Bryce Wu

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Education

Sep 2014 - Apr 2019 — University of Toronto
Honours B. Sc., Physics Specialist
Molecular Genetics and Microbiology Major
Mathematics Minor
GPA 4.0/4.0

Sep 2019 - Present — National Taiwan University
Doctor of Dental Surgery

Research Experience

May 2018 - Aug 2018 — Paramekanti Group, University of Toronto

- Worked on a study of magnetoelectric effects induced by spontaneous symmetry breaking in strongly correlated materials.
  - Participated in the development of the research question.
  - Developed code to calculate the kinetic magnetoelectric response of a crystal.
  - Applied the code to a specific model exhibiting the effect in question.
  - Interpreted the features of numerical results using analytical calculations and symmetry considerations.

Sep 2017 - Apr 2018 — Steinberg Lab, University of Toronto

- Worked in the Bose-Einstein Condensate group to build and test a 405 nm interference-filter based external cavity diode laser (ECDL).
  - Showed that the ECDL can stably maintain single-mode operation over a two-hour recording period.
  - Characterized ECDL frequency and power dependence on temperature, external cavity length, and interference filter angle.
  - Modified the design to improve the tolerance on the machined components.

May 2017 - Aug 2017 — Netterfield Lab, University of Toronto

- Involved in preparing the balloon-borne telescope SuperBIT for a test flight at the Columbia Scientific Balloon Facility in Palestine, Texas.
  - Helped with assembling the telescope and testing the optics at the launch facility.
  - Built mock solar panels to test for effect of added weight on the telescope stability.
- Took part in the data analysis of the SPIDER collaboration
  - Searched for an elusive noise pattern that appeared in the data by curve-fitting and correlating the data with known examples of the noise.
  - Successfully identified almost 200 instances of the noise that were previously missed

July 2016 - Aug 2016 — Academia Sinica, Taipei, Taiwan

- Developed sample bioinformatic analysis workflows for testing on the DiCOS distributed cloud computing service.

Teaching Experience

Fall 2018 — Python Tutor for PHY224 (Practical Physics I)

Fall 2017 - Winter 2018 — Tutorial Teaching Assistant for MAT135 and MAT136 (Calculus I(A) and Calculus I(B))

Talk

Fall 2017 Review of Riemannian Geometry, MAT495 Seminar in Symplectic Geometry

Awards & Scholarships

2019 James Loudon Hines Gold Medal in Physics
2018 Bryan Wayne Statt-George Luste Prize in Experimental Physics
2018 Hymie and Roslyn Mida Student Award in Theoretical Physics
2018 NSERC Undergraduate Student Research Award
2017 NSERC Undergraduate Student Research Award (Chair's Scholar)
2017, 2018 The Class of 3to and Associates Scholarship in Mathematics and Physics
2016 University of Toronto Scholar - Rogers
2015, 2017 Joseph Alfred Whealey In-Course Scholarship
2015, 2016 New College Council In-Course Scholarship
2015-2018 Dean's List Scholar
2014 University of Toronto Entrance Scholarship

Programming Languages

Proficient in python
Familiar with C++ and cython

Languages

Fluent in Mandarin and English