

Nicholas A. Freymueller

Department of Biology | University of New Mexico
MSCo3 2020 | University of New Mexico
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Research Interests

Paleoecology, Biogeography, Ecological Niche Modelling, Macroecology, Vertebrate Paleontology, Extinction, Mammalogy, Pleistocene Megafauna, Macroevolution, Mathematical Modeling, Stable Isotope Analysis.

I. Education

- M.S. Biology**, Graduate Minor in Statistics 08/2017 - 05/2020
University of New Mexico — Albuquerque, New Mexico
Masters Thesis: "*Niche Dynamics of the Felid Guild Following the Pleistocene Megafaunal Extinction.*"
Adviser: Felisa Smith
- B.A. Earth & Planetary Sciences** (*cum laude*), with Honors & Distinction 08/2013 - 05/2017
University of New Mexico — Albuquerque, New Mexico
Senior Honors Thesis: "*The Impact of OAE2 on Global Molluscan Diversity Dynamics.*"
Adviser: Corinne Myers.
- B.S. Biology**, (*cum laude*) Minor in Chemistry 08/2013 - 05/2017
University of New Mexico — Albuquerque, New Mexico
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II. Professional Experience

- Teaching Assistant** 08/2017 - current
Department of Biology, University of New Mexico
Assisted in curriculum development for the Biology for Health-Related Sciences course. Contributed to curriculum development as a graduate student representative of the Undergraduate Policy Committee. Co-designed the lab (with F. A. Smith) for the Ecology of the Past course. Taught undergraduate students in upper- and lower-division Biology classes.
- Leonard Educator Fellow/Peer Learning Facilitator** 08/2016 - 12/2016
Department of Earth & Planetary Sciences, University of New Mexico
Assisted the learning of undergraduate students for the Sedimentology & Stratigraphy class; Fall 2016. Also designed in-class projects/assignments and exam questions. Principle Instructor: Dr. Maya Elrick.
- Museum Technician** 06/2015 - 09/2015
Museum of Southwestern Biology (MSB) - Division of Mammals, University of New Mexico
Performed tissue sampling, preparation, and preservation of mammalian specimens, as well as other various lab work. Documented and archived mammalian specimens, and other various categorical work. Assisted in the facilitation of the expansion of the 3rd largest and fastest growing mammal research collection in the world.
- Field Crew Supervisor/Member** 05/2009 - 05/2015
Fairbanks Youth Soccer Association
Held supervisor position (team coordinator) of the Field Crew during 2013 and was offered the position again in 2014. Maintained safe, healthy and playable conditions of over two-dozen grass soccer fields during a 4-month growing season.
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III. Publications

Freymueller, N. A., J. R. Moore, and C. E. Myers. 2019. An analysis of the impact of Cretaceous oceanic anoxic events on global molluscan diversity dynamics. *Paleobiology* 45(2): 280-295. (<https://doi.org/10.1017/pab.2019.10>).

Popular Writing (non-peer reviewed)

Climate Change and Me. 2017. <http://unm-bioblog.blogspot.com/2017/11/climate-change-and-me.html>

IV. Research Funding

Research, Fellowships, Scholarships, Grants & Teaching (\$11459 to date)

Grant-in-Aid of Research. American Society of Mammalogists. **\$1500**. 2019. Niche dynamics of the felid guild following the Pleistocene megafaunal extinction.

Student Travel Award. American Society of Mammalogists. **\$500**. 2019

Travel Grant. Graduate Research Allocations Committee — Department of Biology - UNM. 2019. **\$150**

Student Accommodation Offer. International Biogeography Society. 2019. **Valued at €108/\$123**.

Lucille Pipkin Senior Scholarship. New Mexico Geological Society. **\$500**. 2017. Functional change in molluscan diversity dynamics observed across OAE2.

Joseph Gaudin Scholarship in Mammalogy. Department of Biology - UNM. **\$1000**. 2017.

CSI Pilot Grant. Center for Stable Isotopes - UNM. *Research on Desert Bighorn Sheep Feeding Ecology*. **\$500**. 2017.

Leonard Undergraduate Research Fellowship. Department of Earth & Planetary Sciences - UNM. *Research on "Ocean Anoxic Event 2."* **\$2000**. 2017.

Leonard Undergraduate Travel Award. Department of Earth & Planetary Sciences - UNM. **\$426**. 2018.

Travel Grant. Geological Society of America. **\$100**. 2016.

Leonard Educator Fellowship. Department of Earth & Planetary Sciences - UNM. *PLF for EPS 304L: Sedimentology & Stratigraphy*. **\$2000**. 2016.

Ronald G. Boyd Memorial Field Award Endowment in Mineralogy. Department of Earth & Planetary Sciences - UNM. **\$750**. 2016.

Leonard Undergraduate Research Fellowship. Department of Earth & Planetary Sciences - UNM. *Research on "Ocean Anoxic Event 2."* **\$2000**. 2016.

Honors and Awards

Stuart A. Northrup Award - Outstanding Senior in EPS — Department of Earth & Planetary Sciences - UNM. 2017.

Deans List — College of Arts & Sciences - UNM, Spring 2015, Spring 2016, Fall 2016, Spring 2017.

Deans List — University College - UNM, Fall 2013, Spring 2014.

Amigo Scholarship. UNM. **\$15,337/year**. 2013-14, 2014-15, 2015-16, 2016-17.

V. Presentations

- Rovelli, R., A. J. Cotter, C. H. Dwyer, N. A. Freymueller, K. H. Gaines, C. P. Hedberg, J. S. Keller, J. S. Silviria, J. D. Witts, J. R. Moore, and C. E. Myers. 2019. Using PaleoENM to predict patterns of survivorship in the Hell Creek Formation across the K/Pg mass extinction. Geological Society of America Annual Meeting. Phoenix, AZ. Oral Presentation.
- Freymueller, N. A., C. E. Myers, and F. A. Smith. Felid guild ecological niche dynamics pre- and post-Pleistocene megafaunal extinction. 2019. Geological Society of America Annual Meeting. Phoenix, AZ. Oral Presentation.
- Freymueller, N. A., C. E. Myers, and F. A. Smith. 2019. Niche dynamics of cougars (*Puma concolor*) following the Pleistocene megafaunal extinction. American Society of Mammalogists Annual Meeting. Washington, D.C. Oral Presentation.
- Freymueller, N. A. 2019. Niche dynamics of cougars (*Puma concolor*) following the Pleistocene megafaunal extinction. UNM Biology Research Day. Oral Presentation
- Freymueller, N. A., C. E. Myers, and F. A. Smith. 2019. Niche dynamics of cougars (*Puma concolor*) following the Pleistocene megafaunal extinction. International Biogeography Society Biennial Meeting. Málaga, Spain. Oral and Poster Presentation.
- Freymueller, N. A., M. I. Pardi, and F. A. Smith. 2018. Do cougars (*Puma concolor*) re-fill the megafelid niche following the Pleistocene megafaunal extinction? Society of Vertebrate Paleontology Annual Meeting. Albuquerque, NM. Oral Presentation.
- Freymueller, N. A. 2018. Niche dynamics of cougars (*Puma concolor*) following the Pleistocene megafaunal extinction. University of New Mexico Biology Brown Bag Seminar. Albuquerque, NM. Oral Presentation.
- Freymueller, N. A., M. I. Pardi, and F. A. Smith. 2019. Geographic responses of cougars (*Puma concolor*) following the Pleistocene megafaunal extinction. American Society of Mammalogists Annual Meeting. Manhattan, KS. Oral Presentation.
- Freymueller, N. A. 2017. The impact of OAE2 on global molluscan diversity dynamics. Caswell Silver Undergraduate Research Symposium — UNM - Dept. of Earth & Planetary Sciences. Albuquerque, NM. Oral Presentation.
- Freymueller, N. A. and C. E. Myers. 2017. Functional change in molluscan diversity dynamics observed across OAE2. New Mexico Geological Society Spring Meeting. Socorro, NM. Oral Presentation.
- Freymueller, N. A. and C. E. Myers. 2016. The impact of OAE2 on global molluscan diversity dynamics. Geological Society of America Annual Meeting. Denver, CO. Oral Presentation.
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VI. Teaching/Lectures

- Biology for Health-Related Sciences. (UNM). Fall 2017. 3 lab sections total. 71 students total.
- Cell & Molecular Biology. (UNM). Spring 2018. 4 lab sections total. 95 students total.
- Ecology and Evolution. (UNM). Spring 2019. 2 lab sections total. 39 students total.
- Ecology of the Past. (UNM). Fall 2018. 1 lab section. 17 students total.
- Sedimentology & Stratigraphy. (UNM) Fall 2016. 1 Lecture (PLF). 18 students.

Invited Lectures/Seminars

Geographic Range Size + Species Distribution Modeling. BIOL 409/509 - Extinction. Oct. 2019. 2 lectures.
Intro to Species Distribution Modeling in R with wallace. BIOL 502 - UNM Biology Advanced R Seminar.
Sep. 2019. 1 lecture.

VII. Field Work

Biostratigraphy and Ecology of Methane Seeps. Campanian-Maastrichtian. Black Hills Region, South Dakota/Wyoming. 2016.
Polar Dinosaurs/Trackways. Campanian-Maastrichtian. Denali National Park, Alaska. 2016-18.
Quaternary. Stream Discharge from Rhyolite Plateaus. Yellowstone National Park, Idaho/Wyoming. 2016

VIII. Pertinent Skills/Training

Software: ARCGIS, QGIS, R/RStudio, PAST.
Technical Skills: Dermestarium techniques, Mammalian/Amphibian tissue sampling & preparation.

IX. Membership/Professional Societies

American Society of Mammalogists. 2018 — present.
Ecological Society of America - SEEDS Program. 2015 — present.
Geological Society of America. 2016 — present.
International Biogeography Society. 2018 — present.
National Honor Society - E'neput Chapter. 2012-13.
New Mexico Geological Society. 2017 — present.
Paleontological Society. 2018 — present.
Society of Vertebrate Paleontology. 2018 — present.

X. Reviewer (Professional Services)

Proceedings of the Royal Society B.