THOMAS KA CHUNG LAM

Lausanne, Switzerland
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EDUCATION

Hong Kong University of Science and Technology, Hong Kong *01.09.2017 - 14.07.2021*
BSc in Computer Science, and in Biochemistry and Cell Biology (International Research Enrichment Track), GPA: 4.05/4.3 (First Class Honors)

Columbia University, USA *21.01.2020 to 15.05.2020*
International Exchange Program

Hong Kong University of Science and Technology, Hong Kong *01.09.2021 - 31.08.2023*
MPhil in Bioengineering, GPA: 3.98/4.3

École Polytechnique Fédérale de Lausanne, Switzerland ***15.09.2023 - Present***
Doctoral Program in Neuroscience

RESEARCH EXPERIENCE

Intern, Kazama Lab, RIKEN Center for Brain Science, Japan *12.06.2019 - 08.08.2019*

- Supervisor: Dr. Hokto Kazama
- Quantify *Drosophila* proboscis extension response (PER)
- Perform clustering to show the kinematic differences across different types of PER

Intern, Behnia Lab, Columbia University, USA *21.01.2020 - 19.07.2020*

- Supervisor: Dr. Rudy Behnia
- Assemble spherical treadmill setup for *Drosophila*
- Infer synaptic weights with probabilistic programming paradigm

MPhil Student, Semmelhack Lab, HKUST, Hong Kong *01.09.2021 - 31.08.2023*

- Supervisor: Dr. Julie Semmelhack
- Thesis title: A Paradigm for Investigating Binocular Integration During Prey Capture in Larval Zebrafish
- Design experimental setup to block monocular visual inputs
- Perform two-photon calcium imaging and behavioral experiments
- Identify neurons that respond to both ipsilateral and contralateral eye stimulations

Doctoral Student, Ramdya Lab, EPFL, Switzerland ***15.09.2023 - Present***

- Supervisor: Prof. Pavan Ramdya
- Project: Neural Mechanisms of Goal-directed Reaching in *Drosophila*
- Conduct quantitative behavioral analysis of 3D limb kinematics of interacting flies
- Apply functional imaging to examine neural activity during reaching
- Leverage connectomics to map the neural circuits involved in limb control
- Employ computational modeling to simulate and understand the underlying neural mechanisms

PUBLICATIONS AND PREPRINTS

* Equal contribution, † Corresponding author

Wang-Chen S†, Stimpfling VA, Lam TKC, Özdil PG, Genoud L, Hurtak F, Ramdya P†. (2024) NeuroMechFly v2, simulating embodied sensorimotor control in adult *Drosophila*. ***Nature Methods***, doi: 10.1038/s41592-024-02497-y

Wei H, Lam TKC & Kazama H†. (2024) Odors drive feeding through gustatory receptor neurons in *Drosophila*. ***eLife***, doi: 10.7554/eLife.101440.1.

Zhao P*, Tong Y*, Lazarte IP, Khan B, Tian G, Chen KKY, Lam TKC, Hu Y, Semmelhack JL†. (2024) The visuomotor transformations underlying target-directed behavior. (Accepted, ***PNAS***), preprint doi: 10.1101/2024.05.07.592863

Tian G*, Lam TKC*, Yan G*, He Y, Khan B, Qu JY, Semmelhack JL†. (2024) Binocular integration of prey stimuli in the zebrafish visual system. (Under revision at ***Current Biology***), preprint doi: 10.1101/2024.09.08.611846

Lobato-Rios V, Lam TKC, Ramdya P†. (2024) Conspecific sociability is regulated by associative learning circuits. (Under revision at ***Nature Neuroscience***), preprint doi: 10.1101/2024.11.25.624845

CONFERENCES, WORKSHOPS, AND SYMPOSIA

Presenter, Poster "Mechanisms of Goal-Directed Reaching in *Drosophila*", SfN 2024

Organizer, Workshop "Simulating Embodied Neural Control Using NeuroMechFly", SfN 2024

Flash Talk, Croucher Symposium 2024

AWARDS AND HONORS

CMB Wing Lung Bank Scholarship	*2018 - 2019*
D.H. Chen Foundation Life Science Scholarship	*2018 - 2020*
Fung Scholarship	*2019 - 2020*
HKSAR Government Scholarship Fund – Reaching Out Award	*2019 - 2020*
Lee's Pharmaceutical – Kanya Lee Scholarship	*2019 - 2020*
The Joseph Lau Luen Hang Charitable Trust Scholarship	*2020 - 2021*
HKUST Academic Achievement Medal	*2021*
Joseph Needham Merit Scholarship	*2024*
Croucher Scholarships for Doctoral Study	*2024 - 2026*

TEACHING EXPERIENCE

Teaching Assistant, HKUST, Hong Kong

BIEN 5040 - Introduction to Neural Engineering	*09.2022 - 12.2022*

Teaching Assistant, EPFL, Switzerland

NeuroMechFly Student Projects	*09.2023 - 01.2024*
Controlling Behavior in Animals and Robots	*02.2024 - 05.2024, 02.2025 - Present*

PROGRAMMING SKILLS

Fluent: Python, C/C++

Familiar: Java, MATLAB, R

EXTRA-CURRICULAR ACTIVITIES

Academic Secretary of International Research Enrichment Students' Society, HKUST *2018 - 2019*