

# Kevin Fan

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## Summary of Qualifications

I am an aspiring geophysicist and earth scientist actively seeking opportunities, particularly those related to mineral exploration, geothermal energy, and hydrogeology / environmental consulting. Detail-oriented and possessing research, field, and programming / data analysis experience, I profoundly enjoy advancing my own learning, both through formal education and out of personal interest. I am also passionate about science outreach, volunteering as a tour guide and workshop leader at the Pacific Museum of The Earth, through which I seek to increase the public's understanding of geoscience and its integral connections to our environment, economy, and society.

## Summary of Qualifications

- Field Experience:** Geophysical and geological field experience with GPR, EMI, ERT, magnetometers, clinometers, soil sampling; acquired field skills in geologic mapping during week-long field school as well as week-long fieldwork in volcanic geomorphology
- Research Aptitude:** Conducted environmental geophysics research using GPR in Germany and planetary geophysics research at UBC and UWO; co-authored 3 conference abstracts
- Technical Skills:** Programmed in MATLAB, Unix & GMT and used ArcGIS during geophysics research; experience using MS Excel, Word & Powerpoint
- Communication Skills:** Articulate writer, distilling complex technical information into reports, papers, and presentations; engaging science communicator as tour guide at the Pacific Museum of The Earth
- Outdoors Enthusiast:** Avid multi-day hiker, camper, and cyclist in all adverse weather and terrain conditions; certified with Wilderness First Aid & CPR C and full Driver's License (Ontario G-class)
- Professionalism:** APEGBC member working towards P. Geo certification

## Education

**University of British Columbia**, Vancouver, BC  
•**B.Sc. Geophysics**

*September 2013 – May 2018 (anticipated)*

## Work Experience

**Research Assistant**, University of Western Ontario, London, ON *May – August 2017*  
•4-month co-op term in volcanic geomorphology; currently continuing research as senior project  
•Wrote extended abstract for and plan to present at LPSC 2018 (Lunar / Planetary Sciences Conference)  
•Improved mathematical characterizations of geological surface roughness by adopting traditional 2D profiling techniques for full 3D surfaces  
•Applied techniques from geostatistics, signal processing, fractal analysis, and surface metrology  
•Performed fieldwork (1 week) at Craters of the Moon National Monument and Preserve, Idaho  
•Fieldwork included geology (sampling) and geophysical (gravity/magnetics) characterization in rugged conditions (extremely rough/sharp lava flows)

**Oceanographic Data Analyst**, University of British Columbia, Vancouver, BC *January – April 2017*  
•4-month co-op term in physical oceanography with Prof. Rich Pawlowicz  
•Studied gravity currents in the Strait of Georgia via acoustic doppler, echo-sounding & density data sets  
•Performed data management, analysis, and visualization in MATLAB  
•Gave technical presentation to MEOPAR (Marine Environmental Observation Prediction and Response) Network, entitled "The Three Dimensional Structure of Gravity Currents in The Strait of Georgia"

**DAAD RISE Professional Intern**, Research Centre of Jülich, Jülich, Germany *May – August 2016*  
•Competitively selected for 3-month German RISE Professional internship

- Worked on project “Large-scale EMI and GPR hydrogeophysical characterization,” performing fieldwork and data analysis at agricultural sites
- Improved data analysis scripts in MATLAB for GPR (Ground Penetrating Radar) data, via empirical calibration of the time-zero correction to reconcile results of CMP vs. Multichannel GPR surveys
- Implemented a cross-correlation trace analysis and calculated a channel-specific time-zero correction, revealing systematic travel-time deviations in specific channels of the Multichannel GPR system

**Research Assistant**, University of British Columbia, Vancouver, BC *May 2015 – April 2016*

- Awarded NSERC USRA (Undergraduate Student Research Award) with Prof. Catherine Johnson
- Wrote scripts in MATLAB and GMT (Generic Mapping Tools) to visualize, plot, and statistically analyze magnetic field data from NASA’s MESSENGER satellite for hypothesized correlations between magnetic anomalies and various crater size distributions
- Co-authored 2 conference abstracts (AGU, Lunar and Planetary Sciences Conference)
- Learned Unix and c-shell scripting, for use in plotting magnetic field distributions
- Created and implemented forward models of rock magnetization distributions of craters

### Selected Volunteering Experience

**Tour Guide**, Pacific Museum of The Earth (PME), Vancouver, BC *January 2015 – Present*

- Lead interactive tours in earth science museum to audiences ranging from schoolchildren to adults, using demonstrations and activities to demonstrate geoscience principles
- Conducted interactive workshops on planetary science, natural disasters, petrology, and mineralogy

**VP Sustainability**, UBC EA (Effective Altruism), UBC, Vancouver, BC *April 2017 – Present*

- Executive of club dedicated to utilizing science to optimize the effectiveness of poverty alleviation
- Hosted periodic dinners on the topic of leading an environmentally sustainable lifestyle and promoting the societal adoption of such
- Wrote funding applications

**Article Writer**, GRC (Geothermal Resources Council), Davis, CA *April 2017 – Present*

- Volunteer for the Student Committee and article-writing subcommittee of the GRC, an organization that promotes the growth of geothermal resource exploitation worldwide
- Published infographic “Accelerating Indonesia’s Geothermal Development” for the GRC’s bimonthly periodical, “The Bulletin”

**Education Volunteer**, Thunderbird Elementary School, Vancouver, BC *February 2015*

- Lead workshop on earthquake science, safety concerns, and engineering for 3<sup>rd</sup>-grade schoolchildren to inspire scientific interest, featuring demonstrations and structural stability activities

### Awards

<b>EGBC Student Member Scholarship</b>	<i>December 2017</i>
<b>KEGS Foundation Geophysical Scholarship</b>	<i>July 2017</i>
<b>Semi-finalist at the Canadian Finals of the Oxford Global Challenge</b>	<i>March 2017</i>
<b>DAAD RISE (Research Internships in Science &amp; Engineering) Scholarship</b>	<i>April 2016</i>
<b>Science Co-op International Work Term Award</b>	<i>April 2016</i>
<b>NSERC USRA (Undergraduate Student Research Award)</b>	<i>April 2015</i>
<b>Thomas and Marguerite MacKay Memorial Scholarship (3x)</b>	<i>Dec. 2017, Nov. 2015, Nov. 2014</i>

### Selected Publications

- (Submitted:) Novak, A. et. Al. (including **Fan, K.**). “Terrestrial Analogs for Surface Properties Associated with Impact Cratering on the Moon – Self-secondary Impact Features at Kings Bowl, Idaho.” Abstract. 2017 AGU Fall Meeting. 2017.
- Fan, K.** and Nam, S. “Accelerating Geothermal Development in Indonesia.” Infographic. The Bulletin of the Geothermal Resources Council. Sep/Oct issue, 2017.
- Johnson, C. et. al. (including **Fan, K.**). “[Mercury’s Lithospheric Magnetic Field.](#)” 47<sup>th</sup> LPSC. 2016. #1391.