

William Gearty
Postdoctoral Researcher
Open Source Program Office
Syracuse University, Syracuse, NY
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EDUCATION

- Ph.D. in Geological Sciences** 2014 – 2019
Stanford University, Stanford, CA
Research Advisor: Jonathan Payne
Thesis Title: Physiological Constraints of Aquatic Invasions in Tetrapods
- B.S. with Honors in Geology and Geophysics** 2010 – 2014
Yale University, New Haven, CT
Research Advisor: Jacques Gauthier
Thesis Title: Resolving the Relationships of the Squamate Tree of Life: An Assessment of New Approaches and Problems
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RESEARCH AND WORK EXPERIENCE

- Postdoctoral Researcher** 2024 – present
Open Source Program Office, Syracuse University, Syracuse, NY
Supervisor: Collin Capano
- Postdoctoral Research Fellow** 2022 – present
American Museum of Natural History, New York, NY
Research Advisor: John Flynn
- Postdoctoral Research Fellow** 2019 – 2022
University of Nebraska-Lincoln, Lincoln, NE
Research Advisors: Kate Lyons and Peter Wagner
- Graduate Research Assistant** 2014 – 2019
Stanford University, Stanford, CA
Research Advisor: Jonathan Payne
- Research Intern** 2012
Summer Undergraduate Research in Geoscience and Engineering
Stanford University, Stanford, CA
Research Advisor: Jonathan Payne
- Undergraduate Research Assistant** 2011 – 2014
Yale University, New Haven, CT
Research Advisors: Jacques Gauthier and Elisabeth Vrba
- Student Collections Assistant/Student Researcher** 2011 – 2014
Marsh Dinosaur Collection, Fossil Mammals, and Invertebrate Paleontology
Peabody Museum of Natural History, New Haven, CT

PUBLICATIONS

^undergraduate student #graduate student

Manuscripts in Preparation:

- 3) **Gearty, W.**, Aandahl, Z., Carter, B. #, Todorov, O.S., Alroy, J., Brook, B., Lyons, S.K. *in prep.* The differential effects of the Pleistocene megafaunal extinction on modern biomes.
- 2) **Gearty, W.**, Tomé, C.P., Smith, F.A., Lyons, S.K. *in prep.* The introduction of large mammals has not remedied the ecological impact of the Late Pleistocene extinctions.
- 1) **Gearty, W.** *in prep.* Selective extinction and random origination drove the short-lived nature of large and marine crocodylomorph clades.

Peer Reviewed Publications:

- 22) Müller, S.P. #, De Francesco Magnussen, I. #, **Gearty, W.**, Dupérré, N., Hammel, J.U., and Kotthoff, U. *in revision.* A trait-based taxonomic data base for the order Schizomida (Arachnida) with descriptions of a new fossil species from Kachin amber and the female of *Surazomus palenque* Villarreal, Miranda & Giupponi 2016. preprint doi: [10.1101/2024.03.01.582919](https://doi.org/10.1101/2024.03.01.582919). database: <https://williamgearty.com/Schizomida/>.
- 21) Jones, L.A., Allen, B.J., **Gearty, W.**, and Buffan, L. *in revision.* Global plate model choice impacts reconstructions of the latitudinal biodiversity gradient. *Global Ecology and Biogeography*. preprint doi: [10.1101/2025.01.09.632144](https://doi.org/10.1101/2025.01.09.632144).
- 20) **Gearty, W.**, Allen, B.J., Godoy, P.L., and Chiarenza, A.A. *in revision.* The impact of fossil tip age on reconstructing trait evolution using phylogenetic comparative methods. *Systematic Biology*. preprint doi: [10.32942/X27K79](https://doi.org/10.32942/X27K79).
- 19) Cribb, A.T., Darroch, S.A.F., and **Gearty, W.** *in revision.* Marine Phanerozoic biodiversity increases in presence of ecosystem engineers. *Nature Communications*. preprint doi: [10.21203/rs.3.rs-5447601/v1](https://doi.org/10.21203/rs.3.rs-5447601/v1).
- 18) Smith, Q.A. #, Tomé, C.P., **Gearty, W.**, Smith, F.A., Shizuka, D., and Lyons, S.K. *accepted.* Mammal food webs are more responsive to biodiversity loss than climate change over the late Quaternary. *Global Ecology and Biogeography*.
- 17) Jones, L.A., Dean, C.D., Allen, B.J., Drage, H.B., Flannery-Sutherland, J.T., **Gearty, W.**, Chiarenza, A.A., Dillon, E.M., Farina, B.M., and Godoy, P.L. 2025. Ten simple rules to follow when cleaning occurrence data in palaeobiology. *Palaeontology*, 68: e70028. doi: [10.1111/pala.70028](https://doi.org/10.1111/pala.70028).
- 16) Darroch, S.A.F., Casey, M.M., Cribb, A.T., Bates, A.E., Clapham, M.E., Contreras, D.L., Craffey, M. #, Duijnste, I.A.P., **Gearty, W.**, Gotelli, N.J., Hamilton, M.J., Hayes, R.F. #, Hull, P.M., Ibarra, D.E., Korasidis, V.A., Lee, J. #, Looy, C.V., Lyson, T.R., Muddiman, B., Roopnarine, P.D., Shupinski, A.B., Smith, F.A., Stigall, A.L., Tomé, C.P., Turk, K.A. #, Villaseñor, A., Wagner, P.J., Wang, S., and Lyons, S.K. 2025. 'Earth system engineers' and the cumulative impact of organisms. *Trends in Ecology and Evolution*. doi: [10.1016/j.tree.2025.08.005](https://doi.org/10.1016/j.tree.2025.08.005).
- 15) Brook, B.W., Lyons, S.K., Carter, B.E., **Gearty, W.**, Todorov O.S., Aandahl, Z., and Alroy, J. 2025. Late Pleistocene faunal community patterns disrupted by Holocene human impacts. *Biology Letters*, 21(8):20250151. doi: [10.1098/rsbl.2025.0151](https://doi.org/10.1098/rsbl.2025.0151).
- 14) **Gearty, W.** 2025. deeptime: an R package that facilitates highly customizable visualizations of data over geological time intervals. *Big Earth Data*. doi: [10.1080/20964471.2025.2537516](https://doi.org/10.1080/20964471.2025.2537516).

- 13) Jones, L.A., Dean, C.D., **Gearty, W.**, and Allen, B.J. 2024. rmacrostrat: An R package for accessing and retrieving data from the Macrostrat geological database. *Geosphere*, 20(6): 1456–1467. doi: [10.1130/GES02815.1](https://doi.org/10.1130/GES02815.1).
- 12) **Gearty, W.**, Uricchio, L., and Lyons, S.K. 2024. Investigating the Biotic and Abiotic Drivers of Body Size Disparity in Communities of Non-Volant Terrestrial Mammals. *Global Ecology and Biogeography*, 33(12). doi: [10.1111/geb.13913](https://doi.org/10.1111/geb.13913).
- 11) **Gearty, W.** and Jones, L.A. 2023. rphylopic: An R package for fetching, transforming, and visualising PhyloPic silhouettes. *Methods in Ecology and Evolution*, 14(11), 2700–2708. doi: [10.1111/2041-210X.14221](https://doi.org/10.1111/2041-210X.14221).
- 10) Jones, L.A., **Gearty, W.**, Allen, B.J., Eichenseer, K., Dean, C.D., Galván, S.[#], Kouvari, M.[#], Godoy, P.L., Nicholl, C.[#], Buffan, L.[#], Dillon, E.M., Flannery-Sutherland, J.T., and Chiarenza, A.A. 2023. palaeoverse: A community-driven R package to support palaeobiological analysis. *Methods in Ecology and Evolution*, 14(9), 2205–2215. doi: [10.1111/2041-210X.14099](https://doi.org/10.1111/2041-210X.14099).
- 9) Cooke, R., **Gearty, W.** (*co-first author*), Chapman, A.S.A., Dunic, J.[^], Edgar, G.J., Lefcheck, J.S., Rilov, G., McClain, C.R., Stuart-Smith, R.D., Lyons, S.K., and Bates, A.E. 2022. Anthropogenic disruptions to longstanding patterns of trophic-size structure in vertebrates. *Nature Ecology & Evolution*, 6, 684–692. doi: [10.1038/s41559-022-01726-x](https://doi.org/10.1038/s41559-022-01726-x).
- 8) Benson, R.B.J., Godoy, P., Bronzati, M., Butler, R., and **Gearty, W.** 2022. Reconstructed evolutionary patterns for crocodile-line archosaurs demonstrate impact of failure to log-transform body size data. *Communications Biology*, 5(171). doi: [10.1038/s42003-022-03071-y](https://doi.org/10.1038/s42003-022-03071-y).
- 7) Monarrez, P.M., Zimmt, J.B., Clement, A.M., **Gearty, W.**, Jacisin, J.J., Jenkins, K.M., Kusnerik, K.M., Poust, A.W., Robson, S.V., Sclafani, J.A., Stilson, K.T., Tennakoon, S.D., and Thompson, C.M. 2021. Our past creates our present: A brief overview of racism and colonialism in Western paleontology. *Paleobiology*, 48(2), 173–185. doi: [10.1017/pab.2021.28](https://doi.org/10.1017/pab.2021.28).
- 6) **Gearty, W.**, Carrillo, E.[^], and Payne, J.L. 2021. Ecological filtering and exaptation in the evolution of marine snakes. *The American Naturalist*, 198(4), 506–521. doi: [10.1086/716015](https://doi.org/10.1086/716015).
- 5) Boag, T.H., **Gearty, W.** (*co-first author*), and Stockey, R.G. 2021. Metabolic tradeoffs control biodiversity gradients through geological time. *Current Biology*, 31(13), 2906–2913. doi: [10.1016/j.cub.2021.04.021](https://doi.org/10.1016/j.cub.2021.04.021).
- 4) **Gearty, W.** and Payne, J.L. 2020. Physiological constraints on body size distributions in Crocodyliformes. *Evolution*, 74(2), 245–255. doi: [10.1111/evo.13901](https://doi.org/10.1111/evo.13901).
- 3) **Gearty, W.**, McClain, C.R., and Payne, J.L. 2018. Energetic tradeoffs control the size distribution of aquatic mammals. *Proceedings of the National Academy of Sciences*, 115(16), 4194–4199. doi: [10.1073/pnas.1712629115](https://doi.org/10.1073/pnas.1712629115).
- 2) Racicot, R.A., **Gearty, W.**, Kohno, N., and Flynn, J.J. 2016. Comparative anatomy of the bony labyrinth of extant and extinct porpoises (Cetacea: Phocoenidae). *Biological Journal of the Linnean Society*, 119(4), 831–846. doi: [10.1111/bj.12857](https://doi.org/10.1111/bj.12857).
- 1) Field, D.J., D’Alba, L., Vinther, J., Webb, S., **Gearty, W.**, and Shawkey, M.D. 2013. Melanin concentration gradients in modern and fossil feathers. *PLoS ONE* 8(3), e59451. doi: [10.1371/journal.pone.0059451](https://doi.org/10.1371/journal.pone.0059451). [Winner of the G.G. Simpson Prize]

PUBLISHED SOFTWARE

- **deeptime (R package; 33,000 downloads):** Tools to help with plotting data over long time intervals. doi: [10.5281/zenodo.2723127](https://doi.org/10.5281/zenodo.2723127). (source code: github.com/willgearty/deeptime)

- **palaeoverse (R package; 12,000 downloads):** A community-driven toolkit to support palaeobiological analyses. doi: [10.5281/zenodo.7728638](https://doi.org/10.5281/zenodo.7728638). (source code: github.com/palaeoverse/palaeoverse)
- **rphylopic (R package; 41,000 downloads):** Functions to retrieve silhouettes from PhyloPic and add them to R plots. doi: [10.5281/zenodo.775772](https://doi.org/10.5281/zenodo.775772). (source code: github.com/palaeoverse/rphylopic)
- **rmacrostrat (R package; 3,500 downloads):** Functions to retrieve data from the Macrostrat geological database. doi: [10.5281/zenodo.13143095](https://doi.org/10.5281/zenodo.13143095). (source code: <https://github.com/palaeoverse/rmacrostrat/>)
- **rredlist (R package; 377,000 downloads):** Functions to retrieve data from the IUCN Red List, a database on global extinction risk. (source code: <https://github.com/ropensci/rredlist/>)
- **pcmtools (R package):** Various tools to help with performing phylogenetic comparative methods and curating/visualizing the results. doi: [10.5281/zenodo.3477539](https://doi.org/10.5281/zenodo.3477539). (source code: github.com/willgearty/pcmtools)
- **paleopal (R-based webapp):** A webapp that helps paleontologists develop data science workflows with a point-and-click interface and translates the workflow into R code on-the-fly. Prototype demo: <http://williamgearty.com/paleopal/> (source code: <https://github.com/willgearty/paleopal>)
- **Schizomida Trait Data Base (R-based webapp):** A webapp that hosts a database for Schizomida, an order of arachnids known as short-tailed whip-scorpions. Live at <https://williamgearty.com/Schizomida/> (source code: <https://github.com/willgearty/Schizomida>)
- **ESP-Website:** A website to help manage the logistics of large short-term educational programs (source code: github.com/learning-unlimited/ESP-Website)

PRESENTATIONS

^undergraduate student #graduate student

Invited Presentations:

- 14) At the Interface of Evolutionary Biology, Data Science, and (Geo)informatics. 2025. Form & Function Focus Group, BioInspired Institute, Syracuse University.
- 13) The impact of fossil tip age on reconstructing trait evolution using phylogenetic comparative methods. 2024. Department of Biosystems Science and Engineering, ETH Zurich.
- 12) Using Information and Data Science to Conduct Research, Assess Error, and Build Communities in Paleontology and the Earth Sciences. 2024. Harvard-Smithsonian Center for Astrophysics.
- 11) The rock and fossil records as sources of error and information in the analysis of biodiversity data. 2024. American Museum of Natural History Comparative Biology Seminar.
- 10) Body Mass Constraints on Aquatic Invasions in Tetrapods. 2022. Pal(a)eoPERCS (Pal(a)eo EaRly Career Seminar).
- 9) The Energetics of Biodiversity. 2021. University of Nebraska-Lincoln Ecology and Evolutionary Biology Seminar.

- 8) Physiological Constraints of Aquatic Invasions in Tetrapods. 2020. Southeastern Louisiana University Biological Sciences Seminar.
- 7) Physiological Constraints of Aquatic Invasions in Tetrapods. 2020. University of Washington Paleolunch Seminar.
- 6) Physiological Constraints of Aquatic Invasions in Tetrapods. 2019. University of Nebraska-Lincoln Ecology and Evolutionary Biology Seminar.
- 5) So, you want to live in the water? A tale of why aquatic mammals are so big. 2019. University of California Museum of Paleontology Annual Short Course.
- 4) Making Publication Quality Figures in R. 2019. Stanford Earth SkillShare Series.
- 3) Introduction to R. 2019. Stanford Earth SkillShare Series.
- 2) Energetically driven convergence and other dynamics of the body size evolution of secondarily aquatic vertebrates. 2018. University of California Museum of Paleontology Fossil Coffee.
- 1) Using CT Data to Score Taxa for Phylogenetic Analyses. 2017. iDigBio Workshop on Using Digitized Paleontological Data in Research.

Conference and Workshop Presentations and Posters:

- 38) **Gearty, W.** 2025. paleopal: a highly interactive Shiny app for building reproducible data science workflows in paleontology. *Geological Society of America Abstracts with Programs*. Vol 57, No. 6.
- 37) **Gearty, W.** 2025. paleopal: a highly interactive Shiny app for building reproducible data science workflows in paleontology. *USRSE'25*. doi: [10.5281/zenodo.17260012](https://doi.org/10.5281/zenodo.17260012).
- 36) **Gearty, W.** 2025. paleopal: a highly modular and interactive Shiny app for building reproducible data science workflows in paleontology. *useR! 2025*.
- 35) Allen, B.J., **Gearty, W.**, Godoy, P.L., Chiarenza, A.A. 2024. Including fossil tips often, but not always, vastly improves the reconstruction of trait evolution using phylogenetic comparative methods. *Evolution* 2024.
- 34) **Gearty, W.**, Tomé, C.P., Smith, F.A., Lyons, S.K. 2024. The introduction of large mammals has not remedied the ecological impact of the Late Pleistocene extinctions. *12th North American Paleontological Conference. Papers on Paleontology* #39.
- 33) **Gearty, W.**, Allen, B.J., Godoy, P.L., Chiarenza, A.A. 2023. Including fossil tips often, but not always, vastly improves the reconstruction of trait evolution using phylogenetic comparative methods. *Geological Society of America Abstracts with Programs*. Vol 55, No. 6.
- 32) Jones, L.A., **Gearty, W.**, Allen, B.J., Eichenseer, K., Dean, C.D., Galván, S.[#], Godoy, P.L., Nicholl, C.[#], Dillon, E.M., Chiarenza, A.A. 2023. palaeoverse: A community-driven R package to support palaeobiological analysis. *Geological Society of America Abstracts with Programs*. Vol 55, No. 6.
- 31) Payne, J.L., Bak, T.M., Beatty, C.D., **Gearty, W.**, Heim, N., Klompmaker, A., Knope, M.L., Monarrez, P., Munstermann, M., Myrup, K. 2023. Human harvesting is the most pervasive threat to larger vertebrate and invertebrate animals. *Geological Society of America Abstracts with Programs*. Vol 55, No. 6.
- 30) Smith, Q.[#], Shizuka, D., Tomé, C.P., **Gearty, W.**, Smith, F.A., Lyons, S.K. 2023. Changes in the structure of hall's cave food web networks over the last 22,000 are associated with climate change. *Geological Society of America Abstracts with Programs*. Vol 55, No. 6.
- 29) Allen, B.J., **Gearty, W.**, Godoy, P., and Chiarenza, A.A. 2023. The impact of fossil tips on reconstructing trait evolution using phylogenetic comparative methods. *The Palaeontological Association 67th Annual Meeting*.

- 28) Lyons, S.K., Tomé, C.P., Freymueller, N.[#], **Gearty, W.**, Keller, J.[#], Pardi, M.I., Elliott Smith, E.A., Smith, F.A., Smith, Q.[#], Wagner, P.J. 2023. Changes in small mammal abundance distributions following the end-Pleistocene loss of large mammal ecosystem engineers. 2023. *13th International Mammalogical Congress*.
- 27) Jones, L.A., Eichenseer, K., **Gearty, W.**, Galván, S.[#], Allen, B.J., Dean, C.D., Chiarenze, A.A., Kouvari, M.[#], Buffan, L.[#], Dunne, E.M., Nicholl, C.[#], Godoy, P.L., Monarrez, P., Dillon, E.M. 2022. palaeoverse: a community-driven R package to support palaeobiological analysis. *1^o Simposio de Paleontología del Noroeste Peninsular*.
- 26) Jones, L.A., Eichenseer, K., **Gearty, W.**, Galván, S.[#], Allen, B.J., Dean, C.D., Chiarenze, A.A., Kouvari, M.[#], Buffan, L.[#], Dunne, E.M., Nicholl, C.[#], Godoy, P.L., Monarrez, P., Dillon, E.M. 2022. palaeoverse: a community-driven R package to support palaeobiological analysis. *The 6th International Palaeontological Congress*.
- 25) **Gearty, W.**, 2022. The complex history of extinction and origination selectivity in Crocodylomorpha. *Journal of Vertebrate Paleontology*, Program and Abstracts, 2022.
- 24) **Gearty, W.**, 2022. Selective extinction and random origination drove the short-lived nature of large and marine crocodylomorph clades. *Geological Society of America Abstracts with Programs*. Vol 54, No. 5.
- 23) Lyons, S.K., Tomé, C.P., Freymueller, N.[#], **Gearty, W.**, Keller, J.[#], Pardi, M.I., Elliott Smith, E.A., Smith, F.A., Smith, Q.[#], Wagner, P.J. 2022. Changes in small mammal abundance distributions following the loss of large mammal ecosystem engineers at the terminal Pleistocene. 2022. *Geological Society of America Abstracts with Programs*. Vol 54, No. 5.
- 22) Smith, Q.[#], Shizuka, D., Tomé, C.P., **Gearty, W.**, Smith, F.A., Lyons, S.K. 2022. Changes in mammalian networks across the Pleistocene-Holocene transition as a result of the megafaunal extinction. *Geological Society of America Abstracts with Programs*. Vol 54, No. 5.
- 21) **Gearty, W.**, Cooke, R.S.C., Chapman, A.S.A., Dunic, J.[^], Edgar, G.J., Lefcheck, J.S., Rilov, G., McClain, C.R., Stuart-Smith, R.D., Lyons, S.K., and Bates, A.E. 2022. Humans are disrupting a longstanding trophic-size structure in vertebrates. *International Biogeography Society 10th Biennial Conference*.
- 20) Lyons, S.K., Tomé, C.P., Freymueller, N.[#], **Gearty, W.**, Keller, J.[#], Pardi, M.I., Elliott Smith, E.A., Smith, F.A., Smith, Q.[#], Wagner, P.J. 2022. Changes in small mammal species distributions following the terminal Pleistocene megafauna extinction. 2022. *International Biogeography Society 10th Biennial Conference*.
- 19) **Gearty, W.**, Carrillo, E.[^], and Payne, J.L. 2021. Ecological filtering and exaptation in the evolution of marine snakes. *Geological Society of America Abstracts with Programs*. Vol 53, No. 6.
- 18) Boag, T.H., **Gearty, W.**, and Stockey, R.G. 2021. Metabolic tradeoffs control biodiversity gradients through geological time. *Geological Society of America Abstracts with Programs*. Vol 53, No. 6.
- 17) **Gearty, W.** 2020. Body size and habitat extinction selectivity in Crocodyliformes. *Geological Society of America Abstracts with Programs*. Vol 52, No. 6.
- 16) **Gearty, W.** and Payne, J.L. 2019. Pathways to the marine realm in Serpentes. *Geological Society of America Abstracts with Programs*. Vol. 51, No. 5.
- 15) Carrillo, E.[^], **Gearty, W.**, and Payne, J.L. 2019. Factors that predict reproductive mode in snakes. *Evolution* 2019.
- 14) Boag, T., **Gearty, W.**, and Stockey, R. 2019. Exploring the role of ecophysiology and metabolism in governing marine latitudinal biodiversity gradients during past icehouse and

greenhouse climates. *11th North American Paleontological Conference Program with Abstracts. Paleobios*, 36.

- 13) **Gearty, W.** and Payne, J.L. 2019. Energetics drives convergent gigantism in marine Crocodyliformes. *11th North American Paleontological Conference Program with Abstracts. Paleobios*, 36.
- 12) **Gearty, W.** 2019. Physiological constraints on body size distributions in Crocodyliformes. *NorCal Paleo Conference*.
- 11) **Gearty, W.** and Payne, J.L. 2018. Dynamics of the body size evolution of crocodyliformes. *Geological Society of America Abstracts with Programs*. Vol. 50, No. 6.
- 10) Ormsby, C.^, **Gearty, W.**, and Payne, J.L. 2018. The effect of habitat on diversification rate in snakes. *Geological Society of America Abstracts with Programs*. Vol. 50, No. 6.
- 9) **Gearty, W.** and Payne, J.L. 2018. Convergent body size evolution of crocodyliformes upon entering the aquatic realm. *Society of Integrative and Comparative Biology 2018*.
- 8) **Gearty, W.**, McClain, C.R., and Payne, J.L. 2017. Energetics both promote and limit aquatic mammal gigantism. *Geological Society of America Abstracts with Programs*. Vol. 49, No. 6.
- 7) **Gearty, W.** and Payne, J.L. 2017. Convergent body size evolution of crocodyliformes upon entering the aquatic realm. *Evolution 2017*. [**Honorable mention for Ruth Patrick Student Poster Award**]
- 6) **Gearty, W.**, McClain, C.R., and Payne, J.L. 2016. The evolution of aquatic mammals toward a nearly universal large size? Evidence from phylogenetics and fossils. *Geological Society of America Abstracts with Programs*. Vol. 48, No. 7.
- 5) Benjamin, M.^, **Gearty, W.**, Payne, J.L. 2015. Evolution of Larger Body Length during Transitions from Terrestrial to Aquatic Habitats in Snakes (Suborder Serpentes). Stanford Bio-X Interdisciplinary Initiatives Symposium.
- 4) **Gearty, W.** and Payne, J.L. 2015. Phylogenetic and fossil evidence for a common body size attractor in marine mammals. *Geological Society of America Abstracts with Programs*. Vol. 47, No. 7. [**Honorable mention for GBGM Division Student Awards**]
- 3) **Gearty, W.** and Gauthier, J. 2014. Resolving the Relationships of the Squamate Tree of Life: An Assessment of New Approaches and Problems. *Journal of Vertebrate Paleontology*, Program and Abstracts, 2014, 136.
- 2) **Gearty, W.**, D'Alba, L., Vinther, J., Shawkey, M., Field, D. 2013. Melanin concentration gradients in modern and fossil feathers. *Journal of Vertebrate Paleontology*, Program and Abstracts, 2013, 132.
- 1) **Gearty, W.** and Payne, J.L. 2012. Assessing the completeness of the fossil record using brachiopod Lazarus taxa. Fall Meeting, *American Geophysical Union San Francisco, Calif.*, 3-7 Dec. Abstract B11A-0387.

Book Reviews:

- Gearty, W.** 2020. "Nature's Giants: The Biology and Evolution of the World's Largest Lifeforms by Graeme D. Ruxton". *The Quarterly Review of Biology* 95(2), pg. 141.
- Gearty, W.** 2019. "The Rise of Marine Mammals by Annalisa Berta". *Fossil News*.
- Gearty, W.** 2018. "Exploration & Discovery: Treasures of the Yale Peabody Museum of Natural History by David K. Skelly and Thomas J. Near". *The Quarterly Review of Biology* 93(2), pg. 128.
- Gearty, W.** 2016. "The Worst of Times: How Life on Earth Survived Eighty Million Years of Extinctions by Paul B. Wignall". *The Quarterly Review of Biology* 91(4), pg. 500.

FELLOWSHIPS AND LARGE GRANTS

Norman Newell Early Career Grant (\$5,000)	2023
Lerner-Gray Postdoctoral Research Fellowship (\$67,000/year)	2022-2024
Population Biology Program of Excellence Postdoctoral Fellowship (\$45,000/year)	2019 – 2022
ARCS Foundation Scholar Award (\$42,400)	2018 – 2019
Richard and Megumi Strathmann Endowed Fellowship, Friday Harbor Labs (\$1,600)	2015
Yale College Dean's Research Fellowship in the Sciences (\$3,300)	2013
Richter Summer Fellowship for Independent Study or Research (\$1,000)	2013
Karen Von Damm '77 Undergraduate Research Fellowship (\$2,000)	2013

OTHER GRANTS

UNL Postdoc Travel Grant	2021
NAPC Student Travel Grant	2019
GSA Annual Meeting Student Travel Grant (Cordilleran Section)	2015, 2016, 2018
Jackson School of Geosciences SVP Student Member Travel Grant	2013

HONORS AND AWARDS

Outstanding Postdoc Award, University of Nebraska-Lincoln	2022
Centennial Teaching Assistant Award, Stanford University	2019
Yale Club of New Haven Gregory Yamanaka Ph.D. '76 B.A. Senior Essay Prize	2014
William R. Belknap Prize for Excellence in Geological Studies	2014

TEACHING EXPERIENCE

Richard Gilder Graduate School, American Museum of Natural History:

RGGS660: Extinction Science	2023
<ul style="list-style-type: none"> Guest lecturer on Early Cenozoic radiations/PETM extinctions and Late Pleistocene extinctions 	

University of Nebraska-Lincoln:

Phylogenetic Comparative Methods	2020
<ul style="list-style-type: none"> Taught seminar course for graduate students on recent developments of methods and their applications 	

Stanford University:

GS 128/228 – Evolution of Terrestrial Ecosystems	Winter 2017-2018
<ul style="list-style-type: none"> Head teaching assistant, revised lab exercises that I co-developed during the previous year, co-taught lab sections 	
GS 123/223B – Evolution of Marine Ecosystems	Fall 2017-2018
<ul style="list-style-type: none"> Developed and taught a new lab curriculum focused on hands-on learning with fossil specimens and statistical programming exercises 	
GS 128/228 – Evolution of Terrestrial Ecosystems	Winter 2016-2017
<ul style="list-style-type: none"> Co-developed and co-taught a new lab curriculum focused on hands-on learning with zoological and paleontological specimens and data analysis exercises 	

GS 4 – Coevolution of Earth and Life

Autumn 2016-2017, Autumn 2018-2019

- Head teaching assistant and lecturer

GS 123/223 – Paleobiology

Spring 2015-2016

- Teaching assistant, ran lab sections

GS 4 – Coevolution of Earth and Life

Spring 2014-2015, Winter 2015-2016

- Teaching assistant and lecturer

MENTORING EXPERIENCE

Siddhi Shitole, Master's Student (Syracuse University)	2025 –
Udayan Gaikwad, Master's Student (Syracuse University)	2025 –
Aryan Apte, Master's Student (Syracuse University)	2024 –
Alora Schneider, Undergraduate Student (University of Nebraska-Lincoln)	2024 – 2025
Elizabeth Millsap, Undergraduate Student (University of Nebraska-Lincoln)	2020 – 2022
Matthew Craffey, Graduate Student (University of Nebraska-Lincoln)	2019 – 2024
Katherine Jordan, Graduate Student (University of Nebraska-Lincoln)	2019 – 2024
Alexandria Shupinski, Graduate Student (University of Nebraska-Lincoln)	2019 – 2024
Niza Contreras, Undergraduate Student (Stanford University)	2018 – 2020
Christianne Ormsby, Undergraduate Student (San Diego State University)	2018
Elsie Carrillo, Middle School Teacher (San Jose, CA)	2018
Adam Kazerounian, High School Student (Danville, CA)	2017
Margaret Deng, Undergraduate Student (University of California, San Diego)	2016
Alexander Ivanov, High School Student (Palo Alto, CA)	2016
Matthew Benjamin, Undergraduate Student (Stanford University)	2015 – 2016

PROFESSIONAL DEVELOPMENT

Scientific Communication Advances Research Excellence	2022
Advancing Learning Through Evidence-Based STEM Teaching	2022
Inclusive STEM Teaching Project	2021
Transforming Your Research Into Teaching, UNL/CIRTL	2021
NextProf Science, University of Michigan LSA	2021
Writing Winning Grant Proposals (UNL and Grant Writers' Seminars & Workshops)	2021
Pedagogy and Technology in the Modern Paleontology Classroom (Paleontological Society Short Course)	2018
Preparing Future Professors, Stanford University VPGE	2017 – 2018

SERVICE AND OUTREACH

<i>Handling Editor</i> , The Journal of Open Source Software	2025 – Present
<i>Handling Editor</i> , Open Palaeontology	2024 – Present
<i>Social Media Coordinator</i> , Paleontological Society	2021 – 2024
<i>Board of Directors</i> , Yale Undergraduate Jazz Collective	2020 – Present
<i>Director of Web Services</i> , Learning Unlimited Inc.	2018 – Present
<i>Volunteer</i> , Geokids Program	2016 – 2019
<i>Field Trip Leader</i> , Summer Undergraduate Research in Geoscience and Engineering	2016
<i>President</i> , Graduate Students Advisory Committee	2016 – 2018

<i>Co-Director, Stanford Splash</i>	2016
<i>Geological Sciences Representative, Graduate Students Advisory Committee</i>	2015 – 2018
<i>Technology and Web Chair, Stanford Splash</i>	2015 – 2019
<i>New Graduate Student Orientation Coordinator, Geological Sciences Dep't</i>	2015 – 2017
<i>Social Events Coordinator, Stanford School of Earth, Energy, and Env. Sciences</i>	2014 – 2018
<i>Communications Chair, Stanford Splash</i>	2014 – 2018
<i>Volunteer Teacher of Evolution and Geology, Splash @ Yale/Stanford Splash</i>	2013 – 2019
<i>Beat Reporter, Yale Scientific Magazine</i>	2012 – 2014
<i>President, Club Geo, Yale University</i>	2012 – 2013
<i>"Meet the Scientist" Paleontology Educator, Yale Peabody Museum</i>	2012 – 2013

PEER REVIEW EXPERIENCE

<i>Biology Letters</i>	<i>Nature Communications</i>
<i>Cambridge Elements</i>	<i>Nature Ecology & Evolution</i>
<i>Cambridge Prisms: Extinction</i>	<i>Paleobiology</i>
<i>Current Biology</i>	<i>Palaeontology</i>
<i>Ecology and Evolution</i>	<i>PeerJ</i>
<i>Ecology Letters</i>	<i>Proceedings of the National Academy of Sciences</i>
<i>Evolution</i>	<i>Proceedings of the Royal Society B: Biological Sciences</i>
<i>Global Ecology and Biogeography</i>	<i>Science Advances</i>
<i>Journal of Mammalian Evolution</i>	<i>Systematic Biology</i>
<i>Journal of Mammalogy</i>	<i>The American Naturalist</i>
<i>Methods in Ecology and Evolution</i>	<i>The R Journal</i>

SKILLS

- Programming, data analysis, data visualization
 - R and Python (advanced)
 - SAS, C/C++, and Fortran (proficient)
- Phylogenetic and cladistic analysis, systematics, phylogenetic comparative methods
- Paleobiology, macroecology, historical geology, comparative biology
- Fossil preparation, conservation, and preservation in the field and the lab
- CT Scan analysis (fossil and modern specimens) using VG Studio MAX
- Computer processing (Microsoft Office, etc.), audio/video editing, Adobe Photoshop

MEMBERSHIPS

United States Research Software Engineer Association	2024 – Present
Society of Vertebrate Paleontology	2022 – Present
American Society of Naturalists	2017 – Present
Society of Systematic Biologists	2014 – Present
Society for the Study of Evolution	2014 – Present
The Paleontological Society	2011 – Present
Geological Society of America	2011 – Present