

Jonathan Perry-Houts

Email: jon@than.ph
Webpage: <https://jphblog.com/>

Education

University of Oregon

Ph.D.: Geological Sciences, 2018.

Dissertation: "Geodynamic Origin of the Columbia River Flood Basalts"

Advanced Certificate of Completion: Graduate Teaching Initiative, 2018.

Lewis & Clark College

B.A.: Physics with honors, 2011.

Honors Thesis: "Gravitational Charge Separation in Low-Altitude Volcanic Plumes".

Minor: Computer Science

Experience

Senior Systems Software Engineer, NVIDIA, 2021–present.

Postdoctoral Research Associate, Earth and Planetary Sciences, UC Davis. 2020–2021.

Visiting Assistant Professor, Geology Department, Western Washington University. 2019–2020.

Postdoctoral Research Associate, Department of Earth Sciences, University of Oregon. 2019.

Graduate Employee, Department of Earth Sciences, University of Oregon. 2012–2018.

Student Assistant, National Center for Electron Microscopy, Lawrence Berkeley National Lab. 2009–2012.

REU Undergraduate Researcher, Department of Mathematics, Lewis & Clark College. Summer 2008.

Software Development

Contributor, Advanced Solver for Problems in Earth's ConvecTion (ASPECT) project.

Original author, Interface to Berkeley Lab's spin-polarized low energy electron microscope (SPLEEM).

Contributor, ParaView scientific visualization tool.

Teaching

Instructor

Introduction to Geophysics (GEOL 352) Winter, 2020; Spring, 2020 (online).

Earth Materials (GEOL 311) Winter, 2020.

Earthquakes (GEOL 308) Fall, 2019.

Teaching Assistant

Field Camp: Diverse mapping projects in stratified and non-stratified rocks, Montana (GEOL 406). Summer, 2017.

Fluid Dynamics (GEOL 410/510). Spring, 2017.

Earth Physics (GEOL 315). Winter, 2017.

Field Methods (GEOL 318). Fall, 2016.

Field Camp: Green Mountain, Newberry Volcano, Wallowa Mountains, and Grand Ronde river rafting (GEOL 406). Summer, 2016.

Evolving Earth (GEOL 103) (Science Literacy Program fellow). Spring, 2016.

People, Rocks, Fire (GEOL 110) (Science Literacy Program fellow). Winter, 2016.

Geocommunication (GEOL 420/520). Fall, 2015.

Field Camp: Frying Pan & Block Mountain, Montana (GEOL 406). Summer, 2015.

Earthquakes (Clark Honors College). Spring, 2015.

Western U.S. Tectonics (GEOL 410/510). Spring, 2015.

Field Camp: Block Mountain, Montana (GEOL 406). Summer, 2014.

Mechanical Earth (GEOL 455/555). Winter, 2014.

Graduate Teaching Initiative

Workshops

“Floods of Change: the Vanport Floods, Stereotype Threat, and 2YC-4YC Transfer”

“Establishing and Sustaining an Undergraduate Research Program”

“Allies in the Classroom: Gender-Inclusive Teaching”

“Engaging student resistance”

“Teaching for the first time as the sole instructor”

“Getting to know your students”

Courses on College Teaching

“Teaching Science”

Science Literacy Program

Participant, SLP Journal Club, 2013–2018

Graduate Fellow, Science Literacy Program Graduate Fellowship Program, GEOL 103, GEOL 110.

Publications

J. Perry-Houts and E. Humphreys “Simplified equations for lower crustal flow driven by lateral pressure gradients” *Geophysical Journal International* (2021). 10.1093/gji/ggab125 [preprint]

J. Castellanos, **J. Perry-Houts**, R. Clayton, Y. Kim, A. C. Stanciu, W. Niday, E. Humphreys “Seismic Anisotropy Reveals Crustal Flow Driven by Mantle Vertical Loading in the Pacific NW” *Science Advances* (2020). 10.1126/sciadv.abb0476 [PDF]

J. Perry-Houts and L. Karlstrom “Anisotropic viscosity and time-evolving lithospheric instabilities due to aligned igneous intrusions” *Geophysical Journal International* 216.2 (2019). doi.org/10.1093/gji/ggy466 [preprint] [supplement]

J. Perry-Houts and E. Humphreys “Eclogite-driven subsidence of the Columbia Basin (Washington State, USA) caused by deposition of Columbia River Basalt.” *Geology* 46.7 (2018). doi.org/10.1130/G40328.1

E. Humphreys, B. Schmandt, M. Bezada, **J. Perry-Houts** “Recent craton growth by slab stacking beneath Wyoming.” *Earth and Planetary Science Letters* 429 (2015): 170–180. doi.org/10.1016/j.epsl.2015.07.066

(Author acknowledgement) Gong Chen, and Andreas K. Schmid. “Imaging and Tailoring the Chirality of Domain Walls in Magnetic Films.” *Advanced Materials* 27.38 (2015): 5738–5743. doi.org/10.1002/adma.201500160

J. Mache, S.W. Bock, J. Elwell, D.P. Gosnell, T. Mandel, and **J. Perry-Houts** “Sensor Network Security: Elliptic Curve Cryptography on SunSPOTs.” *Proceedings of the International Conference on Wireless Networks* (2008): 687–692. [PDF]

Presentations and Abstracts

J. Perry-Houts, P. Schoettle-Greene, E. Humphreys, N. Klema, D. O’Hara, A. Colón “The Columbia River Basalt as a record of Miocene topography and the deformation that followed” AGU Fall Meeting Abstracts. 2020.

J. Perry-Houts, E. Humphreys, A. Duvall, N. Mitchell, P. Schoettle-Greene, S. Williams, B. Yanites “Yellowstone’s tectonic parabola and lower-crustal flow: Application of the waterbed model for ductile lower crust” AGU Fall Meeting Abstracts. 2019.

E. Humphreys, **J. Perry-Houts**, K. Nicolaysen. “Origin of the Columbia River Flood Basalts.” GSA Cordilleran Section Meeting, 2019.

J. Perry-Houts, and E. Humphreys. “Lower-crustal metamorphism caused subsidence in Pasco Basin, Washington State.” AGU Fall Meeting Abstracts. Vol. 1. 2017.

K. Harvey, **J. Perry-Houts**, J. Domino, M. Muth, S. Carruthers, A. J. Kotowski, K. DeGrandpre, U. Faul, A. Kent, G. Abers, M. Krawczynski, G. Gaetani. “The ins and outs of mélangé diapirs: a multidisciplinary approach to formation, ascent, and observation.” AGU Fall Meeting Abstracts. 2017.

J. Perry-Houts, and L. Karlstrom. “Modeling Geodynamic Mobility of Anisotropic Lithosphere.” AGU Fall Meeting Abstracts. Vol. 1. 2016.

J. Perry-Houts, and E. Humphreys. “Melt-Enabled Lithospheric Delamination in the Western US.” AGU Fall Meeting Abstracts. Vol. 1. 2014.

J. Perry-Houts, M. Calo, C. L. Eddy, Mattia Guerri, A. Holt, E. Hopper, Andrea Tesoniero, B. A. Romanowicz, T. W. Becker, and L. S. Wagner. “Deep vs. shallow expressions of continental cratons: Can cratonic roots be destroyed by subduction?” AGU Fall Meeting Abstracts. Vol. 1. 2013.

(Invited) **J. Perry-Houts**, B. Barton, A. K. Schmid, N. Andresen, and C. Kiselewski. “Novel Long-Lived Electrostatic Work Function Phase Plates for TEM.” *Microscopy and Microanalysis* 18, no. S2 (2012): 476–477.

Outreach, Volunteer, Community Service

Judge: *Outstanding Student Presentation Awards*, AGU Fall Meeting, 2019.

Graduate Student Representative University of Oregon Department of Earth Sciences, 2017–2018.

Volunteer presenter at the University of Oregon Science Open House, 2016.

Science panelist for the Academy of Arts and Academics high school, Springfield, OR, 2016.

Union Steward Graduate Teaching Fellows Federation, 2013–2017.

Awards & Grants

AWS Educate Program, Computing resources for education, 2020.

Collaborative Research: An integrated mantle to surface study of the causes and consequences of high topography in the Northern US Cordillera. NSF EAR-1727046/1727139/1727451, 2017.

Outstanding TA Award, Department of Earth Sciences, University of Oregon, 2017.

Departmental Honors, Department of Physics, Lewis & Clark College, 2011.

Feynman Prize, Department of Physics, Lewis & Clark College, 2009.

Affiliations

Member, National Association of Geoscience Teachers, 2018–present.

Member, Union of Concerned Scientists, 2017–present.

Member, Free Software Foundation, 2013–present.

Member, American Geophysical Union, 2012–present.

Member, Sigma Pi Sigma Physics Honors Society, 2009–2011.

Certifications

Wilderness First Responder, Wilderness Medicine Institute, NOLS, 2010—2016.