

CAILEY B. CONDIT – Curriculum Vitae

Department of Earth and Space Sciences
University of Washington
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- Assistant Professor** January 2020- Present
Department of Earth and Space
University of Washington, Seattle, WA
- NSF Postdoctoral Research Fellow** July 2018 – Dec. 2019
Department of Earth, Atmospheric and Planetary Science
Massachusetts Institute of Technology, Cambridge, MA
- Wiess Postdoctoral Research Fellow** July 2017 – July 2018
Department of Earth, Environmental, and Planetary Sciences
Rice University, Houston, TX

EDUCATION

- University of Colorado Boulder | Boulder, CO** 2011 – 2017
PhD, Department of Geological Sciences
- Middlebury College | Middlebury, VT** 2007 – 2011
BA, Geology, *Cum Laude*

PUBLICATIONS

- Condit, C.B.**, French, M.E., Hayels, J., Yeung, L., Y., Lee, C-T. A., (*In Revision*) Fluid sources and stress state at the base of the subduction seismogenic zone. *Geochemistry, Geophysics, Geosystems*
- Gutiérrez-Augilar, F., Hernández-Uribe, D., Holder, R. M., **Condit, C.B.**, (*submitted*) The Mw7.1 September 19th Puebla-Morelos (Mexico) earthquake triggered by brucite and antigorite dewatering. *submitted to Nature Geoscience*
- Holt, A.F., **Condit, C.B.**, (*in revision*) Slab temperature evolution over the lifetime of a subduction zone. *In revision at Geochemistry, Geophysics, Geosystems*
- Condit, C.B.**, Guevara, V.E., Delph, J.R., French, M.E., (2020) Slab dehydration in warm subduction zones at depths of episodic slip and tremor. *Earth and Planetary Science Letters*. 552
- French, M.E. and **Condit, C.B.** (2019), Slip partitioning along an idealized subduction plate boundary at deep slow slip conditions. *Earth and Planetary Science Letters*, 528
- Johnson, Jena. E., Webb, S.E., **Condit, C.B.**, Beukes, N.J., Fischer, W.W., (2019) Effects of Metamorphism and Metasomatism on Manganese Mineralogy: Examples from the Transvaal Supergroup. *South African Journal of Geology*
- Condit, C.B.**, Mahan, K.H., Curtis, K.C., Möller, A., (2018) Dating metasomatism: monazite and zircon growth during amphibolite facies albitization. *Minerals Special Issue "Application of Electron Microprobe Methods in Trace Element Analysis and Geochronology"* 8 (5), 187,
- Condit, C.B.**, Mahan, K.H (2018) Fracturing, fluid flow, and shear zone development: relationships between chemical and mechanical processes in Proterozoic mafic dikes from southwestern Montana, USA. *Journal of Metamorphic Geology*,
- Brownlee, S., Schulte-Pelkum, V., Raju, A., Mahan, K., **Condit, C.**, Orlandini, O., (2017) Characteristics of deep crustal seismic anisotropy from a compilation of rock elasticity tensors and their expression in receiver functions. *Tectonics*, 36 10.1002/2017TC004625

- Condit, C.B.**, Mahan, K.H., Ault, A.K., Flowers, R.M., (2015). Foreland-directed propagation of high-grade tectonism in the deep roots of a Paleoproterozoic collisional orogen, SW Montana, USA. *Lithosphere* 7, 625–645. 10.1130/L460.1
- Johnson, Joshua. E., West, D.P., **Condit, C.B.**, Mahan, K.H. (2014) Strain localization in the Spanish Creek mylonite, Northern Madison Range, SW Montana. *Rocky Mountain Geology*, 49, 2, 25-48

PUBLICATIONS in Prep

- Condit, C.B.**, Mahan, K. H., Schulte-Pelkum, V. Orlandini, O., (In Prep). Deformation mechanisms and development of steady state microstructures in amphibole-rich lower crust. for *JGR Solid Earth*
- Condit, C. B.**, Pec, M., Chin, E. J., Mitroi, T., (In Prep). A flow law for dislocation creep of calcic-amphibole at deep crustal conditions. For *Geophysical Research Letters*

GRANTS and AWARDS

- 2021 NSF-EAR Geophysics: Collaborative Research: Probing feedbacks between thermal structure, petrologic transformation, and rheologic evolution within dynamically evolving subduction zones, Co-PI (\$186,556) *Pending*
- 2020 NSF-EAR Tectonics: Collaborative Research: Blueschist Rheology: Experimental Constraints on Glaucophane Strength and Deformation Mechanisms, Lead PI (\$294,971)
- 2017 NSF-EAR Postdoctoral Research Fellowship (\$174,000)
- 2017 Wiess Postdoctoral Research Fellowship, Rice University
- 2016 Graduate Dissertation Completion Fellowship, Graduate School, University of Colorado
- 2014 Spetzler Award for Research, CU Department of Geological Sciences
- 2012 Waldrop Memorial Scholarship, CU Department of Geological Sciences
- 2012 Geological Society of America (GSA) Student Research Grant Award
- 2012 Stone-Holberg Scholarship for Excellence in Structural Geology, Rocky Mountain Association of Geologists
- 2012 Harrison Scholarship, Tobacco Roots Geological Society
- 2012 Colorado Scientific Society Research Grant
- 2012 NSF Graduate Research Fellowship Honorable Mention
- 2011 Vermont Geological Society Award for Excellence in Geological Sciences Presentation

INVITED TALKS

- EGU Session: Subduction zone slip styles - interplay of fluids and deformation. *Scheduled for April, 2021*
- ETH Structure and Tectonics Group Seminar, *Scheduled for April, 2021*
- Montana State University, *Scheduled for Feb. 2021*
- University of Maryland, *Scheduled for Feb. 2021*
- AGU Session: Multidisciplinary Insights into Tectonic and Metamorphic Processes at Convergent Margins, *Dec. 2020*
- AGU Session: Reconciling Estimates of Brittle and Ductile Lithosphere Rheology Across Temporal and Spatial Scales, *Dec. 2020*
- Goldschmidt: The Lithospheric Mantle as Earth's Link between Surface and Deep Processes, June, 2020
- University of Idaho, Department Seminar, Feb. 2020
- University of Wisconsin, Week Lecture, Nov. 2019
- Lamont-Doherty Earth Observatory, Geodynamics Seminar, Nov. 2019
- GSA: Structural Geology in the 21st Century: Rheology of Naturally Deformed Rocks, Sept. 2019
- Scripps Institute of Oceanography, June 2019
- MIT COG3 Seminar, April 2019
- Skidmore College, Strock Lecture, February 2019
- AGU: Flow and Fracture: Mixed Brittle-Viscous Behavior Throughout the Lithosphere, Dec. 2018
- Woods Hole Oceanographic Institute, November 2018

University of Massachusetts, November 2018
Appalachian State University, October 2018
University of Washington, April 2018
Pomona College, March 2018
Texas Tech University, November 2017
Sonoma State University, February 2017
Rice University, January 2017
University of Northern Colorado, October 2016
Middlebury College, September 2014

THESES and FIELD TRIP GUIDES

Condit, C. B. (2017) Fluid Enhanced Deformation and Metamorphism in Exhumed Lower Crust from the Northern Madison Range, Southwestern Montana, USA. University of Colorado Boulder PhD dissertation. p. 324

West, D.P., Jr., and **Condit, C. B.**, (2016), Stratigraphy, structure, and plutonism in the Wiscasset-Dresden region of mid-coastal Maine: in Berry, Henry N., IV, and West, David P., Jr., editors, Guidebook for field trips along the Maine coast from Maquoit Bay to Muscongus Bay: New England Intercollegiate Geological Conference, p. 165-182.

Condit, C.B. (2011). Igneous petrogenesis and superimposed deformation of the Blinn Hill plutonic complex, East-Central Maine. Middlebury College Undergraduate Thesis. p. 76.

TEACHING and MENTORSHIP

Graduate Students (*Student advisee; #Dissertation Committee member)

Jason Ott* (PhD student; 2020-present); Peter Lindquist* (PhD student; 2020-present); Megan Mueller# (PhD Candidate; 2020-present); M. Zachary Michaels#(PhD Candidate; 2019-Present).

Undergraduate Mentees

Nicole Ferrie (2021- present); Teodora Mitroi (2019); Kelly Curtis (2016-2017)

Instructor | University of Washington

Earth Materials (ESS 312) Spring 2021
Subduction Zone Dynamics (ESS 590) Fall 2020

Member of the NSF-funded [Tectonics-On Ramps](#) working group Spring 2019

Seminar Co-Instructor | Rice University

Quantifying Rock Microstructures (ESCI 524) Spring 2018

Instructor | University of Colorado

Structural Geology (GEOL 3120) Fall 2016

Teaching Assistant | University of Colorado

Introduction to Field Geology (GEOL 2700) Spring 2015, 2016 and Fall 2015
Structural Geology (GEOL 3120) Fall 2011 and Fall 2012
Petrology (GEOL 3020) Spring 2012

Teaching Assistant | Middlebury College

Mineralogy (GEO210) Fall 2009

Field Research Mentor | Northern Madison Range | SW MT Summers 2012, 2013, 2015

Mentor to undergraduate field assistants Joshua Johnson (2012), Kevin Teonenboehn, Jason Rosenthal, Diana Rattanasith (Summer 2013), and Craig Peterson (2015). Continued mentoring with Johnson on his senior thesis at Middlebury College and resulting publication (Johnson et al., 2014).

DIVERSITY, EQUITY and INCLUSION

Equity and Inclusion in Petrology and Geochemistry working group	Summer 2020 – present
Co-founder of early career working group to create a more equitable and diverse petrology community	
Architect of UW's ESS Department's Distinguished Lecture Series	Fall 2020
Annual lecture series featuring BIPOC and LGBTQ+ early career scientists	
RESESS Scientist mentor UW Seattle WA	Summer 2020
Science mentor for Keneni Godana & Jae Bridges	
RESESS Science mentor MIT Cambridge MA	Summer 2019
Science mentor for Teodora Mitroi	
Research Mentor University of Colorado Boulder CO	Fall 2017
Senior honors thesis Co-advisor for undergraduate researcher Kelly Curtis	
RESESS Communications Mentor UNAVCO Boulder CO	Summers 2015 – 2016
Communications mentor for undergraduate researcher Enrique Chon	
RESESS Graduate Assistant UNAVCO Boulder CO	Summer 2014
Graduate assistant and mentor for RESESS internship program at UNAVCO. Mentored minority students with research while serving as a resource for future opportunities.	
RESESS Research Mentor UNAVCO Boulder CO	Summer 2014
Research mentor for undergraduate researcher Diana Rattanasith. Assisted Rattanasith with monazite textural characterization from the Big Thompson Metamorphic Suite, CO.	

OUTREACH

Speaker at UW's Rockin' Out! virtual speaker series	2020
Interview subject, Art in America Magazine, Expert and Artist Discussion	2020
Science Speaker at Rare Earths The Mineral and Jam Show Houston TX	2018
"Rocks and Water in the Deep Earth"	
Women in Science and Engineering Group (WiSE) CU	2015 – 2017
Grant Writing and Leadership Committees Member	
Contributor to the CU Women in Science and Engineering Field Blog	2016
RESESS Field trip co-leader Boulder CO	2013, 2014, 2015, 2016
Graduate Seminar Organizer CU	2013 – 2015
Advisory Board Graduate Research Poster Session Organizer CU	2013 – 2015
RESESS poster evaluator UNAVCO Boulder CO	2013, 2014

SERVICE TO THE SCIENTIFIC COMMUNITY

GSA Mineralogy, Geochemistry, Petrology, & Volcanology Division's Distinguished Geological Career Award Committee Member	2021
AGU Volcanology, Geochemistry and Petrology ad hoc diversity committee member	2020
GeoPRISMS Synthesis Workshop Co-Organizer	2020
Collaborated on proposal for 2.5 day long workshop focused on synthesizing the feedbacks between deformation, metamorphism, and rheology	
Session Convener, GSA Annual Meeting	2020
Subduction Zone Slip Behavior: The Intersection of Deformation and Metamorphism	
Session Convener, AGU Annual Meeting	2019
Deformation in the Middle and Lower Crust: Integrating Geologic Observations, Experiments, and Theory to Constrain Crustal Rheology;	
Frontiers of Subduction Zone and Regional Metamorphism: Fluids, Reactions, and Dynamics	

Primary Session Convener, AGU Annual Meeting

2018

The Varied Roles of Aqueous Fluids near the Subduction Interface

Reviewer: *Earth and Planetary Science Letters*, *Journal of Geophysical Research: Solid Earth*, *Canadian Journal of Earth Science*, *Minerals*, *Science Advances*, *Precambrian Geology*, *Nature Communications*, NSF-Tectonics, NSF- Petrology and Geochemistry, NSF - Geophysics

PROFESSIONAL ORGANIZATIONS

Geological Society of America

American Geophysical Union