

# Quantum BC

OVERVIEW by Daria Ahrensmeier

With slides and images from  
Bahiyih Peters and Lukas Chrostowski



THE UNIVERSITY  
OF BRITISH COLUMBIA



University  
of Victoria



Quantum BC is like TRIUMF ...



Quantum BC is like TRIUMF ...  
*just without accelerator, buildings, or funding\** ...



but also started by people from



*\* collectively, we reported \$49+M over the past 5 years*

Quantum BC emerged from the

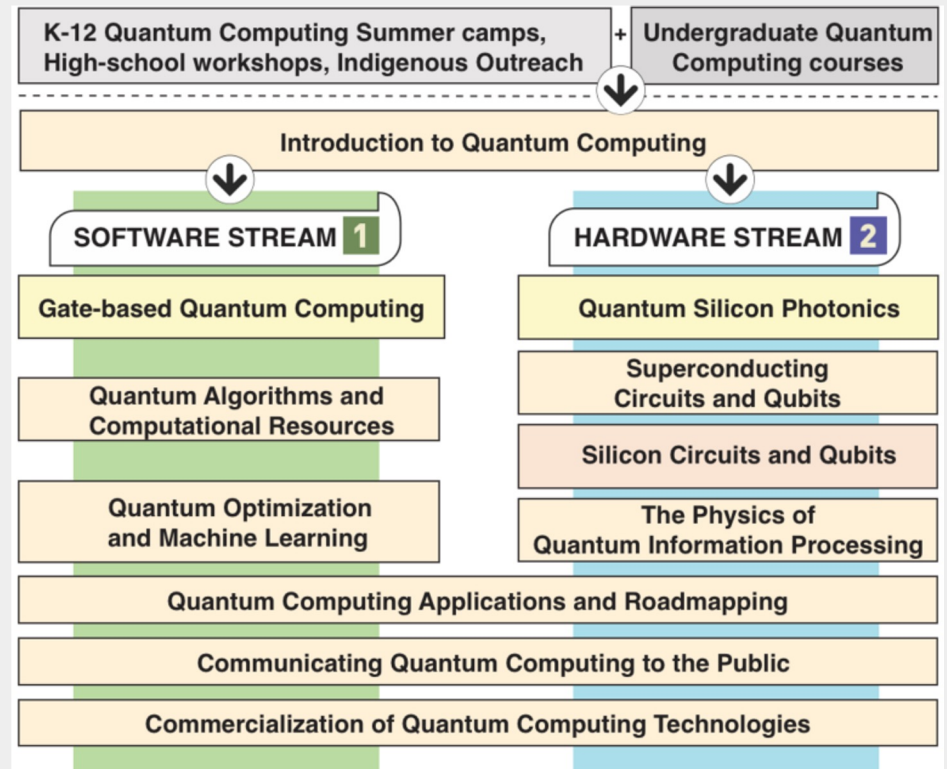
# NSERC CREATE Program in Quantum Computing (2019)

A graduate scholarship program in partnership with UBC, SFU and UVic integrating quantum hardware, quantum software, professional development and an industrial internship under the umbrella of Quantum BC.

CREATE = Collaborative Research and Training Experience Program

## Curriculum Overview

(not exhaustive)





# CREATE Program Stats

- 70+ Graduate Scholarships
- Students from Chemistry, Physics, Electrical and Computer Engineering, and Computer Science
- Creation of 14+ graduate/upper-level courses and 4 workshops providing hands-on training beyond typical university courses
- Creation of 4 professional development workshops (on commercialization and communication)
- Over 40 Quantum Internships in Canada
- Over 120 outputs including conference papers and presentations, published articles, and patents



# CREATE Workshops

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## QSciTech/Quantum BC Workshops

- Collaboration with CMC on annual virtual workshop with fellow CREATE program QSciTech since 2021
- Quantum Chemistry Workshop (2021, 2023, 2025)  
<https://fabricinnovation.ca/qqc-virtual-workshop-quantum-chemistry-2025/>
- Quantum Machine Learning IBM Q (2022, 2024)  
<https://www.cmc.ca/qscitech-quantumbc-virtual-workshop-2024-quantum-machine-learning/>

## Superconducting Workshop (2021, 2022, 2023, 2024)

- Goal: “Build your own superconducting device”
- Next implementation (collaboration with CMC, FABRiC):  
<https://fabricinnovation.ca/workshop-build-your-own-superconducting-quantum-device-2025/>

## Quantum Silicon Photonics (2023, 2024, 2025)

CMC: Collaboration on annual workshop  
<https://fabricinnovation.ca/basecamp-nserc-create-bc-cmc-quantum-photonics-workshop-2025/>

## Commercialization & Communications workshop (since 2022)

2021: Interviewing Workshop (Communication only)  
2022: Focus on Start-ups, Dragon’s Den Activity, Voice Training  
2023: Product Pitches, Presentation Skills, Industry Networking and Q&A  
2024: Outreach Education, Teaching to Industry Audience, Writing for Research Funding, Quantum Software Communication  
2025: Coming Nov 2025

# CREATE Workshops – the program is ending, but:

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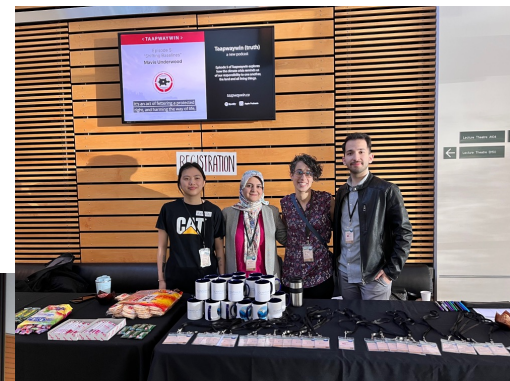
*Opportunity to create quantum workshops together?*

*Opportunity for collaboration on professional development workshops?*

*Opportunity: Mitacs Umbrella?*

# Quantum BC Community Events

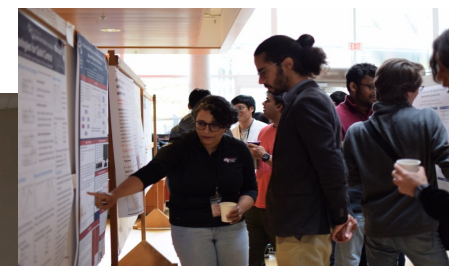
**Annual Roadmapping workshop (since 2021)**



**Annual Research Day (since 2023)**



**Monthly Quantum BC Seminars (since 2022)**





# Quantum BC Community Events

*Opportunities to share your research and find collaborators*

**Annual Roadmapping workshop (since 2021)**

**Annual Research Day (since 2023)**

**Monthly Quantum BC Seminars (since 2022)**

*See upcoming Quantum BC Report for Researchers and their fields of research*



## More opportunities to get involved and collaborate:

- **Division of Quantum Information (DQI)**  
within the Canadian Association of Physicists (CAP):

Daria Ahrensmeier (Chair), Olivia Di Matteo (Vice Chair), Thomas E. Baker (webmaster), Carlo Maria Scandolo (UCalgary, Secretary-Treasurer)

- **International Year of Quantum Canada – Fall activities**

Oliver Stelzer (CAP Director of International Affairs) and Daria Ahrensmeier (CAP DQI Chair)

- **Quantum Education Research**

DA and Shania Smagh (first QER student in Canada?)





[www.quantum-bc.ca](http://www.quantum-bc.ca)

- is a community of over 40 researchers plus over 50 grad students and staff
- includes quantum computing, quantum information, quantum sensing, quantum communication, quantum materials\*
- runs activities in education, training, outreach, and advocacy
- is a network for communication and collaboration where different people take on various roles over time
- values transparency and openness
- works for the benefit of the larger community



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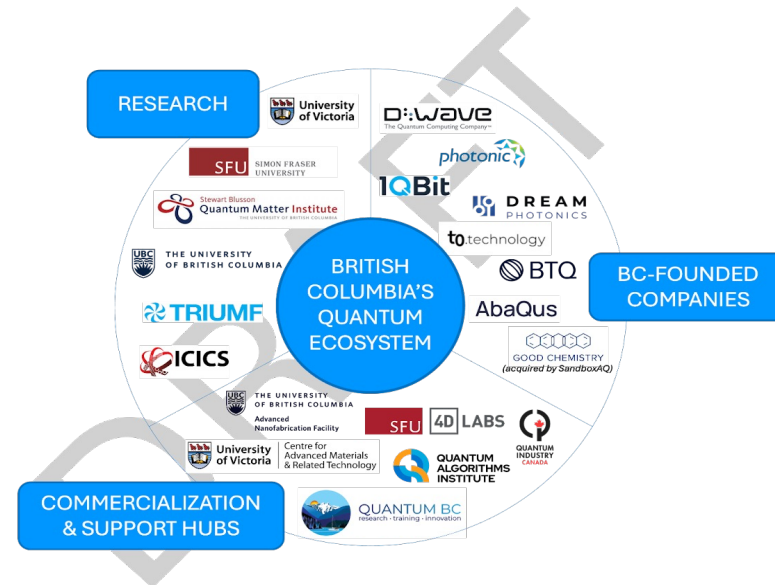


University  
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*We could use your  
professionals' help with our  
website etc!*



[www.quantum-bc.ca](http://www.quantum-bc.ca)





## Summary - Opportunities for collaboration:

- Quantum Workshops (quantum sensing?)
- Roadmapping Workshop
- Professional Development Workshops
- Use Mitacs umbrella? Coop for undergrads?
- Tours, projects for undergrads in quantum courses?
- Participate in Research Day
- Participate in Quantum BC Seminar Series
- Join CAP DQI
- Offer IYQ event
- Participate in QER project
- Research: QI in particle physics
- Research: QI in fundamental physics? Nuclear physics?
- Research: Quantum sensing
- Collaborate with CERN QTI?
- And: QUANTUM DAYS 2026 in Victoria!

