

Erin Elizabeth Donaghy

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Positions Held

Postdoctoral Research Associate – Dartmouth College	Present
Research Assistant – Purdue University	2019-2024
Teaching Assistant – Purdue University	2019-2024
Teaching Assistant – Northern Arizona University	2012-2014

Education

Purdue University, West Lafayette IN May 2024
Ph.D., Geology, Advisors: Dr. Michael Eddy and Dr. Kenneth Ridgway
Thesis: “The role of Cenozoic oceanic plateau collision in the tectonic growth of western North America”

Northern Arizona University, Flagstaff AZ May 2015
M.S., Geology, Advisor: Dr. Paul Umhoefer
Thesis: “Structure, stratigraphy, and provenance of Eocene sedimentary rocks in the Chumstick basin, central Washington”

Bucknell University, Lewisburg PA May 2012
B.S., Geology, Advisor: Dr. Jeffrey Trop
Thesis: Sedimentology, depositional age, and provenance of sedimentary and volcanic rocks exposed along Willow Creek, eastern Susitna Basin, south-central Alaska: implications for modification of a forearc basin by spreading ridge subduction

Professional Experience

ConocoPhillips, Geologist, Houston TX, 2015 to 2018
Global New Ventures Conventional Exploration Team (Jan. 2017-Sept. 2018)
Deepwater Gulf of Mexico Operated Wells Team (Nov. 2015-Jan. 2017)
Deepwater Gulf of Mexico Miocene Exploration (Aug.-Nov. 2015)

ConocoPhillips, Geology Intern, Anchorage AK, August to December 2013
Offshore North Slope Exploration, Beaufort Sea

Teaching Experience

Teaching Assistant: Sedimentology and Stratigraphy – Purdue University	F2023
Associate Instructor: New Mexico Spring Break Field Geology Course – Bucknell	S2022
Teaching Assistant: Sedimentology and Stratigraphy – Purdue University	F2021
ConocoPhillips Petrotech Academy	2017-2018
Associate Instructor: Field Geology in the Rocky Mountains – Indiana University	2014-2015

Teaching Assistant: Field Camp – NAU	S2014
Associate Instructor: Death Valley Spring Break Field Geology Course – Bucknell	S2013
Teaching Assistant: Sedimentology and Stratigraphy – NAU	S2013
Teaching Assistant: Geologic Hazards – NAU	F2012
Teaching Assistant: Introductory Geology – Bucknell	S2009

Awards and Honors

Purdue EAPS Outstanding Graduate Student Award	2024
AWG Brunton Award	2023
Alaska Geological Society Technical Conference Student Presentation Winner	2022
Purdue University Doctoral Scholarship	2019-2023
M.S. degree <i>with distinction</i>	2015
Rocky Mountain Rendezvous Poster Contest winner	2012
Judson Mead Scholarship – Indiana University	2012
AWG’s Crawford Field Camp Scholarship	2012
NAGT Field Camp Scholarship Award	2012
The Richard P. Nickelsen Prize for excellence in Geology – Bucknell University	2012
<i>Cum Laude</i> Academic Honors – Bucknell University	2012
GSA/Exxon Mobil Bighorn Basin Field Award	2011
Katherine Mabis McKenna Summer Environmental Internship Award	2010

Publications

Donaghy, E.E., Eddy, M.P., Ridgway, K., and Ickert, R.B., Sedimentary Record of Oceanic Plateau Accretion: Re-visiting the Eocene to Miocene stratigraphy of the northern Olympic Peninsula, Washington, *submitted to Geosphere*

Donaghy, E.E., Eddy, M.P., Moreno, F., and Ibañez-Mejia, M., 2024, Minimizing the effects of Pb loss in detrital and igneous U-Pb zircon geochronology by CA-LA-ICP-MS: Geochronology, v. 6, p. 89-106, <https://doi.org/10.5194/gchron-6-89-2024>.

Donaghy, E.E., Umhoefer, P.J., Eddy, M.P., Miller, R.B., and LaCasse, T., 2022, Stratigraphy, age, and provenance of the Eocene Chumstick basin, Washington Cascades: implications for paleogeography, regional tectonics, and development of strike-slip basins: Reply: GSA Bulletin, Vol. 134, No. 7/8, p. 2172-2176, <https://doi.org/10.1130/B36426.1>.

Donaghy, E.E., Umhoefer, P.J., Eddy, M.P., Miller, R.B., and LaCasse, T., 2021, Stratigraphy, age, and provenance of the Eocene Chumstick basin, Washington Cascades: implications for paleogeography, regional tectonics, and development of strike-slip basins: GSA Bulletin, Vol. 133, No. 11/12, p. 2418-2438, <https://doi.org/10.1130/B35738.1>.

Eddy, M.P., Umhoefer, P.J., Miller, R.B., **Donaghy, E.E.,** Gunderson, M., and Senes, F.I., 2017, Sedimentary, volcanic, structural processes during triple-junction migration: Insights from the Paleogene record in central Washington, *in* Haugerud, R.A., and Kelsey, H.M., eds., From the Puget Lowland to East of the Cascade Range: Geologic Excursions in the Pacific Northwest: Geological Society of America Field Guide 49, p. 143-173, doi: 10.1130/2017.0049(07).

Eddy, M.P., Bowring, S.A., Umhoefer, P.J., Miller, R.B., McLean, N.M., and **Donaghy, E.E.**, 2016, High-resolution temporal and stratigraphic record of Siletzia's accretion and triple junction migration from nonmarine sedimentary basins in central and western Washington: *GSA Bulletin*, Vol. 128, No. 3/4, p. 425-441.

Kortyna, C., **Donaghy, E.E.**, Trop, J.M., and Idleman, B., 2014, Integrated provenance record of a forearc basin modified by slab-window magmatism: Detrital-zircon geochronology and sandstone compositions of the Paleogene Arkose Ridge Formation, south-central Alaska: *Basin Research*, Vol. 26, Issue 3, pgs. 436-460.

Donaghy, E.E., Eddy, M.P., and Ridgway, K., A Forearc Perspective on the Middle Eocene Development of the Ancestral Cascades Arc, *in prep for Tectonics*.

Donaghy, E.E., Eddy, M.P., and Ridgway, K., Insights into Cordilleran collisional processes: Early shared history of the Eocene Siletzia and Yakutat terranes as a ridge-centered oceanic plateau, *in prep for Geology*

Meeting Abstracts

Donaghy, E.E., Eddy, M.P., and Ridgway, K., 2023, The role of oceanic plateau collision and break-up in the geologic development of the Pacific Northwest and Southeastern Alaska using sedimentary analyses and U-Pb zircon geochronology, *Geological Society of America Abstracts with Programs*, Vol. 55, No. 6.

***Donaghy, E.E.**, Eddy, M., Ibanez, M., and Moreno, F., 2023, The effects of chemical abrasion (CA) prior to LA-ICP-MS for U-Pb detrital zircon geochronology and definition of maximum depositional ages, *Geological Society of America Abstracts with Programs*, Vol. 55, No. 6.
*invited talk

Borders, N., **Donaghy, E.E.**, Eddy, M.P., 2023, Stratigraphic and structural evolution of the Eocene Aldwell and Lyre Formations in a syn- to post-collisional basin following accretion of Siletzia, northern Olympic Peninsula, WA, *Geological Society of America Abstracts with Programs*, Vol. 55, No. 6.

Donaghy, E.E., Eddy, M.P., and Ridgway, K., 2023, New constraints on the formation, configuration, and break-up of the Cenozoic Siletzia-Yakutat composite oceanic plateau, *Geological Society of America Penrose Conference*

Donaghy, E.E., Eddy, M.P., and Ridgway, K., 2023, Testing terrane transport along transpressive convergent margins: high-precision U-Pb geochronology, geologic mapping, and stratigraphic analyses of the Yakutat and Siletzia terranes, *Geological Society of America Abstracts with Programs*, Vol. 55, No. 4.

Donaghy, E., Eddy, M., Ibanez, M., and Moreno, F., 2022, Increased accuracy and precision in detrital zircon geochronology using CA-LA-ICPMS, *Geological Society of America Abstracts with Programs*, Vol. 54, No 5.

Donaghy, E., and Eddy, M., 2022, New high-precision geochronology of the Cenozoic sedimentary peripheral rock sequence, northern Olympic Peninsula, WA: Implications for basin formation following oceanic plateau collision, Geological Society of America *Abstracts with Programs*, Vol. 54, No 5.

Eddy, M., **Donaghy, E.**, and Miller, R., 2022, Eocene triple-junction migration in the Pacific Northwest and its relationship to terrane transport, Geological Society of America *Abstracts with Programs* Vol. 54, No 5.

Donaghy E.E., Umhoefer, P.J., Eddy, M.P., and Miller, R.B., 2021, The structural and depositional evolution of pull-apart basins: an example from the Eocene Chumstick basin, central Washington, Geological Society of America *Abstracts with Programs*, Vol 53, No 6.

Donaghy, E.E., and Eddy, M.P., 2021, Revisiting Stratigraphy of the Eocene to Miocene sedimentary peripheral rocks on the Olympic Peninsula, Washington, Geological Society of America *Abstracts with Programs*, Vol 53, No 6.

Regier, N., **Donaghy, E.E.**, and Eddy, M.P., 2021, Stratigraphic and structural characterization of the Eocene Blue Mountain Unit, Olympic Peninsula, WA: Implications for basin formation and volcanism following Siletzia's accretion, Geological Society of America *Abstracts with Programs*, Vol 53, No. 6.

Umhoefer, P.J., **Donaghy, E.E.**, Eddy, M.P., and Miller, R.B., 2017, Stratigraphic record of the middle Eocene fault-bend, strike-slip Chumstick basin, central Washington, synchronous with an episode of major strike-slip faulting across the Cascades, Geological Society of America *Abstracts with Programs*, Vol. 49, No. 6.

Donaghy, E.E., 2015, Stratigraphic record of Paleogene spreading ridge subduction in southern Alaska and central Washington: Geological Society of America *Abstracts with Programs*, Vol. 47, No. 4, p.9.

Trop, J.M., Idleman, B., Ridgway, K.D., Sunderlin, D., Cole, R.B., **Donaghy, E.E.**, 2015, Sedimentary record of Paleogene basin development, deformation, and exhumation during spreading ridge subduction in southern Alaska: Geological Society of America *Abstracts with Programs*, Vol. 47, No. 4, p.9.

Donaghy, E.E., Umhoefer, P.J., and Miller, R.B., 2014, Stratigraphy, structure, and provenance of Eocene sedimentary rocks in the Chumstick basin, central Washington; implications for basin evolution as a result of ridge subduction: Geological Society of America *Abstracts with Programs*, Vol. 46, No. 6, p.34.

Umhoefer, P.J., Eddy, M.P., Miller, R.B., Bowring, S.A., and **Donaghy, E.E.**, 2014, Major changes in early Eocene faulting and basins in central Washington: Geological Society of America *Abstracts with Programs*, Vol. 46, No. 6, p.34.

Eddy, M.P., Bowring, S.A., Umhoefer, P.J., Miller, R.B., Mclean, N.M., and **Donaghy, E.E.**, 2014, Paleogene basin evolution in the Pacific Northwest: a window into ridge-trench interaction: Geological Society of America *Abstracts with Programs*, Vol. 46, No. 6, p. 34.

Donaghy, E., Trop, J.M., Cole R.B., Idleman, B., 2012, Detrital geochronologic, geochemical, and stratigraphic evidence for paleogene sediment accumulation and volcanism along the arcward margin of a remnant forearc basin, south-central Alaska: Geological Society of America *Abstracts with Programs*, Vol. 44, No. 7, p.175.

Trop, J.M., Kissock, K., **Donaghy, E.**, Idleman, B., Ridgway, K.D., 2012, Sedimentary record of exhumation along a forearc basin-accretionary prism boundary during ridge subduction: Paleogene Chickaloon formation, northern Chugach mountains, southern Alaska: Geological Society of America *Abstracts with Programs*, Vol. 44, No. 7, p.175.

Donaghy, E., Trop, J.M., and Idleman, B., 2011, Detrital geochronology and sedimentology of Paleogene sedimentary and volcanic rocks exposed on the southwestern flank of the Talkeetna Mountains, Alaska: implications for exhumation and basin development within a remnant forearc depocenter: Geological Society of America *Abstracts with Programs*, Vol. 43, No. 5, p. 439.

Public & Invited Talks

Central Washington University Seminar	November 2023
GSA Annual Conference Invited Talk MDA theme session T173	October 2023
Quimper Geological Society	October 2022
Rowan University Geology Seminar	October 2022
Alaska Geological Society Technical Conference	April 2022
Olympic National Park Library Speaker Series	February 2022
Olympic National Park Science Days	November 2021
Purdue University Gaggle Seminar	September 2019
Bucknell Geology Dept. Lunch Talk	November 2017
Alaska Geological Society Luncheon Lecture	October 2013
Bucknell Geology Dept. Lunch Talk	January 2014

Grants

AGI Harriet Evelyn Wallace Scholarship, \$5000	2023
Purdue University Michael Gardner Memorial Award, \$1250	2023
IAGD Scholarship, \$1000	2021
Evolving Earth Foundation Grant, \$3000	2020
Lewis and Clark Fund for Exploration and Field Research, \$5000	2020
AGS Don Richter Memorial Scholarship, \$2000	2020
Chevron Scholarship, \$10000 – Purdue University	2020
NAU Geology Department Student Grant, \$1500	2014
NAU Geology Department Student Grant, \$1500	2013
GSA Graduate Student Research Grant, \$1700	2013
AAPG Nancy Setzer Murray Memorial Grant, \$1750	2013
Pioneer Research Scholarship, \$3000	2013
Pioneer Research Scholarship, \$4000	2012

Alaska Geological Society Scholarship, \$1000	2011
AGS Don Richter Memorial Scholarship, \$1500	2011
GSA Undergraduate Student Research Grant, \$858	2011

Field Experience

Olympic Peninsula, WA – Basin analysis/U-Pb geochron	2020-2023
Wrangell-St. Elias National Park, AK – U-Pb geochron/Basin Analysis	2022
Denali National Park, AK – Mapping/Measuring Section	2019
Central Washington Cascades – U-Pb geochron/Basin Analysis	2013
Marathon & Big Bend, TX - spring break mapping course	2012
Tobacco Root Mountains, MT – Structural Mapping	2012, 2014, 2015
Eastern Susitna Basin & Talkeetna Mtns., AK – Lithofacies mapping/Basin Analysis	2011
Chugach Mountains, AK – Mapping/Basin Analysis	2011
White Mesa & Picuris Mtns., NM - spring break mapping course	2011
Yuma to Grand Canyon, AZ - spring break mapping course	2010
Bald Eagle State Forest, PA – Aqueous geochemical analyses	2010
Death Valley, CA – spring break mapping course	2009

Analytical Lab Experience

CA-ID-TIMS U-Pb Geochronology Lab – Purdue University	2020-2024
Mineral Separation Lab	2011-2014, 2020-2024
Environmental Spectroscopy Lab – Bucknell University	2010

Mentoring

Mentoring Purdue undergraduates in basin analysis research	2021-2024
Purdue Graduate Student Mentoring Program, Mentor	2021-2024
On To the Future Mentor, GSA Annual Meeting	2017, 2018, 2021
Mentoring365 Program, Mentor	2018-2023
GeoCareers Day Mentor Round Table, GSA Annual Meeting	2017

Outreach

Purdue EAPS Dept. Ombudsperson	2023
Student Representative on Purdue EAPS Fieldwork Committee	2022-2023
Purdue EAPS Graduate Student Organization President	2021-2022
Nick Zentner YouTube Geology Series	2020-2023
Participant in Unlearning Racism in Geoscience Education (URGE)	2021
Student Representative on Purdue EAPS DEI Committee	2019, 2020, 2022, 2023
Purdue EAPS Student Outreach Committee	2019-2020
Kate's Ride Planning Committee, Spirit of the Pack nonprofit	2017-2020

Certificates and Workshops

Certificate in Foundations of College Teaching – Purdue University	2023
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Media

Nick Zentner YouTube Geology Lecture Series:

CWU Friday Dept. Lecture Series	Nov. 2023
Nick Zentner Baja-B.C. Series (Episode H): Yakutat Parallels	Dec. 2022
Northern Olympic Peninsula with Erin Donaghy, Mike Eddy, and Ken Ridgway	Sept. 2022
Nick Zentner Eocene Series (Episode L): Strike-slip basins	Dec. 2021
Nick Zentner Eocene Series (Episode K): Chumstick basin	Dec. 2021
Nick Zentner Eocene Series (Episode G): Docking Siletzia with Erin Donaghy	Dec. 2021
Olympic Peninsula Geology with Erin Donaghy (GSA Annual Meeting 2021)	Oct. 2021
Chumstick Fm. with Erin Donaghy (2021)	July 2021
Mike Eddy and Erin Donaghy at Mission Ridge, WA (2020)	July 2020