CAILEY B. CONDIT – Curriculum Vitae

Department of Earth and Space Sciences | University of Washington
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EMPLOYMENT

Assistant Professor January 2020 - Present
Department of Earth and Space Sciences | University of Washington, Seattle, WA

NSF Postdoctoral Research Fellow July 2018 – Dec. 2019
Department of Earth, Atmospheric and Planetary Science | MIT, 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*

GRANTS and AWARDS since 2017

2022 The Royal Society International Exchange: The thermal structure of subduction zones: a new approach combining magnetic and petrologic perspectives. Co-Applicant (£12,000 to C. Nichols and Condit)
2022 NSF EAR Tectonics and Petrology/Geochemistry programs: Collaborative Research: Apatite petrochronology and microtextural analyses: a new tool to directly date subduction processes at the base of the seismogenic zone. Co-PI ($253,215 to UW)
2021 University of Washington Royalty Research Fund: Searching for Episodic Tremor and Slip in the Exhumed Rock Record. Sole PI ($39,995 to UW)
2021 NSF-EAR Geophysics and Petrology/Geochemistry Programs: Collaborative Research: Probing feedbacks between thermal structure, petrologic transformation, and rheologic evolution within dynamically evolving subduction zones, Co-PI ($186,556 to UW)
2020 NSF-EAR Tectonics: Collaborative Research: Blueschist Rheology: Experimental Constraints on Glaucophane Strength and Deformation Mechanisms, Lead PI ($294,971 to UW)
2017 NSF-EAR Postdoctoral Research Fellowship. Sole-PI *($174,000 to Condit)*
2017 Wiess Postdoctoral Research Fellowship, Rice University

PUBLICATIONS

SPL lab member; *Student; #Postdoc

Hoover, W. F.#, **Condit C.B.,** Lindquist, P. C.*, Moser, A. C.*, Guevara, V.E., (2022) Episodic slow slip hosted by talc-bearing metasomatic rocks: High strain rates and stress amplification in a chemically reacting shear zone. *Geophysical Research Letters* https://doi.org/10.1029/2022GL101083

Gutiérez-Augilar, F., Hernández-Uribe, D., Holder, R. M., **Condit, C.B.,** (*2022)* The M*w*7.1 September 19th Puebla-Morelos (Mexico) earthquake triggered by brucite and antigorite dewatering. *Geophysical Research Letters*

Condit, C.B., French, M.E., (*2022)* Geologic evidence of lithostatic pore fluid pressure at the base of the subduction seismogenic zone. *Geophysical Research Letters* https://doi.org/10.1029/2022GL098862

Condit, C.B., French, M.E., Yeung, L., Y., Lee, C-T. A., Chin, E. J., Hayels, J. (*2022*) The rheology of metasedimentary rocks at the base of the subduction seismogenic zone. *Geochemistry, Geophysics, Geosystems.* https://doi.org/10.1029/2021GC010194

Holt, A.F., **Condit, C.B.,** *(2021)* Slab temperature evolution over the lifetime of a subduction zone. *Geochemistry, Geophysics, Geosystems 22(6).* https://doi.org/10.1029/2020GC009476

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.* https://doi.org/10.1016/j.epsl.2020.116601

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. https://doi.org/10.1016/j.epsl.2019.115828

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 122(4), 489–504.* https://doi.org/10.25131/sajg.122.0034

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).* https://doi.org/10.3390/min8050187

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, 36(2), 195–223.* https://doi.org/10.1111/jmg.12289

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*(9), 1835–1857. https://doi.org/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(6), 625–645. https://doi.org/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), 91–114. https://doi.org/10.2113/gsrocky.49.2.91

Over 35 first or co-authored abstracts at national and international meetings including American Geophysical Union (AGU), Geological Society of America (GSA), Goldschmidt, and European Geophysical Union (EGU).

INVITED TALKS

Stanford University, Scheduled Feb. 2023
University of Nevada Reno, Dec. 2022
Colby College, Nov. 2022
University of Southern California, Oct. 2022
International Joint Workshop on Slow-to-Fast Earthquakes, Keynote Speaker, Nara, Japan, Sept. 2022
Structural Geology and Tectonics Forum, June 2022
EBSD Conference 2022, June 2022
MIT Distinguished Lecture Series, March, 2022
University of Arizona, Feb. 2022
AGU Session: *Connecting the Ins and Outs of Subduction Zones: Experiments, Models, and Observations as Constraints for Inputs, Processes, and Outputs*, Dec. 2021
Utah State University, Nov. 2021
University of California Santa Barbara, May 2021
Caltech Geoclub Seminar, April 2021
EGU Session: *Subduction zone slip styles - interplay of fluids and deformation,* April, 2021
Texas A&M Tectonics and Geophysics Seminar, April 2021
ETH Structure and Tectonics Group Seminar, April, 2021
University of Kentucky G & G Seminar, March, 2021
University of Washington, MGG seminar, March, 2021
Missouri S&T University, Feb. 2021
Montana State University, Feb. 2021
University of Maryland, 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, Weeks 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 Session: *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

PAST and PRESENT STUDENTS and POSTDOCS MENTORED Underlined at UW; *RESESS Intern

PhD Mentees: Nicole Aikin, NSF GRF, 2021-; Peter Lindquist, 2020-; Jason Ott, 2020-;
Postdocs: Dr. William Hoover, NSF PF, 2021-; Eirini Poulaki 2022-; Gabe Epstein 2022 -
Undergraduate Mentees: Angela Bonanno, 2022*; Courtney Pike, 2022*; Griffin Easthouse, 2021-; Nicole Ferrie, 2020-2022; Jae Bridges, 2020*; Keneni Godana, 2020*; Teodora Mitori, 2019*; Kelly Curtis, 2017-2018; Diana Rattanasith, 2014-2015*.

DIVERSITY, EQUITY and INCLUSION

ESS590: DEI in STEM Seminar Instructor of Record — Fall 2022
PetroNet: *co-founder of a petrology and high-temperature geochemistry community built around antiracism, inclusion, equity, and diversity. >80 members* — Summer 2020 – present
www.petrologynetwork.org
Unlearning Racism in the Geosciences (URGE) Pod Leader, Young Petrologists and Geochemists — 2021
URGE Pod Member, UW College of the Environment Faculty group — 2021
Architect of UW's ESS Department's Distinguished Lecture Series — 2020 – Present
Lecture series featuring BIPOC and LGBTQ+ early career scientists
RESESS Satellite co-Organizer | Seattle WA — 2022
RESESS Science mentor for Keneni Godana, Jae Bridges, & Teodora Mitroi
RESESS Graduate Assistant | UNAVCO | Boulder — 2014
Graduate assistant and mentor for RESESS internship program at UNAVCO. Mentored minoritized students with research while serving as a resource for future opportunities. Fieldtrip Co-Organizer

OUTREACH

Volunteer at Heron's Nest Land Clean-up for the Duwamish Tribe | Seattle WA — 2022
Land clean up and remediation volunteer work with UW PhD students and SPL research group
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

LEADERSHIP and SERVICE to the SCIENTIFIC COMMUNITY

SZ4D Steering Committee Member — 2022-present
SZ4D Building Equity and Capacity in the Geosciences Co-Chair — 2022-present
UW College of the Environment Strategic Planning Committee Member — 2022- present

GSA Mineralogy, Geochemistry, Petrology, & Volcanology Division's Distinguished Geological Career Award Committee Member 2021- present

GeoPRISMS Deformation at Plate Boundaries Synthesis Workshop Co-Organizer 2020-2022
Collaborated on proposal for 2.5-day long workshop focused on synthesizing plate boundary structure, deformation and rheology | ran workshop with >60 participants March 2022

Primary Session Convener, GSA Annual Meeting 2022
Thermal Structure of Subduction zones: Constraints, Evolution, Consequences

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

Member of the NSF-funded Tectonics-On Ramps working group 2019

Reviewer: *Earth and Planetary Science Letters, Journal of Geophysical Research: Solid Earth, Canadian Journal of Earth Science, Minerals, Science Advances, Precambrian Geology*, *Lithos, Nature Communications, GRL, G-Cubed,* NSF-Tectonics, NSF- Petrology and Geochemistry, NSF – Geophysics. NSF – Frontier Research in Earth Science
Panelist: NSF - Tectonics Program

PROFESSIONAL ORGANIZATIONS

American Geophysical Union since 2009
Geological Society of America since 2009
European Geophysical Union since 2020