

Tom LAI, PhD

PERSONAL DATA

PLACE AND DATE OF BIRTH: Hong Kong | 11 May 1993
ADDRESS: 181 Roy Rainey Ave, L6E 1G6, Markham, Ontario, Canada
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WORK EXPERIENCE

SEPT 2015-DEC 2021	Teaching assistant for first-year introductory physics, McMaster University , Hamilton Instructed tutorials and supervised laboratory exercises on kinematics, forces and energy, introductory electromagnetism, circuits, and waves
JAN-APR 2021	Teaching assistant for advanced statistical mechanics, McMaster University , Hamilton Graded and prepared solution sets for assignments, and exams covering graduate-level thermodynamics, and statistical mechanics
JAN 2020-APR 2021	Teaching assistant for third-year thermodynamics, McMaster University , Hamilton Graded and prepared solution sets for assignments, and exams on the laws of thermodynamics, as well as classical and quantum statistical mechanics
SEPT 2019-DEC 2020	Teaching assistant for the Physics Drop-in Center, McMaster University , Hamilton Responsible for helping undergraduate students with assignments and course material from any of the first-year physics courses
SEPT 2017-DEC 2019	Private tutor for first-year physics and calculus Tutored students enrolled in first-year undergraduate physics or calculus courses on a weekly to bi-weekly basis
SEPT-DEC 2016	Teaching assistant for introductory quantum mechanics, McMaster University , Hamilton Graded and prepared solution sets for assignments, and exams covering basic quantum mechanics for third-year undergraduate students

EDUCATION

APR 2022	Doctor of SCIENCE, McMaster University , Hamilton Research: Polymer physics Advisor: An-Chang SHI Thesis: " Theory of Disperse Diblock Copolymers "
JULY 2017	Masters of SCIENCE, McMaster University , Hamilton Research: Polymer physics Supervisor: An-Chang SHI Thesis: " Theory of Binary Mixtures of Diblock Copolymers: A New Route to the Bicontinuous Double-Diamond & Plumber's Nightmare Phases "
MAY 2015	Bachelor of SCIENCE, McGill University , Montreal Major: Mathematics and Physics (Honours) Research: Condensed matter physics Supervisor: Bill COISH Thesis: "Approximate Analytical Solutions to the Multi-Level Landau-Zener Model"

OTHER CERTIFICATIONS

- MAY 2020 Summer School of High Performance Computing,
Virtual
A virtual summer school held over the span of two months that offered courses on machine learning (Python Scikit/TensorFlow), CUDA, MPI, and OpenMP
- JUNE 2019 Summer School of High Performance Computing,
McMaster University, Hamilton
A five-day intensive summer school that focused on OPENMP, OPENMPI, CUDA, and debugging multi-threaded programs
- MAY 2018 International High Performance Computing Summer School,
Ostrava, Czech Republic
A five-day intensive summer school on high performance computing for research with an emphasis on networking with students from other disciplines and countries
- MAY 2016 Summer School of High Performance Computing,
McMaster University, Hamilton

PRESENTATIONS AND CONFERENCES

- MAR 2022 APS March Meeting 2022,
McCormick Place, Chicago, Illinois
Abstract: *Effects of Skewness on the Formation of Complex Spherical Phases in Disperse Diblock Copolymers*
- JUNE 2020 Soft Matter Canada 2020,
Virtual
Abstract: *Effects of Tacticity on the Formation of Bicontinuous Phases in Diblock Copolymers*
- MAR 2019 APS March Meeting 2019,
Boston Convention and Exhibition Center, Boston, Massachusetts
Abstract: *Stability of Complex Spherical Packing Phases in Low-Molecular-Weight Diblock Copolymers*
- JUNE 2018 13th International Symposium on Polymer Physics,
Xi'an, Shaanxi, China
Abstract: *Effects of Polydispersity on the Stability of Complex Spherical Packing Phases in Diblock Copolymers*
- MAR 2018 APS March Meeting 2018,
Los Angeles Convention Center, Los Angeles, Louisiana
Abstract: *Effects of Polydispersity on the Stability of Complex Spherical Packing Phases in Diblock Copolymers*
- MAY 2017 2017 CAP Congress,
Queens University, Kingston, Ontario
Abstract: *Binary Mixtures of Diblock Copolymers: A New Route to Novel Bicontinuous Phases*
- MAR 2017 APS March Meeting 2017,
Ernest N. Morial Convention Center, New Orleans, Louisiana
Abstract: *Stabilizing Various Bicontinuous Morphologies via Polydispersity of Diblock Copolymers*

VOLUNTEERING

- SEPT 2018 **Physics & Astronomy Mentor-mentee Program**
Served as a mentor for an incoming graduate student, answering questions about the department, graduate studies in general and living in Hamilton
- SEPT 2017 **Physics & Astronomy Entertainment Committee**
Served on the Entertainment Committee, which is responsible for planning and organize fun social events for the graduate students of the Physics & Astronomy department.
- OCT 2015 **Girls in Science**
Guided a group of high-school students through activities that were designed to inspire them to pursue a career in science.

SCHOLARSHIPS AND DISTINCTIONS

- JAN 2018 **Mitacs Globalink Award | VALUE: \$6000**
- SEPT 2016 **Ontario Graduate Scholarship (OGS) | VALUE: \$10000**
- MAY 2015 **First-Class Honours**
- APR. 2012 **Dean's Honour List**

LANGUAGES

- ENGLISH: **Fluent**
- CANTONESE: **Native tongue**
- JAPANESE: **Limited working proficiency**

COMPUTER SKILLS

- Proficient: **C, C++, CUDA, JAVA, \LaTeX , MATHEMATICA, MATLAB, OPENMP, PYTHON**