Colin Rowell

Curriculum vitae
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Department of Earth, Ocean, and Atmospheric Sciences
University of British Columbia
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EDUCATION

Ongoing	Ph.D. Candidate, Geophysics, **University of British Columbia** Research focus: Explosive Volcanism and Volcano-Climate Interaction Advisor: Prof. Mark Jellinek
Dec 2013	M.Sc. Geophysics, **University of Alaska Fairbanks** Thesis: "Three-dimensional volcano-acoustic source localization at Karymsky Volcano, Kamchatka, Russia" | Advisor: Prof. David Fee
Jun 2011	B.Sc. Geophysics (Hons. 1st Class) **University of Calgary** Thesis: "Geophysical analysis of structures and flow geometry of the Blue Dragon Lava Flow, Idaho, USA. | Advisor: Dr. Adam Pidlisecky

PUBLICATIONS

Refereed Journal Articles

Rowell, C.R., Jellinek, A.M., Hajimirza, S., Aubry, T.J., *in review.* External surface water influence on explosive eruption dynamics and column rise, with implications for stratospheric sulfur delivery and volcano-climate feedback, *in* External Forcing on Volcanoes and Volcanic Processes: Observations, Analysis and Implications. Frontiers in Earth Science.

Aubry, T., Farquharson, J., **Rowell, C.**, Watt, S., Pinel, V., Beckett, F., Fasullo, J., Hopcroft, P., Pyle, D., Schmidt, A., Staunton-Sykes, J., *in review.* Impact of climate change on volcanic processes: recent progress and future directions. Bulletin of Volcanology.

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.

Rowell, C.R., Jellinek, A.M., *in prep.* Tracking time-dependent eruption source unsteadiness and local entrainment in ground-based thermal imagery using spectral-clustering.

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 AND POSTERS

Rowell, C., Jellinek, M., Gilchrist, J., Tracking time-dependent eruption source unsteadiness and local entrainment in ground-based thermal imagery using spectral-clustering. American Geophysical Union Fall Meeting. San Francisco, USA. Dec 2020. **Poster**.

Rowell, C., Jellinek, M., Transient and Unsteady Eruptions at Sabancaya Volcano, Peru. American Geophysical Union Fall Meeting. San Francisco, USA. Dec 2019. **Presentation**.

Rowell, C., Jellinek, M., Investigating plume dynamics using ground-based thermal infrared imagery at Sabancaya Volcano, Peru. American Geophysical Union Fall Meeting. Washington DC. Dec 2018. **Poster**.

Rowell, C., Glaciation, climate change, and phreatomagmatism: How does plume water content influence sulfur aerosol dispersion and ultimately, climate-forcing? Convective and Volcanic Cloud Training School. Tarquinia, Italy. Oct 2017. **Poster**.

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 2017. **Poster**.

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

TEACHING EXPERIENCE

2020-2021	**Guest Lecturer**, UBC Climate Teaching Connector.
2019	**Sessional Lecturer**, University of British Columbia. EOSC 340, Global Climate Change.
2016-2021	**Teaching Assistant**, University of British Columbia. Courses: Topics in Earth and Planetary Sciences, Data Analysis, Natural Disasters, Computational Methods for Geological Engineering, Global Climate Change, Earth and the Solar System, Fields and Fluxes
2010	**Teaching Assistant**, University of Calgary. Courses: Principles of Geology and Geophysics

PROFESSIONAL EXPERIENCE

2014-2015 **Consulting Geophysicist**, Qeye Labs Canada Ltd.
Quantitative seismic interpretation, rock physics, seismic inversion

2009 **Summer Internship**, Petro-Canada.
Seismic interpretation for conventional natural gas.

AWARDS AND HONOURS

2020 Oustanding Student Presentation Award
American Geophysical Union Fall Meeting

2017-2020 NSERC Canada Graduate Scholarship – Doctoral
University of British Columbia | CAD $35,000/yr

2016 Four Year Doctoral Fellowship
University of British Columbia | CAD $18,000/yr

2016 NSERC Undergraduate Student Research Award
University of Calgary | CAD $6000

2009 Robert Boulware Memorial Scholarship
University of Calgary | CAD $2200

2008-2009 Petro-Canada Emerging Leaders Business Scholarships
University of Calgary | CAD $12,000

2008 FEER Science Scholarship
University of Calgary | CAD $5000

2007 Penn West Energy Trust GeoScience Scholarship
University of Calgary | CAD $5000

2006 EnCana High School Educational Scholarship
University of Calgary | CAD $10,000

TRAINING SCHOOLS AND WORKSHOPS

2017 **Participant**, Convective and Volcanic Cloud Training School
Tarquinia, Italy.

2014 **Participant**, Volcano Crisis Awareness Workshop
Federal Emergency Management Administration. Buffalo, NY, USA

2013 **Participant**, IAVCEI 2013 Volcano Acoustics Workshop
Kagoshima, Japan

DEPARTMENT/UNIVERSITY SERVICE

2020-present **Graduate Student Member**, Climate Emergency Committee
Earth, Ocean, and Atmospheric Sciences, UBC.
Bringing department research, teaching, outreach, and operations fully in-line with the recognition of the climate crisis and the UBC Climate Emergency Declaration.

2019-2020 **Volunteer**, UBC Climate Hub
Communication and outreach for connecting climate researchers and engaging University community in climate action.

2017-2019 **Graduate Council Coordinator**
Earth, Ocean, and Atmospheric Sciences, UBC.
Coordinating graduate student events and facilitating communication of graduate student affairs to/from department faculty and staff.

2018 **Contributing Writer and Graphic Design**, Earth Matters Magazine.
Department of Earth, Ocean, and Atmospheric Sciences, UBC.

2013 **Volunteer**, Graduate Student Association
Geophysical Institute, UAF
Fundraising for Graduate Student Conference Travel Grant

2008-2011 **VP Sports and Events**, Geophysics Undergraduate Student Society
Department of Geoscience, U of C.

COMMUNITY SERVICE

1993-2014 **Volunteer**, Wildlife Rescue and Rehabilitation
Alberta Institute for Wildlife Conservation
Lifelong involvement in wildlife care, participating in active wildlife rescues and humane solutions to wildlife-human conflicts.

MEDIA COVERAGE

2018 Rolfsen, Erik. Vital volcano insights come at a cost during UBC scientists' summer expedition. UBC Media Relations.

SKILL SET

Programming:	MATLAB, Python, Shell, Fortran, Generic Mapping Tools
Data Analysis:	Time series and signal processing, numerical modeling, image processing
Field Methods:	Thermography, seismology/acoustics, ground-penetrating radar, gravimetry
Field Experience:	Operating and navigating in challenging terrain and weather in remote locations, including: dense vegetation, lava flows, glaciers and arctic environments, and mountainous terrain
Geoscience Education:	Environmental and exploration geophysics, geodynamics, mathematics and statistics, structural geology and stratigraphy, geochemistry, and petrology