

COLIN RICHARD ROWELL

Department of Earth, Ocean, and Atmospheric Sciences

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Research Interests

Keywords: particle-laden fluid dynamics, volcanic eruption plumes, volcano-climate forcing, infrasound

Research Discipline: Geophysics, Earth Science

Education

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| Ph.D. | University of British Columbia
Geophysics, Sep 2016 to present |
| M.Sc. | University of Alaska Fairbanks
Geophysics, Dec 2013. |
| B.Ss. (Hons. 1st Class) | University of Calgary
Geophysics, Jun 2011 |

Written Contributions

Journal Articles

Rowell, C.R., Fee, D., Szuberla, C.A.L., Arnoult, K., Matoza, R.S., Firstov, P.P., Kim, K., Makhmudov, E., 2014. Three-dimensional volcano-acoustic source localization at Karymsky Volcano, Kamchatka, Russia, *Journal of Volcanology and Geothermal Research*.

McKee, K., Fee, D., **Rowell, C.**, Yokoo, A., 2014. Network-based evaluation of the infrasonic source location at Sakurajima Volcano, Japan. *Seismological Research Letters*.

Theses

Rowell, C.R., 2011. Three-dimensional volcano-acoustic source localization at Karymsky Volcano, Kamchatka, Russia. University of Alaska Fairbanks, Master of Science. Supervisor: David Fee

Rowell, C., 2011. Geophysical analysis of structures and flow geometry of the Blue Dragon Lava Flow, Idaho, USA. University of Calgary, Bachelor's Honours. Supervisor: Adam Pidlisecky

Non-refereed articles

Rowell, C., Pidlisecky, A., Irving, J., Ferguson, R.J., 2010. Characterization of lava tubes using ground-penetrating radar at Craters of the Moon NM, USA. Consortium for Research in Elastic Wave Exploration Seismology. CREWES Research Report, 22, 69.1-69.18.

Ferguson, R.J., Pidlisecky, A., **Rowell, C.**, 2010. Shot record depth migration of georadar. Consortium for Research in Elastic Wave Exploration Seismology. CREWES Research Report, 22, 69.1-69.14.

Conference Presentations

Rowell, C., Jellinek, M., Deconstructing the murky world of ground-coupled airwaves through the dark art of principle component analysis. *IAVCEI 2017 General Scientific Assembly*, Portland, OR, USA. Aug 15, 2017. **Poster.**

Rowell, C., Cho, D., Mutual, M. How to create mis-ties beneath the Mannville Coals. *GeoConvention 2015*, Calgary, Canada. May 7, 2015. **Presentation.**

Cho, D., Chan, T., **Rowell, C.**, Mutual, E. Exploring the Mannville group: New insights on an old reservoir. *GeoConvention 2015*, Calgary, Canada. May 7, 2015. **Presentation.**

Rowell, C., Fee, D., Szuberla, C.A.L., Arnoult, K., Matoza, R.S., Lopez, T., Firstov, P.P., Makhmudov, E., Three-dimensional acoustic source localization of explosion and degassing events at Karymsky Volcano, Kamchatka, Russia. *IAVCEI 2013 General Scientific Assembly*, Kagoshima, Japan. July 24, 2013. **Poster.**

Rowell, C., Pidlisecky, A., Irving, J., Ferguson, R., Imaging lava tubes using ground-penetrating radar. *University of Calgary Undergraduate Research Symposium*, Calgary, Canada. November, 2010. **Poster.**

Professional, Research, and Teaching Experience

Teaching Assistant University of British Columbia, 4 courses taught	Fall 2016 - present
Qeye Labs Canada Ltd , consulting geophysicist Quantitative seismic interpretation, rock physics, seismic inversion Calgary, Alberta	Dec 2014 – July 2015
Graduate Research Assistant Alaska Volcano Observatory, Volcano acoustics	Sep 2011 – Dec 2013
Undergraduate Research Assistant University of Calgary, Hydrogeophysics Research Group	May – Aug 2011
Teaching Assistant University of Calgary, Principles of Geology and Geophysics I	Fall 2010
Petro-Canada , summer internship. 2-D seismic interpretation for conventional gas plays. Calgary, Canada	May – Aug 2009

Research Funding History

Undergraduate Student Research Award
National Science and Engineering Research Council of Canada

CAD \$6000

Recognitions

Four Year Doctoral Fellowship University of British Columbia	2016 CAD \$18,000/yr
Robert Boulware Memorial Scholarship	2009 CAD \$2,200
Petro-Canada Emerging Leaders Business Scholarships	2008-2009 CAD \$12,000
FEER Science Scholarship	2008 CAD \$5,000
Penn West Energy Trust GeoScience Scholarship	2007 CAD \$5,000
EnCana High School Educational Scholarship	2006 CAD \$10,000
Valedictorian, Top Academic Achievement W.G. Murdoch School, graduating class of 2006	2006

Event Participation

Volcano Crisis Awareness Workshop Federal Emergency Management Administration. Buffalo, NY, USA	2014
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Skill Set

- Skilled MATLAB and Python programmer, experience on all OS platforms
- GMT mapping
- Direct field research and applied analysis experience with the following methods:
 - seismology and acoustics, ground-penetrating radar, gravimetry
- Formal field and academic training with:
 - magnetics, electrical resistivity, frequency and time-domain electromagnetics
- Applied analysis of time-series data: signal processing and time series analysis, forward and inverse modeling techniques
- Quantitative analysis of seismic exploration data: conditioning, seismic inversion, and rock physics modelling

- Sound knowledge of geodynamics, rock physics, and continuum mechanics
- At home in the field, operating and navigating in challenging terrain and weather in remote locations, including: dense vegetation, lava flows, glaciers and arctic environments, snow fields, and mountainous terrain
- Broad geoscience education includes courses in environmental and exploration geophysics, geodynamics, mathematics and statistics, structural geology and stratigraphy, geochemistry, and petrology

Voluntary Service

- Graduate Coordinator** 2013
 Earth, Ocean and Atmospheric Sciences Graduate Council
 University of British Columbia
Coordinating graduate student events and facilitating communication of graduate student affairs to/from department faculty and staff.
- Wildlife Rescue and Rehabilitation** 1993 – 2014
 Alberta Institute for Wildlife Conservation
 Madden, Alberta
Lifelong involvement in wildlife care, participating in active wildlife rescues and humane solutions to wildlife-human conflicts.
- Geophysical Institute Graduate Student Association** 2013
 University of Alaska Fairbanks
Organized and maintained the Geophysical Institute snack shop inventory and delivered proceeds to be used for student travel and research initiatives.
- Executive Member**, Sports and Events 2008-2011
 Geophysics Undergraduate Student Society
 University of Calgary
Organized and facilitated a variety of geophysics undergraduate social and networking events, and founded the annual Geophysics Undergraduate Squash Tournament.