

Sebastian Parsons-Hall

902-306-1815 | s7parson@uwaterloo.ca | github.com/sebastianparsonshall

PROFILE

MASc. Quantum Information student with experience in academia and industry. Motivated, cooperative, and solution-oriented. Experience in computational physics and experimentation in astrophysics, aerospace, quantum information, and beyond.

ACADEMIC BACKGROUND

M.A.S.c. Electrical and Computer Engineering - Quantum Information Jan. 2025 – Present
Institute for Quantum Computing - University of Waterloo *Waterloo, ON*

B.A.S.c. Engineering Physics (Mechanical) Sept. 2019 – April 2024
Queen's University *Kingston, ON*

International Baccalaureate Diploma 2016-2019
King's-Edgell School *Windsor, NS*

WORK EXPERIENCE

Undergraduate Dark Matter Research Fellow May 2024 – August 2024
PICO Collaboration at SNOLAB *Kingston, ON*

- Developing machine learning algorithms for determining anomalous signal sources in the PICO dark matter detector.
- Refining source-localization of particle interactions with array processing and artificial neural networks.

Aerospace and Defence Corporate Intern (Paid) May 2022 – August 2023
Celestica Inc. *Toronto, ON*

- Working with sensitive CGP/ITAR aerospace/military projects, demanding care and discretion on a legal and moral basis. Keeping confidential information contained to Celestica or the customer.
- Preparing and processing financial data from global sites across the company, presenting quantitative and qualitative results to higher-ups at company headquarters.
- Responsible for communicating and answering questions effectively in high-stakes meetings with internal and external global teams.

RESEARCH & SCHOLASTIC ACHIEVEMENT

Queen's University & SNOLAB

- Undergraduate thesis on particle interaction localization with electromagnetic detection modes in the Scintillating Bubble Chamber dark matter detector.
- Experience in high-performance computational physics, Numba & parallelization for physics simulation and data processing.

Kings-Edgell School

- Led the Youth in Action Committee, building 2 school houses over 23-day expedition to rural Tanzania and summiting Mount Kilimanjaro.
- Represented the school at a national level in debate, competing at the prestigious Harthouse Tournament.

RESEARCH INTERESTS

- Computational Physics & Applications
- Cutting-Edge Data Analysis Techniques
- Simulating Complex Systems
- Applied Quantum Physics

SKILLS & CERTIFICATIONS

- GCP & ITAR Military Security Clearance
- Using high performance computers (HPCs) and advanced computational techniques in physics
- Certified PADI Scuba Diver
- Experience as a public speaker, debate competitor at a national level