

Tom Wu

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EDUCATION

University of Toronto St. George, Honours B.Sc Toronto, Canada Sep. 2021 – May.2025

- Astronomy & Physics Specialist, Computer Science Major
- Upper year elective courses in Relativity, Scientific Computing and AI
- Dean’s List Scholar in all previous years
- One Summer Semester research exchange at the National University of Singapore

High School Affiliated to Renmin University of China (RDFZ) Beijing, China Sep. 2018 – Jun. 2021

- AP Curriculum Program, 8 APs with score 4+

PUBLICATION

1. Wu, T. Y., & Fishbach, M. (2024, August 7). *Are long gamma-ray bursts progenitors to merging binary black holes?*. arXiv.org. <https://arxiv.org/abs/2408.04064>

AWARDS & SCHOLARSHIPS

Dean’s List Scholar	2024
Victoria College - The Regents In-course Scholarship	2023
Dean’s List Scholar	2023
Undergraduate Summer Research Exchange Award	2023
Victoria College - The Regents In-course Scholarship	2022
Dean’s List Scholar	2022
Regents Admission Scholarship	2021
IMMC Global Meritorious, Regional Outstanding	2020

RESEARCH EXPERIENCE

Supervised Study in Astronomy and Astrophysics Toronto, Canada

Supervisor: Prof. Maya Fishbach Sep. 2023 – Present

- Focus on understanding black hole populations with gravitational waves and gamma-Ray burst
- Estimated the distribution of binary black hole merger delay time distribution, effectiveness factor and spin dependence.
- Attended a graduate course in Compact Objects and Gravity, applying the knowledge gained to the research project, demonstrating the ability to comprehend advanced material.
- Uploaded a research paper to arXiv, with plans to submit to a journal.
Continuing research in the Fall/Winter Semester of 2024-2025, with a planned focus on parameter estimation based on binary neutron star rates.

Supervised Study in Astroparticle Physics

Toronto, Canada

Supervisor: Prof. Miriam Diamond / Prof. Ziqing Hong

May. 2024 – Present

- Ongoing project on detector simulations for the SuperCDMS experiment.
- Run simulations using ComputeCanada Supercomputing Clusters.
- Model trigger delay in detector electronics.
- Rewriting NoiseSimulation based on acquired data to improve simulation accuracy.

Summer UOPS Research Exchange

Singapore

Supervisor: Prof. Alexey Berdyugin

May. 2023 – Jul. 2023

- Studied the possibility of using Machine Learning techniques to find and map 2D materials exfoliated onto SiO₂ substrate.
- Worked on building the software and hardware that enables the automatic mapping and recognition of exfoliated 2D materials.
- Assisted machine learning model training by operating microscopes to capture and label samples.
- Constructed hardware with Arduino Controllers and 3D CAD modelling, the project saves time by automating the tedious flake search process.

ACADEMIC EXPERIENCE

Victoria College Peer Tutor

Toronto, Canada

Physics Tutor

Aug.2024 - Apr.2025

- Peer Tutor position paid by the University, offering weekly in-person drop-in tutoring service to all undergraduate students.
- Focuses on first-year physics foundation courses PHY131/132/151/152 as well as certain 2nd and 3rd year physics courses.

Summer Particle Astrophysics Workshop

Toronto, Canada

Student Participant

May.2024

- Participated in this intense 2-week workshop directed at incoming undergraduate and master's students new to the field of particle astrophysics.
- Applied skills and knowledge in the workshop to Astroparticle Physics Research Project.

Physics Second Year Learning Community

Toronto, Canada

Member

Sep. 2022 – Apr. 2023

- Contributed actively to bi-weekly discussions on Physics and study strategies.
- Practiced communicating and collaborating skills in academics in a group setting.

Recognized Study Group

Toronto, Canada

Group Leader

Feb. 2022 – May.2022

- Completed certified leader training, systematically learning important aspects of working in an academic group, and received co-curricular credit.
- Displayed leadership and communication skills in a group of 8.

PROGRAMMING LANGUAGE

Proficient	Python
Intermediate	Java
Basic Experience	MATLAB, C, C++, R

EXTRACURRICULAR EXPERIENCE

AstroTours at the University of Toronto

Toronto, Canada

Volunteer

Nov. 2022 – Present

- Work as a volunteer for this monthly departmental event usually with around 100 visitors.
- Answer Astronomy-Related questions from the public, usually related to objects the telescope is observing.
- Interactive demo guide, Lab tour guide, Telescope tour guide, experience on operating the 8-inch Reflector Telescope in the observatory dome.

Residence Building Floor Council

Toronto, Canada

Floor Vice President (yr 3)

Sep. 2023 – May.2024

Floor Vice President (yr 2)

Sep. 2022 – May. 2023

- Elected Vice President of the floor during the academic year.
- Organized and coordinated extracurricular activities for a group of around 35 people.

2023 Victoria College Orientation

Toronto, Canada

Orientation Leader

Sep. 2023

- Completed certified training, studied and tested communication skills.
- Ran various activities during the Orientation, trained and served intensely for 95 hours within a week.