loop studies and cancer diagnostics.

Professional Experience

- 2023-2024 Australian Government Department of Climate Change, Energy, the Environment and Water | Senior Policy and Engagement Officer**
- Responsible for engagement delivery, procurement and drafting briefing materials for senior executives and cabinet ministers
 - Co-authored reports on options to deliver the Murray-Darling Basin Plan and Water Market Reform
 - Introduced new software products to accelerate existing workflows
 - Delivered engagement workshops and webinars for stakeholders across the Murray Darling Basin
 - Developed and supervised team members
- 2022-2023 Australian Government Clean Energy Regulator | Regulatory Officer**
- Improved average response to stakeholder requests from multiple days to less than 24hrs, which increased stakeholder milestone completion
 - Implemented a new software product into the team's workflow automating 4 business processes
 - Developed a data analysis pipeline to automate updates of PV inspection data
 - Analysed installer data leading to the introduction of a new compliance program
- 2022-2024 ANU | Undergraduate Teaching Assistant and Science Ambassador**
- Assisted in the development and teaching of the 3rd year course: The Australasian SynBio Team Challenge
 - Produced and featured in educational STEM content for students from disadvantaged backgrounds
 - Interviewed ANU researchers and wrote promotional content
- 2021-2022 Stocks Down Under | Research Analyst**
- Research and analysis of listed companies in emerging technology industries

Volunteering

- 2023-Present Australasian SynBio Challenge Executive | Operations Lead**
- Lead the organisation of the first in person conference of the Aus SynBio Challenge at the ANU
 - Created the Aus SynBio Challenge Ambassador program
 - Raised AUD\$20,000 from sponsors to fund the travel of students from around Australia
- 2024-Present Nucleate Australia | Operations Co-MD**
- Part of the Nucleate Australia founding team
- 2022-2024 ANU iGEM | Founder**
- Founded the ANU team to compete in the iGEM Synthetic Biology competition
 - Raised AUD\$45,000 from multiple sponsors to take part and attend the iGEM Jamboree in Paris
- 2024 Synthetic Biology Australasia (SBA) | Node Leader**
- Organising events and workshops for SBA in Canberra

2022-2024 ANU Biology Society | President

- Hosted events with academics, start-ups such as Samsara Eco and biopharma companies including Moderna
- Utilised leadership, organizational and graphic design skills to increase the membership and number of events the society holds 3-fold

2023-2024 SABRE Alliance | Member

- Member of the Australian Department of Defence Safeguarding Australia through Biotechnology Research Alliance
- Contribute to workshops, research activities and consultation to inform biotechnology policy

2021 The Climate Council | Corporate Sponsorship Researcher

- Delivered reports on potential corporate partners companies' environmental commitments and philanthropic capabilities.

Conferences and Research Presentations

Asia-Pacific Workshop on Engineered Living Materials – Poster (2024)

National Film and Sound Archive: Science, Art, Film – Panel member (2024)

ARC Centre of Excellence in Synthetic Biology EMCR Workshop (2023)

iGEM Jamboree - Presentation (2023)

Australian Rare Earth Elements Conference – Presentation and panel (2023)

ARC Centre of Excellence in Synthetic Biology Mariculture Industry workshop – Panel (2023)

Australian Society for Biochemistry and Molecular Biology EMCR Showcase – Poster (2023)

Australian CellAg Summit (2023)

Grants and Awards

2024 Ramsay Postgraduate Scholarship

2024 EngBio CDT Scholarship

2023 ARC Centre of Excellence in Synthetic Biology Honours Scholarship

2023 iGEM Impact Grant

2023 iGEM Silver Medal

2022 TWIST Synthetic Biology Initiative Seed Grant

2024, 2023, ANU Chancellor's Commendation for academic excellence

2022

2020 Imperial College President's Scholarship

2019 Gold medal, British Biology Olympiad

2019 Silver medal, British Chemistry Olympiad

2018 ISSET Mission Discovery winner, our experiment launched to the ISS in November 2022

Additional Qualifications

- Drafting New Policy Proposals – Australian Public Service Commission
- Management Skills for Regulators and Managers – Australian Public Service Commission
- National Electricity Markets – Australian Energy Market Operator
- First Nations Cultural Awareness – Australian Public Service Commission