

PUBLICATIONS

Peer-Reviewed

- Pivarunas, A., M. Avery, **J. Biasi**, and L. Karlstrom (2023), Baked contacts focus a lens on ancient lava flows, *Eos*, 104, <https://doi.org/10.1029/2023EO230026>.
- Biasi, J.**, Tivey, M., & Fluegel, B. (2022). Volcano Monitoring with Magnetic Measurements: A Simulation of Eruptions at Axial Seamount, Kīlauea, Bárðarbunga, and Mount Saint Helens. *Geophysical Research Letters*, 49, e2022GL100006. <https://doi.org/10.1029/2022GL100006>
- Fluegel, B., Tivey, M., **Biasi, J.**, Chadwick, W. W., & Nooner, S. L. (2022). The Magnetization of an Underwater Caldera: A Time-Lapse Magnetic Anomaly Study of Axial Seamount. *Geophysical Research Letters*, 49, e2022GL100008. <https://doi.org/10.1029/2022GL100008>
- Biasi, J.**, Asimow, P., Horton, F., & Boyes, X. (2022). Eruption rates, tempo, and stratigraphy of Paleocene flood basalts on Baffin Island, Canada. *Geochemistry, Geophysics, Geosystems*, 23, e2021GC010172. <https://doi.org/10.1029/2021GC010172>
- Biasi, J.**, Karlstrom, L. (2021). Timescales of magma transport in the Columbia River flood basalts, determined by paleomagnetic data. *Earth and Planetary Science Letters*, 576, 117169, <https://doi.org/10.1016/j.epsl.2021.117169>.
- Biasi, J.**, Kirschvink, J.L., & Fu, R.R. (2021). Characterizing the Geomagnetic Field at High Southern Latitudes: Evidence from the Antarctic Peninsula. *Journal of Geophysical Research: Solid Earth*, 126, e2021JB023273. <https://doi.org/10.1029/2021JB023273>
- Biasi, J.**, Asimow, P., & Harris, R. (2020). Tectono-Chemistry of the Brooks Range Ophiolite, Alaska. *Lithosphere*, 1, 1-17. <https://doi.org/10.2113/2020/7866789>
- Bucholz, C. E., **Biasi, J.**, Beaudry, P., & Ono, S. (2020). Sulfur isotope behavior during metamorphism and anatexis of Archean sedimentary rocks: A case study from the Ghost Lake batholith, Ontario, Canada. *Earth and Planetary Science Letters*, 549, 116494. <https://doi.org/10.1016/j.epsl.2020.116494>
- Tobin, T. S., Roberts, E. M., Slotznick, S. P., **Biasi, J.**, Clarke, J. A., O'Connor, P. M., Skinner, S. M., West, A. R., Snyderman, L. S., Kirschvink, J. L., & others. (2020). New evidence of a Campanian age for the Cretaceous fossil-bearing strata of Cape Marsh, Robertson Island, Antarctica. *Cretaceous Research*, 108, 104313. <https://doi.org/10.1016/j.cretres.2019.104313>
- Ghanem, H., Kunk, M. J., Ludman, A., Bish, D., Wintsch, R., & **Biasi, J.** (2013). $^{40}\text{Ar}/^{39}\text{Ar}$ evidence for Late Devonian deformation in the Chester shear zone, east central Maine. *105th NEIGC Annual Meeting*, 99–124. [field trip guide]

In Prep

- Biasi, J.,** Boyes, X., Asimow, P., Horton, F., Peterson, M., Yaeger, P., Wathen, B., Jicha, B., & Singer, B. (2022). Dating the Onset of the Iceland Plume: $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology, geochemistry, and oxygen fugacity of Paleocene Flood Basalts on Baffin Island, Canada. [in preparation for *GSA Bulletin*]
- Biasi, J.,** & Asimow, P. (2022). Geochemistry of the Angayucham Terrane, Alaska: A new large igneous province? [in preparation for *Geology*]
- Biasi, J.,** Strauss, J. (2023). A review of paleomagnetic data from Northern Alaska and their tectonic implications. [in preparation for *Geophysical Research Letters*]

Conference Abstracts

- Biasi, J.,** Slotznick, S., Karlstrom, L., Lofman, S., & Warburton, L. (2022). A Novel Method to Determine the Transport Lifetimes of Igneous Intrusions, *Geological Society of America Abstracts with Programs*. Vol 54, No. 5, 2022 doi: 10.1130/abs/2022AM-381006
- Biasi, J.** (2022). Evidence of Flood Basalt Alteration from Fe-Oxides and Its Implications for Geochronological Studies, *Geological Society of America Abstracts with Programs*. Vol 54, No. 5, 2022 doi: 10.1130/abs/2022AM-381019
- Hampton, R., Goughnour, R., **Biasi, J.,** Rubin, G., Murray, K., & Karlstrom, L. (2022). Using Multiple Thermochronometers Across the Maxwell Lake Dike Complex to Infer Magma Transport Durations of the Main Phase Columbia River Flood Basalt Eruptions, *Geological Society of America Abstracts with Programs*. Vol 54, No. 5, 2022 doi: 10.1130/abs/2022AM-382045
- Goughnour, R., Murray, K., Karlstrom, L., **Biasi, J.,** Cox, S., & O'Sullivan, P. (2022). Intercalibration of Thermochronometers and a Magnetic Geothermometer to Quantify the Conditions and Duration of Magma Flow Through a Columbia River Flood Basalt Dike, *Geological Society of America Abstracts with Programs*. Vol 54, No. 5, 2022 doi: 10.1130/abs/2022AM-382616
- Biasi, J.,** Karlstrom, L. (2021). Magma Transport Duration Inferred from Paleomagnetic Data. *AGU Fall Meeting 2021*, GP24A-05.
- Hampton, R., **Biasi, J.,** Goughnour, R., Karlstrom, L., Murray, K. (2021). Emplacement Mechanics of Mafic Super-Eruptions in the Columbia River Basalt Province from Structural, Geochemical, Thermochronologic, and Magnetic Investigation of the Maxwell Lake Dike Complex. *AGU Fall Meeting 2021*, V12A-04.
- Biasi, J.,** Sousa, F., & Acito, S. (2021). Revisiting Rotation of the Oregon Coast Range, *Geological Society of America Abstracts with Programs*. Vol. 53, No. 4, 2021 doi: 10.1130/abs/2021CD-363325.

- Biasi, J., & Karlstrom, L. (2020).** A New Method for Determining the Timescales of Magma Transport in Exhumed Intrusions, Applied to Columbia River Flood Basalt Dikes. *AGU Fall Meeting 2020*. V024-06
- Biasi, J., Fendley, I., Hughes, E., Rahilly, K. E., Schlieder, T., Winslow, H., Fischer, T. P., & Wallace, P. J. (2020).** Modelling the behaviour of sulfur in magmatic systems from source to surface. *Sulfur in the Earth system: From microbes to global cycles through Earth history*, The Geological Society of London.
- Hughes, E., Winslow, H., Rahilly, K. E., **Biasi, J.**, Schlieder, T., Fendley, I., Fischer, T. P., & Wallace, P. J. (2019). Sulfur from source to surface. *AGU Fall Meeting 2019*, V31H-0098.
- Biasi, J., Karlstrom, L., Asimow, P. D., & Horton, F. (2019).** Rapid and Frequent Flood Basalt Eruptions: Evidence from the North Atlantic Igneous Province and the Columbia River Basalts. *Chapman Conference on Large-Scale Volcanism in the Arctic: The Role of the Mantle and Tectonics*.
- Boyes, X., Peterson, M. E., **Biasi, J.**, Horton, F., & Asimow, P. D. (2019). Characterising a new suite of Baffin Island lavas. *Chapman Conference on Large-Scale Volcanism in the Arctic: The Role of the Mantle and Tectonics*.
- Tobin, T. S., Roberts, E. M., Slotznick, S. P., **Biasi, J.**, Clarke, J., O'Connor, P. M., Skinner, S., West, A. R., Kirschvink, J. L., & Lamanna, M. C. (2019). Biostratigraphic and Detrital Zircon Geochronological Age Assignment of Late Cretaceous Sedimentary Exposures on Robertson Island, Antarctica. *GSA Annual Meeting in Phoenix, Arizona, USA-2019*.
- Biasi, J., & Karlstrom, L. (2019).** Eruption Timescales of the Columbia River Basalts. *Cordilleran Section-115th Annual Meeting-2019*, 4-6.
- Biasi, J., & Hagstrum, J. (2019).** Alteration of the Columbia River Basalts: Implications for $^{40}\text{Ar}/^{39}\text{Ar}$ Geochronology. *Cordilleran Section-115th Annual Meeting-2019*, 9-5.
- Biasi, J., & Sousa, F. J. (2019).** Uplift History of Steens Mountain and Onset of Basin and Range Extension in Eastern Oregon. *Cordilleran Section-115th Annual Meeting-2019*, 19-5.
- Sousa, F. J., **Biasi, J.**, & Sullivan, P. O. (2019). Long Term Exhumation of the Oregon Coast Range Using Detrital Thermochronology from the Eocene Tyee Formation, Oregon, USA. *Cordilleran Section-115th Annual Meeting-2019*, 3-8.
- Biasi, J., Asimow, P. D., & Harris, R. A. (2018).** The Beginning of the Brooks Range and Opening of the Canada Basin: Evidence from the Brooks Range Ophiolite. *AGU Fall Meeting 2018*, T43I-0531.
- Biasi, J., & Kirschvink, J. (2018).** Characterizing the Geomagnetic Field at High Southern Latitudes: Evidence from the Antarctic Peninsula. *AGU Fall Meeting 2018*, GP51A-07.

- Biasi, J.,** Asimow, P. D., & Harris, R. A. (2017). Tectonochemistry of the Brooks Range Ophiolite, Alaska. *AGU Fall Meeting 2017*, T23C–0619.
- Chaffee, T. M., Mitchell, R., Slotznick, S. P., Buz, J., **Biasi, J.,** O'Rourke, J., Sousa, F., Flannery, D., Fu, R. R., & Kirschvink, J. L. (2017). Extended Late-Cretaceous Magnetostratigraphy of the James Ross Basin Island, Antarctica. *AGU Fall Meeting 2017*, GP43A–0972.
- Biasi, J.,** Bucholz, C. E., & Asimow, P. D. (2017). Death of a Subduction Zone: Alkaline Volcanism on the Antarctic Peninsula. *Int. Assoc. of Volcanology and Chemistry of the Earth's Interior 2017 Scientific Assembly*, MT23C-043.
- Biasi, J.,** Asimow, P. D., & Bucholz, C. E. (2016). Evolution and Eruptibility of Magma Reservoirs: Modeling Results from the Western Peninsular Ranges Batholith. *AGU Fall Meeting 2016*, V33E–3160.
- Biasi, J.,** Brophy, J., & Wintsch, R. (2014). Magma Interactions in a Central Maine Pluton. *2014 GSA Annual Meeting in Vancouver, British Columbia*, 147–7.
- Biasi, J.,** & Brophy, J. (2013). Magma Mingling in the Passadumkeag River Pluton, Maine. *GSA Northeastern Section 48th Annual Meeting*, 22–23.

GRANTS

- 2023 (In Review) NSF Frontier Research in Earth Sciences (FRES) - \$253,510 for co-PI Biasi, \$2,515,933 total
Topic: The interplay of surface evolution, shallow magmatism, a large hydrothermal system, and hazards at Puyehue-Cordon Caulle Volcanic Complex, Chile
Organization: National Science Foundation
- 2021 NSF Earth Sciences Postdoctoral Fellowship - \$174,000
Topic: EAR-PF: A New Technique for Determining Eruption Timescales Applied to Large Igneous Provinces and Climatic Events over Earth History
Organization: National Science Foundation
- 2019 Institute for Rock Magnetism Visiting Fellowship - \$4,000
Topic: Widespread and Unrecognized Alteration of the Columbia River Basalts: Implications for Paleomagnetic and Geochronologic Analysis
Organization: Institute for Rock Magnetism, University of Minnesota
- 2018 National Geographic Explorer Grant - \$29,900
Topic: Discovery of an impact crater in Arctic Canada
Organization: National Geographic Society

- 2018 Awards for Geochronology Student Research (AGeS2) - \$9,355
Topic: Alteration of the Columbia River Basalts: Implications for $^{40}\text{Ar}/^{39}\text{Ar}$ Geochronology
Organization: National Science Foundation, Geological Society of America
- 2018 NSF Petrology and Geochemistry - \$355,364 (Not Selected)
Topic: Collaborative Research - A Type-Locality for Subduction Initiation: The Brooks Range Ophiolite, Northern Alaska
Organization: National Science Foundation
- 2018 John T. Dillon Alaska Research Award - \$2,767
Topic: Geochemical Survey of the Angayucham Terrane, Alaska
Organization: Geological Society of America
- 2017 NSF Office of Polar Programs - Antarctic Earth Sciences - \$522,027 (Not Selected)
Topic: Paleointensities from James Ross Island, Antarctica: A Key to Understanding the non-Dipole Field
Organization: National Science Foundation
- 2017 NSF Office of Polar Programs - Antarctic Earth Sciences - \$411,920 (Not Selected)
Topic: Alkaline Magmatism related to Ridge Subduction along the Antarctic Peninsula
Organization: National Science Foundation
- 2017 NSF Tectonics - \$326,538 (Not Selected)
Topic: Collaborative Research: Genesis, Emplacement, and Rotation of the Brooks Range Ophiolite, Northern Alaska
Organization: National Science Foundation
- 2013 IU STARS Summer Research Grant - \$2,000
Topic: Magma Mingling in the Passadumkeag River Pluton, Maine
Organization: Indiana University
- 2011 IU STARS Summer Research Grant - \$1,000
Topic: Characterizing pegmatites of the Narragansett Pier Granite, Rhode Island
Organization: Indiana University

WORKSHOPS

- 2019 Cooperative Institute for Dynamic Earth Research (CIDER) 2019 Summer Program: Volcanoes
University of California, Berkeley
- 2017 Institute for Rock Magnetism Summer School
University of Minnesota, Minneapolis, MN

FIELD EXPERIENCE

	Mapping	Igneous Petrology	Stratigraphy	Structural Geology	Metamorphic Petrology	Paleomagnetism	Volcanology	Geochronology	Sedimentary Petrology	Sedimentology	Geomorphology	Thermochronology	Hydrology	Planetary Analogues	Paleontology	Years
CAMP, New England & Nova Scotia																2021-present
Stillwater Caldera Complex, NV																2021-present
Columbia River Flood Basalts, OR/WA/ID																2017-present
Goat Rocks Volcanic Complex, WA																2019-2021
Oregon Coast Range, OR																2018-2020
Baffin Island, Nunavut																2019
Caliente, NV																2019
Superior Province, Ontario																2017-18
Sierra Nevada Batholith, CA																2016-19
Mono Basin & Owens Valley, CA																2016-19
James Ross Island, Antarctica																2016
Death Valley Area, CA																2015-21
Peninsular Ranges Batholith, CA																2015-16
Green River, UT																2015
Yukon Tanana Terrane, Yukon/AK																2014
Rio Grande Rift, CO																2014
Southwestern Montana																2013
Central Maine																2013
Narragansett Basin, RI																2011

TEACHING EXPERIENCE

- 2021-present Lecturer at Dartmouth College
EARS 51 – Mineralogy and Earth Processes

EARS 45 – Field Methods: Techniques of Structural and Stratigraphic Analysis

EARS 46 – Field Methods: Environmental Monitoring

EARS 47 – Field Methods: Resource and Earth Hazards Assessment

2018-present Research and fieldwork mentor to numerous undergraduate students

2017-2021 Teaching assistant at Caltech for twice the required number of classes, including:

Introductory Geology

Introductory Geochemistry

Regional Field Geology of the Southwestern United States

Optical Mineralogy

Metamorphic Petrology

Paleomagnetism and Magnetostratigraphy

2013 Undergraduate Teaching Assistant - Indiana University, Bloomington, IN

SERVICE

Reviewer for:

AGU Journals

GSA Journals

NSF Earth Sciences

NSF Ocean Sciences

Member of the Dartmouth Earth Sciences Inclusion, Diversity & Equity (IDE) committee and the Dartmouth [URGE](#) (Unlearning Racism in the Geosciences) pod.

OUTREACH

Created a popular infographic showing most of the rocks on Earth (and beyond) and how they relate to each other: <https://biasi.rocks/almost-all-the-rocks/>

Currently developing middle and high-school earth science curricula using 360° imagery, updates to come soon.