

Curriculum Vitae
Kiersten K. Formoso
Presidential Postdoctoral Fellow, Rutgers University

Dept. of Ecology, Evolution, & Natural Resources
14 College Farm Road
New Brunswick, NJ 08901

k.formoso@rutgers.edu | (973) 459-9697
www.formorphology.com | @Formorphology

EDUCATION

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|---|-----------|
| ❖ University of Southern California, Los Angeles, CA, USA | 2018-2023 |
| • Ph.D., Geological Sciences | |
| ❖ Virginia Tech, Blacksburg, VA, USA | 2016-2017 |
| • Graduate studies, Geosciences (no degree obtained) | |
| ❖ Rutgers University | 2012-2016 |
| • B.Sc., Ecology, Evolution, and Natural Resources | |
| • Minor in Music | |

AFFILIATIONS

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| ❖ Research Associate | 2024-present |
| • American Museum of Natural History, Division of Paleontology | |
| ❖ Research Associate | 2020-present |
| • Natural History Museum of Los Angeles County, Dinosaur Institute | |

EMPLOYMENT HISTORY

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| ❖ Presidential Postdoctoral Fellow | 2024-present |
| • Rutgers University,
Department of Ecology, Evolution, and Natural Resources | |

EXTERNAL GRANTS AND FELLOWSHIPS

Total amount of funding received: \$150,000

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| ❖ Graduate Research Fellowship (NSF GRFP) | 2018-2023 |
| • National Science Foundation, \$138,000 | |
| ❖ Fellowship for Graduate Student Travel | 2022 |
| • Society of Integrative and Comparative Biology, \$2500 | |
| ❖ Graduate Student Research Grant | 2021 |
| • Geological Society of America (GSA), \$2000 | |
| ❖ Student Research Grant | 2020 |
| • Paleontological Society, \$1000 | |
| ❖ Student Research Grant | 2020 |
| • Evolving Earth Foundation, \$3500 | |
| ❖ Student Travel Grant | 2019 |
| • GSA Cordilleran Section, \$500 | |
| ❖ Graduate Student Research Grant | 2017 |
| • Geological Society of America (GSA) \$2000 | |
| ❖ Student Travel Grant | 2017 |
| • Jackson School of Geosciences, \$500 | |
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PEER-REVIEWED PUBLICATIONS

Total Citations: 219; h-index: 4

- 5) **Formoso, K. K.**, Cribb, A. T., Woolley, C. H., Beech, J., Brophy, S., Byrne, P., Cassady, V.C., Godbold, A.L., Larina, E., Maxeiner, P. P., Wu, Y.H., Corsetti, F. A., & Bottjer, D. J. (2023). Contrasting terrestrial and marine ecospace dynamics after the end-Triassic mass extinction event. *Proceedings of the Royal Society B*, 290(2012), 20232232. <https://doi.org/10.1098/rspb.2023.2232>
- 4) **Formoso, K. K.**, Habib, M. B., & Vélez-Juarbe, J. (2023). The Role of Locomotory Ancestry on Secondarily Aquatic Transitions. *Integrative and Comparative Biology*, 63(6), 1140-1153. <https://doi.org/10.1093/icb/icad112>
- 3) Sereno, P. C., Myhrvold, N., Henderson, D. M., Fish, F. E., Vidal, D., Baumgart, S. L., Keillor, T. M., **Formoso, K. F.**, & Conroy, L. L. (2022). Spinosaurus is not an aquatic dinosaur. *Elife*, 11, e80092. <https://doi.org/10.7554/eLife.80092>
- 2) Griffin, C. T., Stocker, M. R., Colleary, C., Stefanic, C. M., Lessner, E. J., Riegler, M., **Formoso, K.**, Koeller, K., & Nesbitt, S. J. (2021). Assessing ontogenetic maturity in extinct saurian reptiles. *Biological Reviews*, 96(2), 470-525. <https://doi.org/10.1111/brv.12666>
- 1) **Formoso, K.**, Nesbitt, S. J., Pritchard, A. C., Stocker, M. R., & Parker, W. G. (2019). A long-necked tanystropheid from the Middle Triassic Moenkopi Formation (Anisian) provides insights into the ecology and biogeography of tanystropheids. *Palaeontologia Electronica*, 22, 1–15. <https://doi.org/10.26879/988>

In Prep

- 6) **Formoso KK**, Habib MB, Cieri R, Fish FE. Mosasaur caudal variation and burst performance: evolutionary and ecological insights from four reconstructions. Imminently submitting to *Proceedings of the Royal Society B*.
- 7) **Formoso KK**, Lloyd G, Habib MB, Velez-Juarb J, Bottjer D. Constraint and release in axial and appendicular modules of secondarily aquatic amniotes. In prep for *Nature Ecology and Evolution*.
- 8) **Formoso KK**, Giljarhus KET, Flammang B. Surface swimming drag of terrestrial amniotes and insights into secondarily aquatic transformations and lack thereof. In prep for *Journal of Experimental Biology*.
- 9) Ghosh N, Grusxka P, Woolley HC, **Formoso KK**. Cribb AT. Comparing ecological signatures of ancient and modern extinction. In prep for *Current Biology*.

STUDENT ADVISING AND MENTORING

- ❖ **Maia Klarin**, 4+1 Master's Student, Earth and Planetary Sciences—co-advising
 - ❖ **Leah Kapps**, Undergraduate, George H. Cook Scholar—Honors Thesis reader
 - ❖ Provided comprehensive paleontology career guidance to numerous undergraduates in Ecology, Evolution, and Natural Resources (SEBS), and Earth and Planetary Sciences (SAS)
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AWARDS, HONORS, AND RECOGNITION

❖ Forbes 30 Under 30	2023
❖ Best Student Poster	2022
• Paleontological Society, Geological Society of America Annual Meeting	
❖ Best Lightning Talk	2022
• Palaeontological Association Annual Meeting	
❖ Inaugural Communicator of the Year (PhD student category)	2022
• University of Southern California, Dornsife College of Letters, Arts & Sciences	
❖ Steven Vogel Award	2022
• Society of Integrative and Comparative Biology (SICB) Annual Meeting	
❖ Liem Award for Best Student Poster	2022
• Society of Integrative and Comparative Biology (SICB) Annual Meeting	
❖ Albert E. Wood Award	2021
• Society of Vertebrate Paleontology (SVP)	
❖ Winnifred Goldring Award	2020
• Association for Women Geoscientists (AWG)	
❖ Student Research Prize	2019
• USC Paleosciences Research Consortium (PRC)	
❖ P. Smouse Award for Outstanding Student in Evolution	2016
• Rutgers University, Department of Ecology, Evolution, and Natural Resources	

SELECT CONFERENCE PRESENTATIONS

† = poster

- 14) **Formoso, K.** Correlations between degree of axial and appendicular change, derived swimming style, and ancestral terrestrial state in secondarily aquatic amniotes.
 - SECAD (Secondary Adaptation of Tetrapods to Life in Water), **2024**, Liège, Belgium
- 13) **Formoso, K.** Axial morphology may drive swimming style in secondarily aquatic tetrapods.
 - Society of Integrative and Comparative Biology Annual Meeting, **2023**, Austin, Texas
- 12) **Formoso, K.** Correlations between degree of axial and appendicular change, derived swimming style, and ancestral terrestrial state in secondarily aquatic amniotes.
 - Society of Vertebrate Paleontology 83rd Annual Meeting, **2023**, Cincinnati, Ohio
 - ***Selected for the Romer Prize Session for best student oral presentation.***
- 11) **Formoso, K., Lloyd, G., Bottjer, D.** Appendicular and axial modular change reveals different routes taken by secondarily aquatic reptiles and mammals.
 - Paleontological Association Annual Meeting, **2022**, Cork, Ireland.
 - ***Won best Lightning Talk***
- 10) †**Formoso, K.** Mosasaurs and Their Relative Burst and Cruise Capabilities.
 - Geological Society of America Annual Meeting, **2022**, Boulder, Colorado
 - ***Won Best Student Poster***
- 9) †**Formoso, K.** A functional matrix approach in comparing secondarily aquatic transitions across clades.
 - Society of Integrative and Comparative Biology Annual Meeting, **2022**, online.
 - ***Won Liem Award for Best Student Poster***

- 8) Cribb, A., **Formoso, K.**, Woolley, C., Beech, J., Brophy, S., Byrne, P.J., Cassady, V., Godbold, A., Larina, E., Maxeiner, P., Wu, Y., Corsetti, F., Bottjer, D. Decoupled Terrestrial and Marine Ecological Recovery after the End-Triassic Mass Extinction
 - Geological Society of America Annual Meeting, **2022**, Boulder, Colorado
- 7) †**Formoso, K.** Potential constraint and release driven by ancestral terrestrial posture in land-to-sea transitions: Insights from forelimbs across four land-to-sea amniote clades.
 - Society of Integrative and Comparative Biology Annual Meeting, **2021**, online.
- 6) †Foffa, D., Johnson, M.M., Schwab, J. A., **Formoso, K.K.**, Young, M.T. Changes in limb and body proportions and major habitat shifts in crocodylomorpha.
 - SECAD (Secondary Adaptation of Tetrapods to Life in Water), **2021**, Online
- 5) **Formoso, K.** Terrestrial posture and its controls on secondarily aquatic amniote evolution: forelimb changes in land-to-sea lineages.
 - Society of Vertebrate Paleontology 79th Annual Meeting, **2020**, Online
- 4) **Formoso, K.**, Habib, M.B., Bottjer, D.J. Reassessment of the Mosasaur Pectoral Girdle and its Role in Aquatic Locomotion
 - Geological Society of America Annual Meeting, **2019**
- 3) **Formoso, K.**, Habib, MB., Bottjer, DJ. Reassessing the mosasaur pectoral girdle and its role in swimming function: not entirely whale-like after all
 - Society of Vertebrate Paleontology 79th Annual Meeting, **2019**, Brisbane, Australia
- 2) **Formoso, K.K.**, Nesbitt, S. J., Stocker, M. R., Pritchard, A. C., Parker, W. 2018. A long-necked tanystropheid from the Middle Triassic southwest United States and its implications for the evolution and ecomorphology of archosauromorphs.
 - Northeast Regional Vertebrate Evolution Symposium (NERVES), **2018**, NYIT
- 1) †**Formoso, K.**, Nesbitt, S. J., Stocker, M. R., Pritchard, A. C., Parker, W. A Long-necked Tanystropheid from the Middle Triassic Moenkopi Formation gives Insights into the Biogeography and Ecology of Tanystropheids.
 - Society of Vertebrate Paleontology's 77th Annual Meeting, **2017**, Calgary, Alberta.
 - ***Selected for the Colbert Prize Session for best student poster.***

SELECT INVITED PUBLIC TALKS AND SEMINARS

† = public talk

- ❖ †**Keynote Talk:** Science, Art, and the Fake Barrier in Between
 - Nevada Museum of Art, STEAM Conference, **April 2025**
- ❖ †Inspiring the Impossible: Paleontology's Influence on Sci-Fi and Fantasy
 - Nevada Museum of Art, Public Talk, **April 2025**
- ❖ †Going for a Swim: Influences of Terrestrial Ancestry on Land-to-Sea Transformations
 - Royal Tyrrell Museum, Speaker Series, **April 2025**
- ❖ †Land Before Sea: Terrestrial Ancestry and Aquatic Morphology
 - Natural History Museum of Utah, DinoFest, **January 2025**
- ❖ †The Way of Water: Functional controls of land-to-sea transformations
 - Museum of the Rockies, Dinosaurs and MOR, **March 2024**
- ❖ Assessing the role of ancestral terrestrial morphology on the land-to-sea transition in secondarily aquatic amniotes.
 - Montana State University, Departmental Seminar, **March 2022**

- ❖ †Exploring the locomotor controls of the land-to-sea transition across marine reptiles and mammals.
 - Burpee Museum's PaleoFest, **February 2021**
- ❖ Investigating controls of ancestral terrestrial posture and associative locomotor functions on secondarily aquatic transitions in quadrupedal amniotes.
 - University of Washington PaleoLunch Seminar, **January 2021**
- ❖ Tanystropheids of the Triassic and Archosauromorph Radiation into semi-aquatic environments
 - University of Edinburgh Paleontology Group Seminar, **June 2020**

SELECT PUBLIC OUTREACH

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| ❖ Panelist, New York Comic Con | 2025 |
| ▪ Natural History of Monster Hunter | |
| ❖ Nerd Nite LA featured speaker | 2023 |
| ▪ Talk title: The Way of Water, The Evolution of Marine Tetrapods | |
| ❖ Featured speaker for Paleo Chats | 2022 |
| ▪ NHMLA's DinoFest | |
| ❖ Series Panelist | 2022 |
| ▪ Field Museum Black History Month Seminar | |
| ❖ "How to make a science meme" | 2022 |
| ▪ SICB Science Communication Workshop | |
| ❖ Spoke to a Cal State San Bernardino biology class, a Hispanic-Serving Institution about my career path. | 2022 |
| ❖ Table and specimen-based outreach | 2021 |
| ▪ Dino Fest, Natural History Museum of Los Angeles County's (NHMLA) | |
| ❖ Speaker, Mosasaurs | 2020 |
| ▪ Rutgers Geology Museum's "Ask a Geologist" | |
| ❖ USC STEMbytes seminar speaker where I shared my research in an accessible way for undergraduate students who are interested in research and graduate school. | 2020 |
| ❖ Guest speaker for the Mote Marine Laboratory and Aquarium STEMventure Online Summer Camp Program where I spoke about ancient marine reptiles. | 2020 |
| ❖ Represented USC Paleosciences and shared my research with the public at the Raymond M. Alf Museum of Paleontology's annual "Fossil Fest." | 2019 & 2020 |
| ❖ Featured panelist at Long Beach Comic Expo for the session "Pop Paleo" which discussed how paleontology influences popular culture. | 2020 |
| ❖ Presented my talk titled "Land was just a phase! I'm not that tetrapod anymore." at Nerd Nite LA, 2019, where speakers share various "nerdy" topics with the public in a stand-up setting. | |
| ❖ Gave a talk about my research and personal journey for "Project Scientist," a program that aims to get young girls, ages 4-12, interested in STEM fields. | 2019 |
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MEDIA AND PUBLICITY

Television and Film

- ❖ Series consultant and featured scientist 2026
 - Upcoming BBC program. To be featured in 2 episodes.
- ❖ Featured scientist and premier panelist 2024
 - *Why Dinosaurs?* Pinto Productions, upcoming PBS broadcast
- ❖ Episode consultant and featured scientist 2024
 - *Lost Beasts*, Season 2, Windfall Films
- ❖ Series consultant and featured scientist 2023
 - BBC and Apple TV+'s *Prehistoric Planet* Season 2
- ❖ Series consultant and featured scientist 2023
 - PBS NOVA's *Ancient Earth*
- ❖ Series consultant 2022
 - BBC and Apple TV+'s *Prehistoric Planet* Season 1

Public Writing

- ❖ *Prehistoric Planet* Discovering Dinosaurs program contributor, Lightroom, London. **2025.**
Wrote a piece on mosasaurs for the physical program that accompanies the Lightroom show.
- ❖ "Godzilla vs. Kong: A functional morphologist uses science to pick a winner." **2021.**
<https://theconversation.com/godzilla-vs-kong-a-functional-morphologist-uses-science-to-pick-a-winner-157101>

Media Coverage

- ❖ "Forbes 30 Under 30." 2023. <https://www.forbes.com/profile/kiersten-formoso/?sh=4fb8e5c11250>
- ❖ "These Prehistoric Sea Monsters Had a Mean Breast Stroke." *Smithsonian Magazine*. 2019.

Books

- ❖ Featured in the interactive Amazon Alexa children's book "Discover: Dinosaurs," by Weldon Owen and John Long. **Published 2025, Simon & Schuster.**
- ❖ Featured in the children's book "Everything You Know About Dinosaurs is Wrong" by Dr. Nick Crumpton. **Published 2021, Nosy Crow.**

Article Contributions

- ❖ "Barney's makeover has dinosaur experts scratching their heads: 'I don't even know where to start with it'." **2023.** <https://www.yahoo.com/entertainment/barney-makeover-dinosaur-experts-paleontologists-redesign-purple-t-rex-010536431.html>
- ❖ "Spinosaurus had penguin-like bones, a sign of hunting underwater." **2022.**
<https://www.nationalgeographic.com/science/article/spinosaurus-had-penguin-like-bones-a-sign-of-hunting-underwater>
- ❖ "Could dinosaurs swim? A new Fossil reveals an age-old debate." **2022.**
<https://www.nationalgeographic.com/magazine/article/swimming-dinosaur-new-fossil-natovenator>
- ❖ "When Coronavirus Closes Your Lab, Can Science Go On?" **2020.**
<https://www.nytimes.com/2020/03/23/science/coronavirus-closed-labs.html>

Podcasts

- ❖ See Jurassic Right, Back to School Series, **2025**
 - ❖ Terrible Lizards, Marine Reptiles, **2021**
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TEACHING

Postdoctoral Teaching

- ❖ Instructor 2025
 - Vertebrate Zoology (11:216:325), 4 credits
- ❖ Instructor 2024
 - Topics in Ecology, Evolution, and Natural Resources (11:216:104), 1 credit

Graduate Teaching and Development

- ❖ Completed USC's CET (Center for Excellence in Teaching) Future Faculty Teaching Institute's 14-week course. 2020
 - ❖ Teaching Assistant 2019, 2023
 - History of Life: A View from the Museum, LAB (GEOL 126)
 - ❖ Teaching Assistant 2018
 - Planet Earth (GEOL 105), University of Southern California
 - ❖ Teaching Assistant 2016-2017
 - Physical Geology Lab (GEOS 1104), Virginia Tech
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FIELD EXPERIENCE

Participant

- ❖ Ghost Ranch (Triassic), New Mexico 2021, 2022, 2024
 - ❖ Bears Ears National Monument (Jurassic, Triassic), Utah 2022
 - ❖ Bisti De-Na-Zin Wilderness (Late Cretaceous), New Mexico 2021
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PROFESSIONAL SERVICE

- ❖ Journal Peer Reviewer

PeerJ

Paleobiology

Scientific Reports

- ❖ Session Chair, Technical Session 157 D20. Paleontology: Vertebrate Paleobiology I
 - Geological Society of America Meeting, 2019
- ❖ Session Chair, Technical Session X: Paleontological Practices
 - Society of Vertebrate Paleontology 85th Annual Meeting, 2025