SHAE MCLAUGHLIN

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EDUCATION

Stanford University — Palo Alto, CA
Doctor of Philosophy in Bioengineering — Incoming Sep 2025

University of California, San Francisco — San Francisco, CA
Master of Science in Health Data Science | GPA: 4.0/4.0 — Jun 2023 – Mar 2025

University of Sydney — Sydney, Australia
Bachelor of Science in Genetics and Genomics | Distinction Average — Graduated Jan 2022

PROFESSIONAL EXPERIENCE

Cellware Labs, Inc. — Oct 2022 – Feb 2025
Co-Founder and Chief Executive Officer — San Francisco, CA
- Co-founded a startup that developed a medical education platform 'Hippocratic AI' that allowed medical students to learn from large language model-simulated conversations with patients
- Raised a $1,000,000 pre-seed round from the OpenAI Startup Fund

Investment NSW — Mar 2021 – Jan 2022
Senior Media Adviser — Sydney, Australia
- Advised NSW Government Ministers including the Treasurer, the Minister for Enterprise, Investment and Trade, and the Minister for Science, Innovation and Technology
- Developed communications strategies for the biotechnology industry, the space technology industry, and the startup ecosystem
- Managed the announcement of the NSW RNA Manufacturing Pilot Facility, and the NSW RNA Bioscience Alliance

NSW Treasury — Aug 2020 – Mar 2021
Senior Media Adviser — Sydney, Australia
- Second-in-command of NSW Treasury's media team for the delivery of the 2020-21 post-pandemic budget
- Developed media and communications strategies for budget announcements across areas including fiscal policy, science and technology investment, and trade

Minister for Police and Emergency Services — Apr 2019 – Aug 2020
Media Adviser — Sydney, Australia
- Managed announcements and produced media and communications content across areas including policing policy, crime legislation, emergency services capital investments, and first responder welfare
- Prepared the Minister for Budget Estimates hearings and Parliamentary Question Time
- Managed senior stakeholders from NSW Police, NSW RFS, NSW Fire & Rescue and first responder welfare organizations

Minister for Counter Terrorism, Corrections and Veterans Affairs — Aug 2017 – Apr 2019
Assistant Adviser — Sydney, Australia
- Assisted in the policy development of the Veterans Employment Program and the Ranks to Recognition Program to help veterans transition into the civilian workforce

RESEARCH EXPERIENCE

UCSF Eli & Edythe Broad Center for Regeneration and Stem Cell Research — Jan 2024 – Present
Daniel Lim Lab — San Francisco, CA
Master's Student
- Machine learning approaches to understanding nuclear localization of the genome in the developing brain, under the supervision of Dr. Daniel Lim
- Skills: bioinformatic processing of high-throughput sequencing data including RNA-seq and ChIP-seq, convolutional neural networks, transformer-based deep learning

Florey Institute for Neuroscience and Mental Health — Jan 2022 – Jan 2023
Epigenetics and Neural Plasticity Lab — Melbourne, Australia
Visiting Student Researcher
- Joined Dr. Anthony Hannan's Epigenetics and Neural Plasticity group to assist on a project investigating how paternal experiences modulate offspring stress resilience and cognition

- Skills: mouse handling, mouse behavior models including forced swim and social interaction, behavioral analysis, necroscopy including brain and reproductive system dissection, PCR, DNA and RNA isolation, DNA and RNA purification

Stem Cell and Neural Development Lab
Visiting Student Researcher
- Joined Dr. Clare Parish's Stem Cell and Neural Development group to assist on a project investigating the efficacy of stem cell and gene therapy for Parkinson's disease
- Led a machine learning project to develop convolutional neural networks to classify neural stem cell histopathology
- Skills: induced pluripotent stem cell culture, generating neural lineages, immunostaining, microscopy, PCR, DNA and RNA isolation, DNA and RNA purification

University of Sydney Feb 2021 – Dec 2021
International Genetic Engineered Machine (iGEM) Competition Sydney, Australia
Team Leader
- Led the 2021 iGEM project under the supervision of Dr. Nicholas Coleman, which received a gold medal for our proposal of a novel recombineering strategy to engineer a naturally transformable strain of *E. coli*
- Developed a venture capital pitch focusing on the proposal's startup potential and participated in pitch mentoring sessions with EastWest Capital and Blackbird Giants, as well as skills seminars with IDT, Twist Bioscience and New England Biolabs

Charles Perkins Centre Apr 2021 – Jun 2021
Dr John and Anne Chong Lab for Functional Genomics Sydney, Australia
Volunteer Researcher
- Joined Dr. Greg Neely's lab to assist on a project using CRISPRa pooled screens to identify novel substance P receptors
- Skills: induced pluripotent stem cell culture, pooled CRISPR screens

TEACHING EXPERIENCE

UCSF Department of Epidemiology & Biostatistics Sep 2024 – Present
Teaching Assistant San Francisco, CA
- Completing an educational apprenticeship as a teaching assistant for Biostatistics for Clinical Research I (BIOSTAT200), taught by Dr. Ali Mirzazadeh
- Responsible for leading practical laboratory sessions, holding office hours for students, and grading assignments and exams

In2Science Jan 2022 – Dec 2022
Science Peer Mentor Melbourne, Australia
- Mentored high school students in science through In2Science, a peer mentoring program, targeting students from low socio-economic backgrounds
- Developed engaging teaching strategies, such as assigning a genetic engineering research proposal for a new type of pet to seventh grade students, to connect STEM concepts with students' interests and daily lives, while serving as a role model to demonstrate the diversity and accessibility of careers in science

AWARDS & ACHIEVEMENTS

John Monash Scholarship Finalist Oct 2024
- Selected as a finalist for the 2025 John Monash Scholarship, which provides up to $240,000 AUD to Australians pursuing graduate studies abroad

Quad Fellowship Dec 2022
- Selected as one of 100 students from the US, Australia, India and Japan to receive a $50,000 USD award to support master's level study in the US

International Genetically Engineered Machine (iGEM) Competition Gold Medal Nov 2021
- Awarded to the University of Sydney 2021 iGEM Team for our presentation of a novel recombineering strategy to design a naturally transformable strain of E. coli

PUBLICATIONS & PRESENTATIONS

Mclaughlin, S., Ahanger, S. & Lim, D. (2024). Nucleotide GPT: Sequence-based deep learning prediction of nuclear subcompartment-associated genome architecture. *bioRxiv: the preprint server for biology,* 2024.11.27.625761. https://doi.org/10.1101/2024.11.27.625761

Kleeman, E., Gubert, C., Reisinger, S., Davidson, K., Dayton, M., Mackiewicz, L., Masson, B., Adithya, P., Garnham, A., Li, S., Liao, H., **Mclaughlin, S.**, Wheeler, M., Kiridena, P., Doerflinger, M., Pellegrini, & Hannon, A. (2024). Paternal SARS-CoV-2 infection increases anxiety in offspring and changes sperm small noncoding RNA profiles. In revision at *Nature Communications*.

Kleeman, E., Reisinger, S., Adithya, P., Houston, B., Stathatos, G., Garnham, A., **Mclaughlin, S.**, O'Bryan, M., Gubert, C., & Hannan, A. (2024). Paternal immune activation by Poly I:C modulates sperm non-coding RNA profiles and causes transgenerational changes in offspring behavior. *Brain, Behavior, and Immunity*, S0889-1591(23)00304-5. https://doi.org/10.1016/j.bbi.2023.10.005

Cooper, E., Gorton, O., He, A., Michelis, R., **Mclaughlin, S.,** & Tang, S. (Co-First Authors). Free Coli: A type IV pilus DNA uptake system for natural transformation in Escherichia coli. Oral presentation at the Synthetic Biology Australia 2021 Conference.