

Alicia J. Hotovec-Ellis

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University of Washington
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EDUCATION

- Ph.D. in Earth and Space Science (in progress) 2009 – Current
University of Washington, Seattle, WA
Advisors: John Vidale, Ken Creager
- M.S. in Geophysics 2007 – 2009
Colorado School of Mines, Golden, CO
Advisor: André Revil
Hydrogeologic Model of Groundwater Flow Within Mount St. Helens Volcano Determined from Self-Potential and Time-Domain Electromagnetic Measurements
- B.S. in Geophysical Engineering (*magna cum laude*) 2003 – 2007
Colorado School of Mines, Golden, CO

PROFESSIONAL EMPLOYMENT

- Research Geophysicist 2010
Alaska Volcano Observatory
United States Geological Survey, Anchorage, AK
Supervisor: Stephanie Prejean
- Studied gliding harmonic tremor on Redoubt (see below)
- Research Assistant / Duty Seismologist 2009 – Current
Pacific Northwest Seismic Network
University of Washington, Seattle, WA
Supervisor: Paul Bodin
- Responsible for locating and responding to local earthquakes
- Assisted in seismometer upkeep for Array of Arrays project
- Physical Science Technician / Geophysicist 2004 – 2009
National Earthquake Information Center
United States Geological Survey, Golden, CO
Supervisors: David Wald, Paul Earle
- Developed regression to predict shaking intensity vs. distance using "Did you feel it?" intensity data
- Offered assistance in answering questions from local communities about earthquakes
- Major contributor to the ShakeMap Atlas and PAGER projects

RESEARCH EXPERIENCE

- Earthquakes Triggered by Episodic Tremor and Slip 2010
Advisor: John Vidale
- Located many small earthquakes using Array of Arrays and network data for use in comparing locations of earthquakes and tremor
- Gliding Harmonic Tremor on Redoubt Volcano 2009 – 2011
Advisors: Stephanie Prejean, John Vidale, Joan Gomberg
- Evaluated models of harmonic tremor to explain observations of unusually high frequency, repeatable gliding harmonic tremor prior to consecutive explosive

- eruptions of Redoubt Volcano
- Studied source mechanisms of repeating earthquakes as a proxy for harmonic tremor; proposed stick-slip near conduit interface as a possible source for both.

Master's Thesis: Groundwater Flow within Mount St. Helens Volcano 2007 – 2009

Advisor: André Revil

Committee Members: Dave Hale, Adel Zohdy, Paul Bedrosian

USGS Collaborators: Paul Bedrosian, Matt Burgess, Jeff Wynn, John Pallister

- Organized 2-week research trip to Mount St. Helens to study changes in electrical self-potential signals from 2001 to 2007
- Forward modeled self-potential signals caused by subsurface groundwater flow on Mount St. Helens using finite element modeling

Geophysics Field Camp

Supervisor: Mike Batzle

2006

- Part of large team that acquired various geophysical data (reflection seismic, electrical, electromagnetic, etc.) related to groundwater in Buena Vista, CO
- Prepared presentation and document for interested local professionals and non-professionals

Senior Design Project

Supervisors: Mike Batzle, Rich Krahenbuhl, Jim Kauahikaua

2005 – 2006

- Organized 2-week research trip to Hawai'i to study electrical, electromagnetic, and magnetic properties of ring fractures surrounding Halemau'au collapse crater in Kilauea caldera
- Assisted second team of students map current location of active lava tubes on Kilauea's main flow field

TEACHING EXPERIENCE

Teaching Assistant

Department of Geophysics

Colorado School of Mines, Golden, CO

Supervisors: André Revil, Gary Olhoeft, Terry Young, Mike Batzle

Duties:

- Fully responsible for grading homework, exams, and lab notebooks
- Taught class when instructor was not present
- Autonomously lead experiments for lab section
- Organized and assisted students during field camp

Courses:

GPGN321 Theory of Fields I: Static Fields

2009

GPGN486 Geophysics Field Camp

2008, 2009

GPGN210 Materials of the Earth

2007, 2008

HONORS AND SCHOLARSHIPS

Best Presentation in Seismology, ESS Research Gala

2012

AGU Outstanding Student Paper Award (VGP Section)

2011

Best Presentation in Seismology, ESS Research Gala

2011

AGU Outstanding Student Paper Award (VGP Section)

2010

Cecil and Ida Green Award in Geophysics

2007

Dean's List; Honor Roll

2003 – 2009

John Moore Endowed Scholarship

2003 – 2007

PROFESSIONAL SOCIETY MEMBERSHIP

American Geophysical Union
Seismological Society of America

PUBLICATIONS / MEETING ABSTRACTS

- Hotovec, A.J.**, Prejean, S.G., Vidale, J.E., and Gomberg, J.S., 2012. Strongly Gliding Harmonic Tremor During the 2009 Eruption of Redoubt Volcano. *J. Volcan. Geotherm. Res. (Redoubt Special Issue, In Press)*, doi:10.1016/j.volgeores.2012.01.001
- Gomberg, J., Creager, K., Sweet, J., Vidale, J., Ghosh, A., and **Hotovec, A.**, 2012. Earthquake spectra and near-source attenuation in the Cascadia subduction zone. *J. Geophys. Res.* 117, B05312, doi:10.1029/2011JB009055.
- Hotovec, A.J.**, Prejean, S.G., Vidale, J.E., and Gomberg, J.S., 2012. A Comparison of Tremor Before, During, and After the Explosive Eruption of Redoubt Volcano, Alaska in 2009 - *Invited*, presented at Seismological Society of America Annual Meeting, April 14, 2012.
- Hotovec, A.J.**, Prejean, S.G., Vidale, J.E., and Gomberg, J.S., 2011. Examples of Earthquakes as a Source of Volcanic Tremor, Abstract V33B-2634, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 7 Dec.
- Vidale, J.E., **Hotovec, A.J.**, Ghosh, A., Creager, K.C., and Gomberg, J.S., 2011. Tiny intraplate earthquakes triggered by nearby episodic tremor and slip in Cascadia. *Geochem. Geophys. Geosyst.* 12(6), Q06005, doi:10.1029/2011GC003559.
- Vidale, J.E., **Hotovec, A.J.**, Ghosh, A., Creager, K.C., and Gomberg, J.S., 2011. A Few Tiny Intraplate Earthquakes Triggered by Nearby ETS in Cascadia, presented at Seismological Society of America Annual Meeting, April 14, 2011.
- Hotovec, A.J.**, Prejean, S.G., Vidale, J.E., and Gomberg, J.S., 2010. Strongly Gliding Harmonic Tremor Preceding Eruptions of Redoubt Volcano, Alaska, 2009, Abstract V21E-2376, presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 14 Dec.
- Vidale, J.E., **Hotovec, A.J.**, Ghosh, A., Creager, K.C., and Gomberg, J.S., 2010. Tiny subduction zone earthquakes triggered by ETS in Cascadia, Abstract S11C-04, presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13 Dec.
- Allen, T.I., Wald, D.J., Earle, P.S., Marano, K.D., **Hotovec, A.J.**, Lin, K., and Hearne, M., 2009. An Atlas of ShakeMaps and population exposure catalog for earthquake loss modeling. *Bull. Earthq. Eng.* 7(3), 701-718. doi: 10.1007/s10518-009-9120-y.
- Allen, T.I., Earle, P.S., Wald, D.J., Jaiswal, K., Hearne, M., Marano, K.D., and **Hotovec, A.J.**, 2009. Tools and Datasets of the Prompt Assessment of Global Earthquakes for Response (PAGER) System. Proceedings of the Australian Earthquake Engineering Society Conference, Newcastle, Australia.
- Earle, P.S., Wald, D.J., Jaiswal, K.S., Allen, T.I., Marano, K.D., **Hotovec, A.J.**, Hearne, M.G., and Fee, J.M., 2009. Prompt Assessment of Global Earthquakes for Response (PAGER): A system for rapidly determining the impact of earthquakes worldwide. U.S. Geological Survey Open File Report 2009-1131, 15 p.
- Allen, T.I., Wald, D.J., Earle, P.S., Marano, K., **Hotovec, A.**, Lin, K., and Hearne, M., 2009. An Atlas of ShakeMaps and Population Exposure Catalog for Earthquake Loss Modeling, presented at Seismological Society of America Annual Meeting, April 8, 2009.

- Bedrosian, P.A., Burgess, M., and **Hotovec, A.**, 2008. Groundwater Hydrology within the crater of Mount St. Helens from Geophysical Constraints, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract V43E-2191.
- Allen, T.I., Wald, D.J., **Hotovec, A.J.**, Lin, K., Earle, P.S., and Marano, K.D., 2008. An Atlas of ShakeMaps for selected global earthquakes. US Geological Survey Open File Report 2008-1236, 47 p.
- Allen, T., **Hotovec, A.**, Hopper, M., Earle, P., and Wald, D.J., 2007. An Atlas of ShakeMaps for Selected Historical Global Earthquakes, presented at Seismological Society of America Annual Meeting, April 12, 2007.
- Earle, P.S., Wald, D.J., Porter, K.A., Jaiswal, J.S., Allen, T., Lin, K.W., and **Hotovec, A.**, 2007. An Update on the USGS PAGER Project (Prompt Assessment of Global Earthquake for Response), presented at Seismological Society of America Annual Meeting, April 12, 2007.