

C.L. TYLER

Email: [carrie.tyler@unlv.edu](mailto:carrie.tyler@unlv.edu) • phone: (702) 481-6884  
<https://carietyler.com>

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## EDUCATION

PhD Virginia Tech, Geosciences; Advisor: M. Kowalewski (2012)

MS San Diego State University, Geosciences; Advisor: L.R. Leighton (2007)

BA University of Colorado at Boulder (2000)

## POSITIONS

7/2022-present Assistant Professor of Paleontology, University of Nevada, Las Vegas

8/2021-7/2022 Associate Professor of Geology, Miami University of Ohio

8/2015-8/2021 Assistant Professor of Geology, Miami University of Ohio

8/2014-5/2015 Visiting Assistant Professor of Geology, Colorado College

8/2012-7/2014 Post-Doctoral Associate, Florida Museum of Natural History

## CONCURRENT APPOINTMENTS

2021-2022 Associate Professor of Ecology, Evolution, and Environmental Biology,  
Miami University of Ohio

2017-2021 Assistant Professor of Ecology, Evolution, and Environmental Biology,  
Miami University of Ohio

## EXTERNAL GRANTS

**National Science Foundation: Total \$1,396,894**

**2019-2024** “CAREER: *Identifying Ecosystem Properties Promoting Stability and Resistance: Modeling Late Ordovician Paleocommunity Dynamics and Functioning across the Richmondian Invasion*” – PI **C.L. Tyler** (EAR-1848232) \$555,734

**2016-2021** “*The Evolutionary Significance of Biotic Interactions: A Comparative Study utilizing Echinoid Associated Traces*” – PI’s **C.L. Tyler** and M. Kowalewski (SGP-1630475) \$342,595 [Collaborative proposal, \$112,573 to MU]

**2016-2021** “*Mesozoic Tethyan Paleocommunity Dynamics: Modelling Complexity and Stability During Times of Biotic Escalation and Community Restructuring*” – PI’s P.D. Roopnarine and **C.L. Tyler** (EAR-1629786) \$279,103 [Collaborative proposal, \$70,240 to MU]

**2011-2014** “*Higher-Taxon Fidelity: Comparative Taphonomy of Marine Benthic Associations in Holocene Depositional Systems of Coastal North Carolina*” – PI’s M. Kowalewski and **C.L. Tyler** (EAR-1053433) \$219,462

## MEDIA COVERAGE

2023 The Discovery Files (NSF) “*Ancient Marine Food Webs*” (January 5<sup>th</sup>)  
[https://www.nsf.gov/news/mmg/mmg\\_disp.jsp?med\\_id=188425&from=](https://www.nsf.gov/news/mmg/mmg_disp.jsp?med_id=188425&from=)

2022 EurekAlert! AAAS “*What ancient underwater food webs can tell us about the future of climate change*” <https://www.eurekalert.org/news-releases/972606>  
(November 28<sup>th</sup>)

Interviewed by *Hakai* magazine for comment on a recent article

Interviewed by *The Scientist* for a comment on a recent article <https://www.the-scientist.com/news-opinion/repeated-el-ni-o-events-could-spark-big-ecological-shifts-70507>

2020 Article featured on the cover of *PALAIOS* (May, vol. 35)

2018 Article featured on the cover of *PALAIOS* (October, vol. 33)

- 2017 Miami University ‘Top Media Stories’ “*Shellfish Graveyards offer Glimpse of Ocean’s Pristine Past*” (March 16<sup>th</sup>)
- 2017 Florida Museum “*Mollusk Graveyards are Time Machines to Oceans’ Pristine Past*” (March 1<sup>st</sup>)
- 2016 Miami University Office of the Advancement of Research and Scholarship “*Paleontologist Explores the Ecology and Evolution of Echinoids*” (November 3<sup>rd</sup>)
- 2016 Journal of the Geological Society Lyell pages banner feature (May 14<sup>th</sup>)
- 2015 Deep Sea News “*Celebrity Wax Sculptures for Snails*” (April 13<sup>th</sup>)  
Featured on the Bamfield Marine Sciences Centre website (November 19<sup>th</sup>)
- 2014 Scitable by Nature Education: Saltwater Science “[Making A Meal Of Things: How Crabs Handle Lunch](#)” (January 17<sup>th</sup>)

### EDITED BOOKS [1]

1. **Tyler, C.L.**, Schneider, C.L. (Eds.), 2018. Marine Conservation Paleobiology (Topics in Geobiology). *Springer Verlag, Cham*.

### PUBLICATIONS [23]

1. **Tyler, C.L.**, Kowalewski, M. *In Review*. The Quality of the Fossil Record Across Higher Taxa: Compositional Fidelity of Phyla and Classes in Benthic Marine Associations. *PeerJ*.
2. Petsios, E., Farrar†, L., Tennakoon, S., Jamal, F., Portell, R.W., Kowalewski, M., **Tyler, C.L.**, *Accepted*. The Ecology of Biotic Interactions in Echinoids: Modern Insights into Ancient Interactions. *Elements of Paleontology*.
3. \*\*Banker, R.M.W., Dineen, A.A., †Sorman, M.G., **Tyler, C.L.**, Roopnarine, P.D., 2022. Beyond Functional Diversity: The Importance of Trophic Position to Understanding Functional Processes in Community Evolution. *Frontiers in Ecology and Evolution*. <https://doi.org/10.3389/fevo.2022.983374>
4. Tennakoon, S., Portell, R.W., Petsios, E., **Tyler, C.L.**, Kowalewski, M., 2022. *Semicassis globosum* (Mollusca: Gastropoda: Cassidae) from the Upper Eocene Ocala Limestone of Florida with Redescription and Discussion of its Extreme Morphological Variability. *Historical Biology 1:14*. <https://doi.org/10.1080/08912963.2022.2063055>
5. Petsios, E., Portell, R.W., †Farrar, L., Tennakoon, S., Grun, T.B., Kowalewski, M., **Tyler, C.L.**, 2021. An Asynchronous Mesozoic Marine Revolution: The Cenozoic Intensification of Predation on Echinoids. *Proceedings of the Royal Society B 288(1947):20210400*. <https://doi.org/10.1098/rspb.2021.0400>
6. Leighton, L.R., **Tyler, C.L.**, 2021. Emergent Effects of Two Rocky Intertidal Predators on Prey: Interaction of Crabs and Sea-stars may Reduce Mussel Mortality. *Journal of Experimental Marine Biology and Ecology 539: 151542*. <https://doi.org/10.1016/j.jembe.2021.151542>
7. \*†Kempf, H.L., †Castro, I.O., Dineen, A.A., **Tyler, C.L.**, Roopnarine, P.D., 2020. Comparisons of Ecosystem Dynamics Before and After the Richmondian Invasion Reveal Consequences of Invasive Species in Benthic Marine Paleocommunities. *Paleobiology 46(3): 32-336*. <https://doi.org/10.1017/pab.2020.26>

8. †Farrar, L., \*Graves, E., Petsios, E., Portell, R.W., Grun, T.B., Kowalewski, M., **Tyler, C.L.**, 2020. Characterization of Traces of Predation and Parasitism on Fossil Echinoids. *PALAIOS* 35(5):215-227. <https://doi.org/10.2110/palo.2019.088>
9. **Tyler, C.L.**, Molinaro, D.J., Mendonca, S.E., Schneider, C.L., Leighton, L.R., 2019. Repair Scars Preserve Decadal Patterns of Predation Intensity Despite Short-term Ecological Disturbances. *Aquatic Conservation: Marine and Freshwater Ecosystems* 29:2018-2025. <https://onlinelibrary.wiley.com/doi/10.1002/aqc.3202>
10. **Tyler, C.L.**, Dexter, T.A., Portell, R.W., Kowalewski, M., 2018. Predation-Facilitated Preservation of Echinoids in a Tropical Marine Environment. *PALAIOS* 33(10):478-486. <https://doi.org/10.2110/palo.2018.046>
11. **Tyler, C.L.**, Kowalewski, M., 2018. Regional Surveys of Macrobenthic Shelf Invertebrate Communities in Onslow Bay, North Carolina, USA. *Scientific Data* 5:180054. <https://doi.org/10.1038/sdata.2018.54>
12. **Tyler, C.L.**, 2018. A Conceptual Map of Conservation Paleobiology: Visualizing a Discipline. *Marine Conservation Paleobiology*, C.L. Tyler and C.L. Schneider (Eds.), Springer Verlag, Cham, p227-254.
13. **Tyler, C.L.**, Schneider, C.L., 2018. An Overview of Conservation Paleobiology. *Marine Conservation Paleobiology*, C.L. Tyler and C.L. Schneider (Eds.), Springer Verlag, Cham, p1-10.
14. **Tyler, C.L.**, Kowalewski, M., 2017. Surrogate Taxa and Fossils as Reliable Proxies of Spatial Biodiversity Patterns in Marine Benthic Communities. *Proceedings of the Royal Society B: Biology*, 284:20162839. <https://doi.org/10.1098/rspb.2016.2839>
15. Leighton, L.R., Chojnacki, C.N., Stafford, E.S., **Tyler, C.L.**, Schneider, C.L., 2016. Categorization of Shell Fragments Provides a Proxy for Environmental Energy and Predation Intensity. *Journal of the Geological Society* 173:711-715. <https://doi.org/10.1144/jgs2015-086>
16. **Tyler, C.L.**, Leighton, L.R., Stafford, E.S., 2015. The Utility of Wax Replicas as a Measure of Crab Attack Frequency in the Rocky Intertidal. *Journal of the Marine Biological Association of the United Kingdom* 95(2):361-369. <https://doi.org/10.1017/S0025315414001210>
17. Stafford, E.S., **Tyler, C.L.**, Leighton, L.R., 2015. Gastropod Shell Repair Tracks Predator Abundance. *Marine Ecology* 36(4): 1176-1184. <https://doi.org/10.1111/maec.12219>
18. **Tyler, C.L.**, Kowalewski, M., 2014. The Utility of Marine Benthic Associations as a Multivariate Proxy for Paleo-Bathymetry. *PLoS One* 9(4). <https://doi.org/10.1371/journal.pone.0095711>
19. **Tyler, C.L.**, Leighton, L.R., Kowalewski, M., 2014. The effects of Limpet Morphology on Predation by Adult Cancrid Crabs. *Journal of Experimental Marine Biology and Ecology* 451:9-15. <https://doi.org/10.1016/j.jembe.2013.10.022>
20. Molinaro, D.J., Stafford, E.S., Collins, B.M.J., Barclay, K.M., **Tyler, C.L.**, Leighton, L.R., 2014. Peeling out Predation: A Test of Repair Scar Frequency as a Suitable Proxy for Predation Pressure along a Modern Predation Gradient. *Palaeogeography, Palaeoclimatology, Palaeoecology* 412:141-147. <https://doi.org/10.1016/j.palaeo.2014.07.033>

\* Undergraduate Advisees

† Graduate Advisees

\*† Combined BS/MS Program Students

\*\*Post-Doctorate Advisees

21. **Tyler, C.L.**, Leighton L.R., Carlson, S.J., Huntley, J.W., Kowalewski, M., 2013. Predation on Modern and Fossil Brachiopods: Assessing Chemical Defenses and Palatability. *PALAIOS* 28:724-735. <https://doi.org/10.2110/palo.2013.p13-037r>
22. **Tyler, C.L.**, Schiffbauer, J.D., 2012. The Fidelity of Microstructural Drilling Predation Traces and Gastropod Radula Morphology: Paleoecological Applications. *PALAIOS* 27:658-666. <https://doi.org/10.2110/palo.2012.p12-014r>
23. **Tyler, C.L.**, Leighton, L.R., 2011. Detecting Competition in the Fossil Record: Support for Character Displacement among Ordovician Brachiopods. *Palaeogeography, Palaeoclimatology, Palaeoecology* 307:205-217. <https://doi.org/10.1016/j.palaeo.2011.05.020>
24. Yanes, Y., **Tyler, C.L.**, 2009. Drilling Predation Intensity and Feeding Preferences by *Nucella* (Muricidae), on Limpets Inferred from a Dead-Shell Assemblage. *PALAIOS* 24:273-279. <https://doi.org/10.2110/palo.2008.p08-074r>
25. Schiffbauer, J.D., Yanes, Y., Tyler, C.L., Kowalewski, M., Leighton, L.R., 2008. The Microstructural Record of Predation: A New Approach for Identifying Predatory Drill Holes. *PALAIOS* 23:810-820. <https://doi.org/10.2110/palo.2008.p08-045r>

#### CONFERENCE ABSTRACTS [108]

1. Kowalewski, M., **Tyler, C.L.**, 2023. Compositional fidelity of phyla and classes in marine benthic associations. *EGU General Assembly*.
2. \*\*Banker, R.M.W., †Ess, M., Dineen, A.A., Roopnarine, P.D., **Tyler, C.L.**, 2022. Effect of the Richmondian Invasion on Late Ordovician Community Food Web Structure. *GSA Abstracts with Programs* 54(5).
3. Petsios, E., Portell, R.W., Kowalewski, M., **Tyler, C.L.**, 2022. Exploring the Evolutionary History and Taphonomic Processes in Parasite-Host Interactions: A Case Study of Cidaroid Echinoid Spine Galls. *GSA Abstracts with Programs* 54(5).
4. †Ess, M., \*\*Banker, R.M.W., Dineen, A.A., Roopnarine, P.D., **Tyler, C.L.**, 2022. Changes in Marine Functional Ecospace Utilization During the Richmondian Invasion (Late Ordovician). *AGU Abstracts*.
5. McLeod, C.L., Sipola, M., Brudzinski, M.R., Krekeler, M.P.S., **Tyler, C.L.**, 2022. Preparing Graduate Students for Success: Designing and Implementing an Onboarding Course. *The Original Lilly Conference on College Teaching (MU)*.
6. \*\*Banker, R.M.W., Dineen, A.A., **Tyler, C.L.**, Roopnarine, P.D., 2022. Trophic Expansion and Community Stability of Tethyan Ecosystems during the Mesozoic Marine Revolution. *Ocean Sciences Abstracts with Programs*.
7. †Ess, M., Dineen, A.A., Roopnarine, P.D., **Tyler, C.L.**, 2021. Marine Functional Ecospace Changes Across the Mesozoic Marine Revolution. *GSA Abstracts with Programs*.
8. \*\*Banker, R.M.W., Dineen, A.A., **Tyler, C.L.**, Roopnarine, P.D., 2021. Changing Food Web Dynamics and Trophic Structure during the Mesozoic Marine Revolution. *American Geophysical Union Abstracts with Programs*.
9. \*Hill, E.J., **Tyler, C.L.**, 2021. Changing Ecosystem Dynamics: Identifying Potential Impacts of Marine Invasions. *Geosciences Student Research Symposium (MU)*.

\* Undergraduate Advisees

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\*\*Post-Doctorate Advisees

10. \*\*Banker, R.M.W., Dineen, A.A., **Tyler, C.L.**, Roopnarine, P.D., 2021. Changing Community Dynamics during the Mesozoic Marine Revolution. *Ecological Society of America Abstracts with Programs*.
11. Petsios, E., Portell, R.W., †Farrar, L., Tennakoon, S., Grun, T.B., Kowalewski, M., **Tyler, C.L.**, 2021. The Paleobiology and Evolutionary History of Trace-Producing Biotic Interactions on Echinoids. *Paleontological Society Short Course*.
12. \*Hill, E.J., **Tyler, C.L.**, 2021. Changing Ecosystem Dynamics: Identifying the Potential Impacts of Marine Invasions. *Miami University Undergraduate Research Forum*.
13. \*Selm, A.D., **Tyler, C.L.**, 2021. Gastropods and their Urchin Prey through Geologic Time: Do Bigger Predators Need a Bigger Meal? *Miami University Undergraduate Research Forum*.
14. †Lapic, W., Petsios, E., Portell, R.W., Kowalewski, M., **Tyler, C.L.**, 2020. Spiny Urchins Make for a Prickly Meal in Ancient Seas. *Miami University Graduate Research Forum*.
15. **Tyler, C.L.**, Kowalewski, M., 2020. Live-dead Comparisons of the Marine Benthos Suggest that Fossil Assemblages Archive Trophic Information with High Fidelity. *TaphCon*.
16. **Tyler, C.L.**, Kowalewski, M., 2020. Live-dead comparisons of the marine benthos Suggest that Fossil Assemblages Archive Trophic Information with High Fidelity. *GSA Abstracts with Programs 52(6)*.
17. **Tyler, C.L.**, †Kempf, H.L., †Castro, I.O., †Sorman, M., Dineen, A.A., Roopnarine, P.D., 2020. Food Webs Through Time: From the Late Ordovician Richmondian Invasion to Phanerozoic Ecosystem Revolutions. *GSA Abstracts with Programs 52(6)*.
18. **Tyler, C.L.**, Petsios, E., Portell, R.W., Tennakoon, S., †Farrar, L., Grun, T.B., Kowalewski, M., 2020. The Echinoid Associated Traces (EAT) Database: A Global Repository for Images and Quantitative Data of Traces of Biotic Interactions on Echinoid Tests. *GSA Abstracts with Programs 52(6)*.
19. †Ess, M., \*Davis, J.R., †Sorman, M., Dineen, A.A., Roopnarine, P.D., **Tyler, C.L.**, 2020. Changes in the Structure and Organization of Mesozoic Marine Food Webs. *GSA Abstracts with Programs 52(6)*.
20. †Lapic, W., Petsios, E., Portell, R.W., Kowalewski, M., **Tyler, C.L.**, 2020. An asynchronous Mesozoic Marine Revolution: Drilling versus durophagy in post-Paleozoic echinoids. *GSA Abstracts with Programs 52(6)*.
21. \*Hill, E.J., **Tyler, C.L.**, 2020. The Ecology of Late Ordovician Cephalopods, and their Role in Food Web Structure. *GSA Abstracts with Programs 52(6)*.
22. Tennakoon, S., Grun, T.B., Jamal, F., Portell, R.W., Kowalewski, M., Petsios, L., **Tyler, C.L.**, 2020. Traces of Non-Lethal Predation in Fossil Sand Dollars from Florida. *GSA Abstracts with Programs 52(6)*.
23. Negron, K., Tennakoon, S., Jamal, F., Grun, T.B., Portell, R.W., Kowalewski, M., Petsios, E., **Tyler, C.L.**, 2020. Ecological and Paleoecological Implications of Marginal Traces in Echinoids from the Gulf of Mexico. *GSA Abstracts with Programs 52(6)*.

\* Undergraduate Advisees

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\*\*Post-Doctorate Advisees

24. Petsios, E., Portell, R.W., †Farrar, L., Tennakoon, S., Grun, T.B., Kowalewski, M., **Tyler, C.L.**, 2020. An Asynchronous Mesozoic Marine Revolution in Echinoids. *GSA Abstracts with Programs* 52(6).
25. Grun, T.B., Dexter, T.A., Petsios, E., **Tyler, C.L.**, Portell, R.W., Kowalewski, M., 2020. Multi-year Records of Predation on the Bahamian Sand Dollar *Leodia sexiesperforata*. *GSA Abstracts with Programs* 52(6).
26. Tennakoon, S., Petsios, E., Portell, R.W., †Farrar, L., Grun, T.B., Kowalewski, M., and **Tyler C.L.**, 2020. Drill-holes and Bite-marks Shed Light on the Role of Predation in the Evolution of Echinoids. *SACNAS*.
27. \*Davis, J.R., †Sorman, M., Dineen, A.A., **Tyler, C.L.**, Roopnarine, P.D., 2020. Changes in Food Web Structure in the Western Tethys Associated with the Mesozoic Marine Revolution. *Miami University Undergraduate Research Forum*.
28. Negron, K., Tennakoon, S., Grun, T.B., Portell, R.W., Kowalewski, M., Petsios, E., **Tyler, C.L.**, 2019. Comparison of Non-Lethal Predatory Traces in Recent and Fossil Sand Dollars. *South Eastern GSA Abstracts with Programs*.
29. **Tyler, C.L.**, \*†Kempf, H.L., †Castro, I.O., Dineen, A.A., Roopnarine, P.D., 2019. Changes in Ordovician Food Web Structure and Functioning Across the Richmondian Invasion (Cincinnati Series, USA). *GSA Abstracts with Programs* 51(5).
30. Grun, T.B., Dexter, T.A., Petsios, E., **Tyler, C.L.**, Portell, R.W., Kowalewski, M. 2019. Death in Paradise: Long-term Predation Patterns in the Bahamian Echinoid *Leodia*. *GSA Abstracts with Programs* 51(5).
31. Petsios, E., Portell, R.W., **Tyler, C.L.**, †Farrar, L., Kowalewski, M., 2019. Gall-Forming Parasitism on Cidaroid Echinoid Spines: Recent Behavioral Innovation or Taphonomic Artifact? *GSA Abstracts with Programs* 51(5).
32. \*Davis, J.R., †Sorman, M., Dineen, A.A., **Tyler, C.L.**, Roopnarine, P.D., 2019. Changes in Food Web Structure in the Western Tethys Associated with the Mesozoic Marine Revolution. *GSA Abstracts with Programs* 51(5).
33. Tennakoon, S., Jamal, F., Grun, T.B., Portell, R.W., Kowalewski, M., Petsios, E., **Tyler, C.L.** (2019). Non-lethal Traces of Predation in Tests of Recent and Fossil Echinoids. *GSA Abstracts with Programs* 51(5).
34. **Tyler, C.L.**, †Sorman, M., Dineen, A.A., Roopnarine, P.D., 2019. Food Web Modeling Reveals Community Reorganization in Ancient Marine Ecosystems. *The International Society for Ecological Modeling*.
35. **Tyler, C.L.**, †Sorman, M., Dineen, A.A., Roopnarine, P.D., 2019. Changes in Paleocommunity Structure Associated with the Mesozoic Marine Revolution in the Western Tethys. *North American Paleontological Convention*.
36. Petsios, E., **Tyler, C.L.**, Portell, R.W., †Farrar, L., Tennakoon, S., Kowalewski, M., 2019. Escalation of Echinoid-Associated Predatory and Parasitic Drilling the Mesozoic Marine Revolution. *North American Paleontological Convention*.
37. Dineen, A.A., Roopnarine, P.D., **Tyler, C.L.**, †Sorman, M., 2019. Food Web Dynamics During the Marine Mesozoic Revolution (MMR). *North American Paleontological Convention*.
38. Tennakoon, S., Portell, R.W., Kowalewski, M., Petsios, E., **Tyler, C.L.**, 2019. Morphological Disparity of Cenozoic cassinids (Mollusca: Gastropoda). *North American Paleontological Convention*.

\* Undergraduate Advisees

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\*\*Post-Doctorate Advisees

39. M. Kowalewski, Casebolt, S., Hyman, A.C., Jacoby, C.A., **Tyler, C.L.**, Frazer, T.K., 2019. Multi-millennial Stability of Benthic Communities Recorded in Surficial Mollusk Shell Accumulations. *North American Paleontological Convention*
40. †Farrar, L., \*Graves, E., Petsios, E., Portell, R.W., **Tyler, C.L.**, and Kowalewski, M., 2019. Nine Morphotypes of Biotic Traces Found on Fossil and Recent Echinoids. *North American Paleontological Convention*.
41. **Tyler, C.L.**, Kowalewski, M., 2019. Macro-invertebrate Death Assemblages Preserve Historical Community Structure in Nearshore Marine Assemblages. *Ecological Society of America Abstracts with Programs*.
42. Tennakoon, S., Portell, R.W., Kowalewski, M., Petsios, E., **Tyler, C.L.**, 2019. Fossil Cassids (Mollusca: Gastropoda) from the Upper Eocene Ocala Limestone of Florida. *Florida United Malacologists Abstracts with Programs (v. 10)*.
43. †Farrar, L., \*Graves, E., Petsios, E., Portell, R.W., Kowalewski, M., **Tyler, C.L.**, 2018. Tracking Traces of Predation and Parasitism on Fossil Echinoids Through Geologic Time. *Miami University Graduate Research Forum*.
44. †Sorman, M., Dineen, A.A., Roopnarine, P.D., **Tyler, C.L.**, 2018. Paleocommunity Dynamics in the Western Tethys. *Miami University Graduate Research Forum*.
45. **Tyler, C.L.**, 2018. A Conceptual Map of Conservation Paleobiology: Visualizing a Discipline. *GSA Abstracts with Programs 50(6)*.
46. **Tyler, C.L.**, Kowalewski, M., 2018. Quantifying the Fidelity of the Macro-Invertebrate Fossil Record Across Multiple Higher Taxa in Nearshore Marine Assemblages. *GSA Abstracts with Programs 50(6)*.
47. †Farrar, L., \*Graves, E., Petsios, E., Portell, R.W., Kowalewski, M., **Tyler, C.L.**, 2018. Characterizing Traces of Predation and Parasitism on Fossil Echinoids. *GSA Abstracts with Programs 50(6)*.
48. \*†Kempff, H.L., †Castro, I.O., **Tyler, C.L.**, Dineen, A.A., Roopnarine, P.D., 2018. Comparisons of Ecosystem Dynamics Before and After Invasion Reveal Consequences of Invasive Species in Benthic Marine Paleocommunities. *GSA Abstracts with Programs 50(6)*.
49. Petsios, E., **Tyler, C.L.**, Portell, R.W., Kowalewski, M., 2018. Trends in Drilling Predation and Parasitism on Echinoids During the Mesozoic Marine Revolution. *GSA Abstracts with Programs 50(6)*.
50. †Sorman, M., Dineen, A.A., Roopnarine, P.D., **Tyler, C.L.**, 2018. Mesozoic Paleocommunity Structure and Dynamics in the Western Tethys. *GSA Abstracts with Programs 50(6)*.
51. Tennakoon, S., Portell, R.W., Kowalewski, M., Petsios, E., **Tyler, C.L.**, 2018. Morphometric Analysis of Cenozoic Cassid Snails (Mollusca: Gastropoda). *GSA Abstracts with Programs 50(6)*.
52. Dineen, A.A., Roopnarine, P.D., †Sorman, M., **Tyler, C.L.**, 2018. Marine Mesozoic Revolution (MMR): Community Structure During a Time of Biotic Escalation and Evolutionary Diversification. *GSA Abstracts with Programs 50(6)*.
53. **Tyler, C.L.**, \*†Kempff, H.L., †Castro, I.O., Dineen, A.A., Roopnarine, P.D., 2018. Ecosystem Dynamics and the Consequences of Invasive Species. *5<sup>th</sup> International Palaeontological Congress*.

\* Undergraduate Advisees

† Graduate Advisees

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\*\*Post-Doctorate Advisees

54. †Farrar, L., \*Graves, E., Petsios, E., Portell, R.W., **Tyler, C.L.**, Kowalewski, M., 2018. Characterizing Traces of Predation and Parasitism on Fossil Echinoids. *5<sup>th</sup> International Palaeontological Congress*.
55. Dineen, A.A., **Tyler, C.L.**, Roopnarine, P.D., 2018. Complexity and Stability of Marine Paleocommunities During Escalation and Restructuring. *5<sup>th</sup> International Palaeontological Congress*.
56. †Sorman, M., Dineen, A.A., Roopnarine, P.D., **Tyler, C.L.**, 2018. Paleocommunity Dynamics in the Western Tethys Following the End-Triassic Extinction. *5<sup>th</sup> International Palaeontological Congress*
57. Petsios, E., **Tyler, C.L.**, Portell, R.W., Kowalewski, M., 2018. Trends in Drilling Predation and Parasitism on Echinoids During the Mesozoic Marine Revolution. *5<sup>th</sup> International Palaeontological Congress*.
58. Kowalewski, M., **Tyler, C.L.**, 2018. Comparative Fidelity of Higher Taxa in Benthic Marine Assemblages of Coastal North Carolina, USA: Implications for Conservation Paleobiology and Paleoecology. *5<sup>th</sup> International Palaeontological Congress*.
59. Tennakoon, S., Portell, R.W., Kowalewski, M., Petsios, E., **Tyler, C.L.**, 2018. Morphometric Analysis of Cenozoic Cassid Snails (Mollusca: Gastropoda) from Florida. *5<sup>th</sup> International Palaeontological Congress*.
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\* Undergraduate Advisees

† Graduate Advisees

\*† Combined BS/MS Program Students

\*\*Post-Doctorate Advisees



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\* Undergraduate Advisees

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\*\*Post-Doctorate Advisees

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\* Undergraduate Advisees

† Graduate Advisees

\*† Combined BS/MS Program Students

\*\*Post-Doctorate Advisees

C.L. TYLER

Email: [carrie.tyler@unlv.edu](mailto:carrie.tyler@unlv.edu) • phone: (702) 481-6884

<https://carietyler.com>

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## PRESENTATIONS

### Keynotes

- 2020 Topical Session the Geological Society of America Annual Conference
- 2018 International Geoscience Programme Project 653 Third Annual Meeting (Great Ordovician Biodiversity Event)

### Invited Talks

- 2023 Science Cafe
- 2022 University of Nevada, Las Vegas
- 2021 Virginia Tech
- 2019 University of North Carolina Chapel Hill  
The Ohio State University  
Natural History Museum of Los Angeles
- 2018 University of Alberta Grace Anne Stewart Speaker Series  
Department of Biology, Miami University of Ohio
- 2017 UC Davis Bodega Marine Laboratory  
Dallas Paleontological Society

\* Undergraduate Advisees

† Graduate Advisees

\*† Combined BS/MS Program Students

Post-doctoral Researchers

- University of Kentucky  
2016 Kent State University  
2014 Department of Geology, Miami University of Ohio  
Lake Superior State University  
Denison University  
2013 Vanderbilt University  
Colorado College  
University of Alabama  
2011 Colby College

**Symposium Panelist**

- 2018 The Bearded Lady Project: Issues and Experiences Unique to Women in Science  
(Miami University)  
2016 Mineralogical Society of America Career Forum (GSA)

**REVIEWER [31]**

*Ecology Letters (1), Journal of Morphology (1), Palaios (8), Paleobiology (1), PLoS One (1), Southeastern Geology (1), Springer Textbooks (1), Topics in Geobiology (2), Thalassas: An International Journal of Marine Sciences (3), Contemporary Trends in Geosciences (1), Palaeogeography, Palaeoclimatology, Palaeoecology (1), Journal of Experimental Marine Biology and Ecology (1), Alcheringa (1), Ecology (1), Palaeontologia Electronica (1), Proceedings of the Royal Society: Biology (1), Marine Ecology Progress Series (2); Geology (1); Frontiers in Ecology and Evolution (2)*

**FUNDING AGENCY REVIEWS AND ADVISORY PANELS**

- 2020 Reviewer – Reinforcing Women in Research (REWIRE) Fellowship Programme, University of Vienna  
2019, 2020 Advisory Panelist – National Science Foundation, Earth Sciences (2)  
2017 (2), 2019, 2020 (3) Advisory Panelist – National Science Foundation, Biology (6)  
2012-present Reviewer – National Science Foundation (72)  
2017-2019 Reviewer – Paleontological Society Student Research Grants (44)

**SHORT COURSE AND SYMPOSIUM ORGANIZER**

- 2022 Organizer and Chair Miami University Geosciences Student Research Symposium  
2021 Organizer and Chair Miami University Geosciences Student Research Symposium  
2014 Topical Session Organizer and Chair North American Paleontological Convention  
2013 Topical Session Organizer and Chair GSA  
2012 Topical Session Organizer and Chair GSA  
2011 Organizer and Chair Virginia Tech Geosciences Student Research Symposium  
2009 Topical Session Organizer and Chair North American Paleontological Convention

**SERVICE AND OUTREACH**

- 2023 UNLV: Women’s Council Hiring and Retention Committee task force; Graduate Admissions Committee; Diversity Equity and Inclusion Committee Chair; Geoscience Undergraduate Advisor; Girls Who Code Faculty Advisor; Science Café; Girls Who Code! Introduction to R Workshop leader

C.L. TYLER

- 2022 UNLV: AUGITE field trip leader; Women's Council Hiring and Retention Committee task force; Graduate Admissions Committee; Diversity Equity and Inclusion Committee Chair; Geoscience Undergraduate Advisor  
MU: Faculty Advisor for the Miami University Geological Society; Teaching Professors/Lecturers Promotion Committee; Diversity Equity and Inclusion Committee; Geosciences Student Research Symposium Organizational Committee Chair; Geology Graduate Admissions Committee
- 2021 Faculty Advisor for the Miami University Geological Society; Teaching Professors/Lecturers Promotion Committee; Diversity Equity and Inclusion Committee; Geosciences Student Research Symposium Organizational Committee Chair; Geology Graduate Admissions Committee
- 2020 Faculty Advisor for the MU Geological Society; Teaching Professors /Lecturers Promotion Committee; Diversity Equity and Inclusion Committee; Evaluating, Improving & Prioritizing Academic Program Portfolio Response Team Leader
- 2019 Faculty Advisor for the MU Geological Society; Paleontological Society Student Grants Committee; Paleontological Society GSA Student Poster Judge; Teaching Professors/Lecturers Promotion Committee; Undergraduate minority and teacher trainer at the Los Angeles Urban Ocean Expedition (Natural History Museum of Los Angeles)
- 2018 Faculty Advisor for the MU Geological Society; Graduate Admissions Committee; Graduate School Scholar Assistantship Committee; Bearded Lady Project Exhibit Planning Committee; Paleontological Society GSA Student Poster Judge; Paleontological Society Student Grants Committee
- 2017 Annual Departmental Field Trip Leader (Gerace Research Centre, Bahamas); Faculty Advisor for the MU Geological Society; Graduate Acceptance Committee; Graduate School Scholar Assistantship Committee; Bearded Lady Project MU Exhibit Planning Committee; Revision of Ohio Department of Higher Education Transfer Assurance Guides
- 2016 Faculty Advisor for the MU Geological Society; Graduate Acceptance Committee; Graduate School Scholar Assistantship Committee; Fossil Fest Presenter (Cincinnati Museum)
- 2015 Search Committee for Permanent Lecturer; Faculty Advisor for the MU Geological Society
- 2014 Organizational Committee North American Paleontological Convention
- 2013 FLMNH Invertebrate Paleontology Coordinator Museum Retreat; Collections Assistant

**TEACHING COMMENDATIONS [6]**

- 2020 Center for Teaching Excellence Faculty Commendation for Undergraduate Teaching (2)
- 2019 Center for Teaching Excellence Faculty Commendation for Undergraduate Teaching (2)
- 2018 Center for Teaching Excellence Faculty Commendation for Graduate Teaching (1)  
Center for Teaching Excellence Faculty Commendation for Undergraduate Teaching (1)

### **COURSES TAUGHT**

The Hidden Curriculum of Graduate School (GLG 647)  
Paleontology in Conservation (BIO/GLG 437/537)  
Geobiology of Critical Coastal Environments (GEOL 400)  
The Fossil Record (GEOL 301)  
Oceanography (OCE 100 and GLG 244)  
Life on an Evolving Planet (GLG 204)  
Historical Geology (GY 205)  
Ocean Systems: Past and Future (GY 250)  
Earth Resources and the Environment (GY 250)  
Physical Geology (GY 140)

### **MENTORING AND ADVISING [1 post-doc, 10 graduate, and 31 undergraduate]**

Post-Doctoral Scholars (1) – Roxanne Banker (2021-*present*)  
Graduate Students (6) – Madeline Ess, PhD candidate (2019-*present*), Whitney Lopic, MS (2019-2021); Lyndsey Farrar, MS (2017-2019); Melanie Sorman, MS (2017-2019); Ian Castro, MS (2016-2018); Hannah Kempf, MS (2016-2018)  
Committee Member (4) – Madhura Bhattacharjee, PhD (2022), Andrew Cannizzaro, PhD candidate (2020-*present*), Sutton Chiorini, MS candidate (2017-2019); Stephany Bosch, MS (2015-2017)  
Undergraduate Independent Research (17) – Sarah Streeper, Jada Rushing, Evan Baker, Drew Selm, Zack Burton, Evan Hill, Jenn Davis, Hannah Goggin, Ieva Juska, Erin Graves, Joe Tawil, Hannah Kempf (combined BS/MS program), Wrik Chatterjee, Kyle Mack, Kenzie Consoer, Meghan Balk, Christine Lastovica  
Undergraduate Researchers (26) – Sophie McBride, Jada Rushing, Evan Baker, Owen Sainiak, Brittney Olding, Bri Louis, Drew Selm, Zack Burton, Evan Hill, Jenn Davis, Hannah Goggin, Ieva Juska, Jessica Goldstein, Tasha Anderson, Sarah Emrick, Katherine Bartels, Joe Tawil, Wrik Chatterjee, Erin Graves, Hannah Kempf, Alyssa Tucker, Heather McGettigan, Kyle Mack, Mac Consoer, Meghan Balk, Christine Lastovica

### **WORKSHOPS AND SHORTCOURSES**

2023 Minority Serving Institution Summit  
Systemic Change in Graduate Education: Designing for Equity Workshop  
2022 Diversity, Equity, and Inclusion Certificate Program (1 year program)  
2021 Diversity, Equity, and Inclusion Certificate Program (1 year program)  
Disability Culture and Inclusion  
Safe Zone 101: LGBTQ+ Basics  
Safe Zone 201: Trans and Nonbinary  
NAGT Graduate student onboarding courses: Exposing the hidden curriculum to help your students succeed  
Effectively Communicating with News Media  
2020 Pedagogical Considerations for Effective Discussions  
Basics of Teaching and Learning Online (5 week course)  
2019 Interactive Data Analysis and Visualization with R Shiny

## C.L. TYLER

- Sharing Science Clearly: Communicating Science through Data Visualization  
Data Visualization Using R and ggplot  
Overleaf: A Latex-Based Online Manuscript Writing Interface  
Learning Strategies to Help Students Master Content  
Brining Your Research into the Classroom to Enhance Student Learning  
Classroom Strategies for Supporting Students to Become More Critical  
Consumers of Information
- 2016 On the Cutting Edge - Early Career Geoscience Faculty Workshop: Teaching,  
Research, and Managing Your Career
- 2012 Sequence Stratigraphy (GSA Short Course)
- 2011 On the Cutting Edge: Preparing for an Academic Career in the Geosciences
- 2011 Dreamweaver CS5
- 2010 Using R for Basic Statistical Needs
- 2010 Web Design: Building an Effective Web Site
- 2009 Building the NSF Grant
- 2009 Dreamweaver: Webpage Creation
- 2008 ConocoPhillips Carbonates Field Trip (San Antonio)

### **PROFESSIONAL AFFILIATIONS**

Ecological Society of America  
Geological Society of America  
Graduate Women in Science  
Association for Women Geoscientists

### **DIVING CERTIFICATIONS**

NAUI Advanced Open Water  
NAUI Rescue Diver  
Scientific Diving  
PADI Enriched Air (nitrox) Certification

### **WEBSITES**

<https://carrietyler.com>, <https://sites.google.com/carrietyler.com/rime>, <https://www.eat-project.org/>

### **REFERENCES**

- |                                                                                                                                                    |                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Dr. Michał Kowalewski<br>Thompson Chair of Invertebrate Paleontology<br>Florida Museum of Natural History<br>Museum Road<br>Gainesville, FL 32611  | E-mail: <a href="mailto:mkowalewski@flmnh.ufl.edu">mkowalewski@flmnh.ufl.edu</a><br>Phone: (352) 273-1944       |
| Dr. Lindsey R. Leighton<br>Professor<br>University of Alberta, Edmonton<br>Department of Earth and Atmospheric Sciences<br>Alberta, Canada T6G 2E3 | E-mail: <a href="mailto:lindsey.leighton@ualberta.ca">lindsey.leighton@ualberta.ca</a><br>Phone: (661) 203-5879 |
| Dr. Shuhai Xiao                                                                                                                                    | E-mail: <a href="mailto:xiao@vt.edu">xiao@vt.edu</a>                                                            |

C.L. TYLER

Professor  
Virginia Tech Geosciences  
4044 Derring Hall (0420)  
Blacksburg, VA 24061

Phone: (540) 231-1366

Dr. Peter Roopnarine  
Chair and Curator  
Invertebrate Zoology and Geology  
California Academy of Sciences  
Golden Gate Park  
55 Music Concourse Dr.  
San Francisco, CA 94118

E-mail: [proopnarine@calacademy.org](mailto:proopnarine@calacademy.org)  
Phone: (415) 379-5271