

Derek Fujimoto

Postdoctoral Researcher in Physics



About me

As an experienced and methodical researcher, I've always been passionate about applying myself in new environments.

Although I'm currently a part of a multinational particle physics collaboration, in my graduate studies I used β -NMR and large-scale simulations to understand the motion of molecules in glass forming materials. I've published papers in journals attributed to particle physics, physical chemistry, condensed matter, and software. As a result, I have developed a very broad background and skill set, and am effective both in the lab and analyzing data. I enjoy working as a part of a team, both as mentor and mentee, but am very independent and self-motivated.

Languages

English • French

Python • Cython • Julia • C++
MATLAB • BASH • ROOT
L^AT_EX

LinkedIn

Github

Scholar

AT A GLANCE

- Ph.D. in Physics
- 3 years as a Postdoctoral Researcher, supervising 8 undergraduate students
- 10 years research experience on a wide array of topics
- 30 academic publications
- Strong programming, data analysis, experiment, and interpersonal skills

RECENT EXPERIENCE

2021–

Postdoctoral Researcher in Particle Physics TRIUMF



Magnetic field characterization, measurement, and shielding for the ultra-cold neutron group. Hired and supervised students, designed and conducted experiments in a multinational collaboration. Over-saw commissioning of a \$2.5M magnetically shielded room.

2015–2021

Graduate Research Assistant in Soft Matter University of British Columbia



Designed and conducted beta-detected NMR experiments in ionic liquids and polymer glasses using a radioactive ion beam at TRIUMF. Wrote molecular dynamics simulations of polymer thin films on large high-performance computing clusters.

EDUCATION

2021

Physics

Ph.D. • University of British Columbia



2015

Physics

M.Sc. • University of British Columbia



2013

Physics

B.Sc. • McGill University



ACADEMIC PUBLICATIONS

Full academic CV [here](#).

- 21 peer reviewed publications
- 9 conference proceedings
- 9 presentations and 5 posters at international conferences and workshops

AWARDS

- 2017** Killam Graduate Teaching Assistant Award
- 2015** Stuart Blusson Quantum Matter Institute QuEST Fellowship

COMPLEMENTARY EDUCATION

- 2023** Crane Operator Training
- 2022** Advanced Radiation Protection Training
- 2018** Instructional Skills Workshop
- 2014** Laser Safety
- 2014** Radioactive Calibration Sources

SOFTWARE DEVELOPMENT

- bfit** General-purpose β -NMR analysis GUI and python API, now the definitive analysis program
- bccd** β -NMR beamspot analysis GUI and python API
- mudpy** TRIUMF μ SR file reader
- QZFM** Unofficial QuSpin Python API: serial communication over USB

ADDITIONAL SKILLS

- Science** Magnetic shielding, UHV systems, clean room procedures, cryogenics, ion beams, Monte Carlo, signal processing, DAQ, technical writing, and general lab skills.
- Engineering** Solidworks, 3D printing.
- Programming** numpy, scipy, pandas, matplotlib, linux.
- Leadership** Team management, performance assessment, project supervision.
- Other Software** Git, Gaussian, LAMMPS, MS Word, MS Excel, VSCode, GIMP, Inkscape