JULIA R KELSON
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Curriculum Vitae October 2021

EDUCATION

University of Washington, Seattle WA, Earth & Space Sciences, PhD 2019
Dartmouth College, Hanover NH, Earth Sciences (Magna Cum Laude), BA 2012

RESEARCH & PROFESSIONAL APPOINTMENTS

NSF Earth Sciences Postdoctoral Fellow, Univ of Michigan, Ann Arbor, MI, 2019 –
NSF Fellow and Research Assistant, University of Washington, Seattle, WA, 2013 – 2019
NSF Graduate Research Intern, US Geological Survey, Portland OR, May-July 2017
Staff Geologist, **ENGEO Incorporated,** San Ramon CA, 2012 – 2013

MAJOR RESEARCH FUNDING (in USD)

NSF-EAR Geobiology and Low Temperature Geochemistry, Awarded 2021 ($360,667)
Designed and wrote proposal with PI Naomi Levin
NSF-EAR Postdoctoral Fellowship Supplement, Awarded 2021 ($71,700)
NSF-EAR Postdoctoral Fellowship, Awarded 2019 ($174,000)
NSF Graduate Research Fellowship, Awarded Spring 2015 ($138,000)

HONORS, AWARDS, & SMALL GRANTS

Highlight in Elsevier International Women's Day Special Issue for highly cited paper, 2020
Johnston Award for Research Excellence, UW Earth & Space Sciences, 2019
Best Geochemistry Talk, UW ESS Research Gala, 2019
Best Paleoclimate Talk, UW ESS Research Gala, 2018
Inquisitive Graduate Student Fund, UW ESS Research Grant, 2018 ($2,050)
NSF Graduate Research Internship Program, Additional Funding to GRF, 2017 ($5,000)
Quaternary Research Center, University of Washington, Research Grant, 2016 ($6,420)
Bourgeois Graduate Student Fund, UW ESS Research Grant, 2015 ($2,386)
American Geophysical Union Outstanding Student Paper Award, 2015
Geological Society of America Research Grant, 2014 & 2015 ($1,800)
College of the Environment Individual Student Travel Award, 2015 & 2018
Graduate School Fund for Excellence and Innovation Travel Award, 2015 & 2018
NSF Graduate Research Fellow Honorable Mention 2014 (Successful Award in 2015)
Univ. of Washington Top Scholar Research Fellowship, 2013 – stipend & tuition
Rufus Choate Scholar, Dartmouth College, 2012
High Honors Senior Thesis, Dartmouth College, Hanover NH, 2012
Northern Studies Internship Grant for Research, Dartmouth College, 2011 ($3,500)
Earle Lenker Award for Excellence in Field Work, Dartmouth College, 2011

PEER-REVIEWED PUBLICATIONS

Bernasconi, S.M., Daeron, M., Bergmann, K.D., Bonifacie, M., Meckler, A.N., and 55 coauthors including **Kelson, J.R.** (2021). InterCarb: A community effort to improve inter-laboratory standardization of the carbonate clumped isotope thermometer using carbonate standards. *Geochemistry, Geophysics, Geosystems*. doi: 10.1029/2020GC009588.

Anderson, N.T., **Kelson, J.R.**, Kele, S., Daeron, M., Bonifacie, M, Horita, J., Mackey, T.J., John, C.M., Kluge, T., Petschnig, P., Jost, A.B., Huntington, K.W., Bernasconi, S.M., Bergmann, K.D. (2021). A unified clumped isotope thermometer calibration (0.5-1100 °C) using carbonate-based standardization. *Geophysical Research Letters*. doi: 10.1029/2020GL092069

Kelson, J.R., Huntington, K.W., Breecker, D.O., Burgener, L.K., Gallagher, TJ., Hoke, G.D., and Petersen, S.V. (2020). A proxy for all seasons? A synthesis of clumped isotope data from Holocene soil carbonates. *Quaternary Science Reviews* 234. doi: 10.1016/j.quascirev.2020.106259.

Schenk, L.N., Harden, T.M., and **Kelson, J.R**. (2019). Differentiating sediment sources using sediment fingerprinting techniques, in the Sprague River Basin, south-central Oregon: U.S. Geological Survey Open-File Report 2019-1120. doi: 10.3133/ofr20191120.

Petersen S.V., Defliese W.F., Saenger C., Daëron M., John C.M., Bernasconi S.M., Colman A.S., Huntington K.W., **Kelson J.R**., and 21 coauthers. (2019). Effects of Improved ^{17}O Correction on Inter-laboratory Clumped Isotopes Calibrations, Estimates of Mineral Specific Offsets, and Acid Fraction Factors. *Geochemistry, Geophysics, Geosystems* 20. doi: 10.1029/2018GC008127

Burgener, L., Hyland, E., Huntington, K. W., **Kelson, J.R.,** Sewall, J. O. (2019). Revisiting the Equable Climate Problem During the Late Cretaceous Greenhouse Using Paleosol Carbonate Clumped Isotope Temperatures from the Campanian Western Interior Basin. *Palaeogeography, Palaeoclimatology, Palaeoecology*, *516,* 244-267. doi: 10.1016/j.palaeo.2018.12.004

Kelson, J.R., Watford, D., Bataille, C., Huntington, K.W., Hyland, E., Bowen, G.J. (2018). Warm terrestrial subtropics during the Paleocene and Eocene: Carbonate clumped isotope (Δ_{47}) evidence from the Tornillo Basin, Texas (USA). *Paleoceanography and Paleoclimatology*, 33(11), 1230-1249. doi: 10.1029/2018PA003391

Kelson, J. R., Huntington, K. W., Schauer, A. J., Saenger, C., & Lechler, A. R. (2017). Toward a universal carbonate clumped isotope calibration: Diverse synthesis and preparatory methods suggest a single temperature relationship. *Geochimica et Cosmochimica Acta*, *197*, 104-131. doi: 10.1016/j.gca.2016.10.010

Schauer, A. J., **Kelson, J.,** Saenger, C., & Huntington, K. W. (2016). Choice of ^{17}O correction affects clumped isotope (Δ47) values of CO_2 measured with mass spectrometry. *Rapid Communications in Mass Spectrometry*, *30*(24), 2607-2616. doi: 10.1002/rcm.7743

IN REVIEW & IN PREP

Kelson, J.R., Huntington, K.W., Breecker, D.O., Gallagher, T.M., Hoke, G.D. The Sensitivity of the Preserved Isotope Geochemistry of Soil Carbonates to Rainfall, Plant Activity, and Dissolution in Numerical Modeling. *Earth and Planetary Science Letters (in revision)*

Kelson, J.R., Petersen, S.V., Niemi, N., Passey, B.H., Curley, A. N. Looking upstream with clumped and triple oxygen isotopes of estuarine oyster shells in the early Eocene of California. *Geology. (in review)*.

Kelson, J.R., Huth. T.E., Levin, N., Passey, B.H. A global perspective on the triple oxygen isotope values of soil carbonates. (*in prep)*.

Licht, A, **Kelson, J.,**Bergel, S., Schauer, A., Petersen, S.V., Capirala, A., Huntington, K.W., Dupont-Nivet, G., Zaw Win, and Day Wa Aung. Dynamics of pedogenic carbonate growth in the monsoonal tropical domain. *Geochemistry, Geophysics, Geosystems*. *(in revision)*

Lehmann, SD., Levin, Passey, B.H., Hu, H., Cerling, T.E., Miller, J.H., Arppe, L.E., Beverly, E.J. Huth, T.E., **Kelson, J.R.**, Hoppe, K.A.; Luyt, J., Sealy, J. Triple oxygen isotope distribution in modern mammal teeth and potential geologic applications. *Geochimica et Cosmochimica Acta. (in review)*.

Jimenez-Rodriguez, S.,Quade, J., Dettinger, M., Huntington, K., **Kelson, J.R**. Comparing isotopic estimates of paleoelevation from carbonates and volcanic glass from the Miocene-age Chucal Formation in northern Chile. *Chemical Geology. (in review)*.

STUDENT MENTORING

Lead Mentor, Association for Women in Science (AWIS) Univ. Michigan, 2020-present
Peer mentoring circles for graduate students and postdocs in STEM.

Mentor for Undergraduate Research *(field & laboratory research)*
Matthew Salinas (2021-present)
Miriam Bartleson (2021-present)
Kirsten Andrews (2021-present)
Margaret Rudnick (2020-present)
Elise Pelletier (2020)
Ziwei Xiang (2019-2020)
Shana Edouard (2019)
Nicole Sarieddine (2017-2019)
Adrienne Scott (2014)
Paul Tosello (2014)
Rebecca Smith (2014)

Mentor for High School Research, Headwaters Science Institute, 2020
Resulting in a paper in a young-scientist journal

TEACHING

Teaching Assistant, University of Washington, 2013-2019
Physical Processes of the Earth (structural geology & geomorphology), Fall 2018
Geoscience Communication, Winter 2015 & 2014
Field Geology in Dillon, Montana, Summer 2014 & 2015
Physical Geology, Fall 2014 & Winter 2019

Guest Lecturer, Geoscience Communication (ESS 410), University of Washington, 2019
Guest Lecturer, Physical Geology (ESS 210), University of Washington, 2016
Italian Instructor, Dartmouth College, Hanover, NH, Winter & Spring 2012
Director's Assistant, Dartmouth College Off Campus Programs, Rome, Italy, Fall 2011

Able to teach *sedimentology & stratigraphy, paleoclimate, isotope geochemistry, physical geology, field geology, earth history*

OUTREACH

Headwaters Science Institute, Speaker for Lunch with a Scientist, 2020-2021
Inspiring Girls Expeditions, Application Reviewer 2018 & 2019
Seattle Town Hall, Public Speaker on climate change, 2016.
UW IsoLab Paleoclimate Field Trip, Developer and Instructor, 2014-2017
Rockin' Out, University of Washington, Volunteer, 2013-2019

PROFESSIONAL SERVICE

Peer reviewer for publications including *Nature* | *Nature Communications* | *Nature Geoscience* | *Geochimica et Cosmochimica Acta* | *Geology* | *Rapid Communications in Mass Spectrometry* | *Paleoceanography and Paleoclimatology* | *ACS Earth and Space Chemistry* | *AGU Advances* | *Frontiers in Earth Sciences* | *Geosphere* | *Hungary's National Research, Development & Innovation Office*
Judge for Outstanding Student Presentations, AGU Fall Meeting, December 2019
Member, Board of Directors, Engage Science Communication, 2016-2018
Graduate Student Representative to the Faculty, 2016-2018
Organizer, UW Earth and Space Sciences Research Gala, 2015

PROFESSIONAL DEVELOPMENT

Unlearning Racism in the GEosciences (URGE), pod at Univ. of Michigan, 2021
College STEM Teaching - Course for Postdoctoral Fellows at Univ. Michigan, 2020
Engage Science Communication - peer-led course on public communication, UW, 2016

INVITED SEMINARS

University of Texas El Paso - Drylands Critical Zone Network, October 2021
Purdue University - Geology and Geophysics, October 2021
University of Utah - Geology and Geophysics, April 2021
University of Michigan – Paleoclimate, October 2019.
University of Texas at Austin – Water, Climate and Environment, Sept 2018.
University of Washington – Biology Department Paleo, January 2018

CONFERENCE PRESENTATIONS *(first author only)*

Kelson, J.R.,** et al., (2021) Using Triple Oxygen Isotopes of Pedogenic Carbonate to Identify Ancient Evaporation: First Steps from Modern Soils**.** In session: Novel and quantitative methods for reconstructing continental palaeoenvironments and palaeohydrology. Virtual European Geosciences Union, 19-30 Apr. ***(invited presentation).

Kelson, J.R.,** et al., (2020). Advancing terrestrial paleoclimate with a process-based understanding of the seasonal bias of the clumped and stable isotopic composition of soil carbonates. Geological Society of America Connects Online, 26-30 Oct. ***(invited presentation).

Kelson, J.R., et al., (2020). Deltas in an estuary: clumped and triple oxygen isotope analyses reveal isotopically depleted headwaters in the early Eocene of Southern CA. Abstract 702522 at 2020 Fall Meeting, AGU, Online.

Kelson, J.R., et al., (2020). Fingerprinting Soil Water Evaporation with Triple Oxygen Isotopes of Pedogenic Carbonates. Goldschmidt Virtual 2020, 21-26 Jun. https://jrkelson.github.io/project/goldschmidt_2020/

Kelson, J.R., et al., (2019). Season's greetings or annual averages from paleosol carbonates? Findings from numerical simulations of soil carbonate formation. Abstract PP44B-05 at 2019 Fall Meeting, AGU, San Francisco, 9-13 Dec. *(Oral presentation)*.

Kelson, J.R., et al., (2019). They're Not Always Hot: Varied Seasonal Biases in $T\Delta_{47}$ of Soil Carbonates Explored Through Numerical Modeling. Presentation at the International Clumped Isotope Workshop, Long Beach Harbor, CA, 25-28 Jan. *(Oral presentation)*.

Kelson, J.R., et al., (2018). A synthesis of existing clumped isotope data reveals varied seasonal biases in soil carbonate accumulation. Geological Society of America Annual Meeting, Indianapolis, IN., 4-7 Nov. *(Oral presentation)*.

Kelson, J.R., et al., (2017). Hot Summers on Land in the Early Eocene Subtropics. GSA Annual Meeting, Seattle, WA, 22-25 Oct. *(Poster)*.

Kelson, J.R., et al., (2016). Choice of ^{17}O Abundance Correction Affects Δ_{47} and Thus Calibrations for Paleothermometry. Abstract V43B-3153 at 2016 Fall Meeting, AGU, San Francisco, 12-16 Dec. *(Poster)*.

Kelson, J. R., et al., (2016). Quantifying Climate Change During the Eocene in North America. 10th Annual Graduate Climate Conference, Pack Forest, WA., 28-30 Oct. *(Poster)*.

Kelson, J. R., et al., (2015). Reconciling Empirical Carbonate Clumped Isotope Calibrations: A Comparison of Calcite Precipitation and Acid Digestion Methods. Abstract PP23D-02 presented at 2015 Fall Meeting, AGU, San Francisco, 14-18 Dec. *(Oral presentation)*.

Kelson, J.R., et al., (2014). Influence of dissolved inorganic carbon species equilibrium on clumped isotope values of synthetic calcite. 4th International Workshop on Clumped Isotopes, ETH Zürich, Switzerland, 24-27 Aug. *(Oral presentation)*.