Johanand Gilchrist

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Research and Teaching Interests

- **Research**:
    - Dynamics of Explosive Volcanic Eruption Columns and Ash Clouds
    - Architecture of Near-Vent Volcanic Tephra Deposits
    - Radar Applications to the Study of Volcanic Ash Clouds and Glaciers

Education

B.Sc. – Earth, Ocean and Atmospheric Sciences **September, 2010 - May, 2014**

- Major in Geophysics, University of British Columbia

Ph.D. Candidate – Faculty of Science, Dept. EOAS **September, 2015 - Present**

- Cotutelle between University of British Columbia (primary institution) and Université Clermont Auvergne – degree expected in January, 2021
- Thesis: Laboratory fluid dynamics experiments and doppler radar measurements of volcanic plumes

Awards and Achievements

- **W.H. Mathews Graduate Award** **June, 2017**
    - Dept. Scholarship for Graduate Research Related to Subglacial Eruptions and Volcano-Ice Interactions – UBC
- **APEGBC Undergraduate Achievement Award** **May, 2014**
    - Awarded for Showing Great Promise in the field of Geophysics **–** UBC

Publications

- Jessop, D. E., **Gilchrist, J.**, Jellinek, A. M., & Roche, O. (2016). *Are eruptions from linear fissures and caldera ring dykes more likely to produce pyroclastic flows?* Earth and Planetary Science Letters, 454, 142-153.

Conferences

- **Gilchrist, J.**, Jellinek, A.M. (2017), *Sediment Waves in Analog Experiments Simulating Explosive Eruption Columns,* Presented at 2017 IAVCEI Meeting, Portland, OR, Aug. 14-18.
- **Gilchrist, J.**, Jellinek, A.M. (2016), *Sediment Waves and Cloud Layering in Explosive Eruptions: Evidence From Analogue Experiments*, Presented at 2016 JKASP Meeting, Fairbanks, AK, May 31- Jun 3.
- **Gilchrist, J.**, Jellinek, A.M. (2014), *Partial Collapse of Plinian Volcanic Jets and the Production of Multiply Layered Ash Clouds***,** Abstract V43E-4936 resented at 2014 Fall Meeting, AGU, San Francisco, CA, 15-19 Dec.

Teaching

Teaching Assistant - UBC, Vancouver, BC **June, 2014 - Present**

- Supervise MATLAB based computer classes, grading scientific writing assignments, lecturing, managing class websites (e.g. Connect), and holding office hours for:
    - EOSC 442: Climate Measurement and Analysis
    - EOSC 212: Topics in the Earth and Planetary Sciences
    - SCIE 113: First Year Seminar in Science

Past Experience

Research Assistant - UBC, Vancouver, BC **May, 2011 - August, 2015**

- Geophysical research work including database construction, review of scientific literature, design and conducting laboratory experiments, processing data and computer modelling

Writer for Earth Matters Magazine - UBC, Vancouver, BC **February, 2014-May, 2016**

- Contributions include brainstorming organization, design and content of magazine, conducting interviews and writing news, profile and research articles (http://www.eos.ubc.ca/home/ematters/).

Skills

Technical: MATLAB computer coding, Microsoft Office applications, Python computer coding, image processing and analysis, radar data processing, seismic data processing and laboratory experiments (design and conducting).

Field: Basic Mountaineering, Basic First Aid, Wilderness First Aid, Backcountry Travel (Summer and Winter), Glacier Travel and Avalanche Skills Training 1 (AST-1)

Languages: English, Spanish

References

Dr. A.M. Jellinek
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