Curriculum Vitae for Ryohei (Rio) Weil

Personal Information

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Education

University of British Columbia (2022-current)
MSc Physics (Quantum information and computation)

University of British Columbia (2018-2022)
BSc Combined Honours Physics and Mathematics

- Honours thesis: A Simulation of a Simulation: Algorithms for Measurement-Based Quantum Computing Experiments

Research

University of British Columbia, *Vancouver, BC* (4 months - Full-time) (2021)
Theory Research Student, Quantum Information Group

- Used condensed matter techniques to analyze resource states for measurement-based quantum computation.

University of British Columbia, *Vancouver, BC* (4 months - Full-time) (2020)
Computational NMR Research Student, Solid-State NMR Group

- Used SIMPSON NMR simulations to investigate the viability of maximum-length binary sequences in inhomogenous magnetization transfer for application in Myelin imaging.

TRIUMF, *Vancouver, BC* (4 months - Full-time) (2019)
Experimental Nuclear Physics Research Student, TITAN Group

- Assisted with the commissioning of a cryogenic Penning trap (CryoMPET) for precision mass measurement of ions.

- Developed SIMION simulations for optimization of ion extractions.

Teaching

UBC Department of Physics and Astronomy (2019-current)
Teaching Assistant and Lab Development Assistant

- PHYS 402: Applications of Quantum Mechanics (1 term)
- PHYS 129: Introductory Experimental Physics II (1 term)
    - Helped to develop simulations for the 2021-2022 iteration of the course.
- PHYS 119: Introductory Experimental Physics I (3 terms)
    - Currently developing materials for future transition of course to python.
    - Developed curriculum and simulations for 2020-2021 online course.
- SCIE 001: First-year Honours Physics/Mathematics (6 terms)

Leadership and Outreach

UBC Department of Physics and Astronomy (2018-current)
Physics Circle Coordinator/Outreach Volunteer

- Organized sessions, recruited faculty speakers, and developed discussion materials for UBC Physics circle, an outreach program for secondary school students.
- Helped with event planning, activity development, and organization for annual UBC Physics Olympics events.

UBC Alma Mater Society (2019-20)
Peer Counselor

UBC Orientations (2019)
First-Year Orientation Leader

Schools and Presentations (materials here)

Physics Circle [UBC] *Title: The Physics of Snowmageddon*	(2022)
Cornerstone Models of Quantum Computing Summer School [TRIUMF]	(2021)
Physics Circle [UBC] *Title: Symmetry in Electrostatics*	(2021)
MRI Group [UBC] *Title: ihMT, MLBS and SIMPSON*	(2020)
Student Symposium [TRIUMF] *Title: Extracting CryoMPET*	(2019)

Honours and Awards

NSERC (2021-22)
CGS Master's - *$17500*

NSERC (2020-21)
Undergraduate Student Research Award (USRA) (x2) - *$12000 total*

UBC Department of Physics and Astronomy (2018)
Erich Vogt First-year Summer Research Experience Award - *$3500*

UBC (2019-21)
Trek Excellence Award (x3) - *Top 5% of year and faculty - $4500 total*

UBC (2019-21)
Science Scholar (x3) - *Total course average of 90%+*

UBC Department of Physics and Astronomy (2022)
Rudi Haering Medal in Physics - *Most outstanding graduating student in Physics*

UBC Department of Physics and Astronomy (2020)
W H MacInnes Scholarship in Physics and Mathematics - *$3500*

UBC Department of Physics and Astronomy (2021)
Gordon Merritt Shrum Memorial Scholarship - *$2875*

UBC Department of Mathematics (2020-21)
Stanley M Grant Scholarship in Mathematics (x2) - *$3000 total*

UBC Faculty of Science (2021)
Volkoff Scholarship in Science - *$2350*

Canadian Association of Physicists (2021)
10th Place Nationwide - University Prize Examination

Canadian Association of Physicists (2020)
Winner - Student Advisory Council Problem Competition