

Curriculum Vitae
Dr. Jeffrey R. Thompson

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**Personal
Details:**

Born: Columbus, Ohio, April 1, 1991

Nationality: USA

Languages Spoken: English (Fluent); Spanish (Limited Working Proficiency)

Pronouns: He/Him

**Professional
Appointments:**

Leverhulme Trust Early Career Fellow, The Natural History Museum, London, UK,
April 2021-Present.

Honorary Research Fellow, UCL Centre for Life's Origins and Evolution, London, UK
March 2021-Present.

Royal Society Newton International Fellow, University College London, London, UK,
March 2019-February 2021.

Post-doctoral Research Associate, Baylor University, Waco, Texas, USA
September 2018-February 2019

Education:

PhD, August, 2018, University of Southern California, Los Angeles, California, USA
Dissertation Title: Integrated approaches to studying diversification through time using sea urchins as a model system

The Ohio State University, Columbus, Ohio, USA

Graduation: 2013 with Honors and Honors Research Distinction in Geological Sciences

Major: Geological Sciences

Minor: Evolutionary Studies

GPA: 3.69 *Cum Laude*

**Awarded
Fellowships:**

Leverhulme Trust Early Career Fellowship, **April 2021-March 2024**
£91,433.00

Royal Society Newton International Fellowship, **March 2019-February 2021**
£100,500.00

Oxford University Museum Visiting Research Fellowship, **January-February 2019**

**Peer-reviewed
publications:**

Thompson, J. R., Ausich, W.I. and Courmoyer, M. E. *In Review*. The morphologic and biogeographic implications of a new early Silurian echinoid from Anticosti Island, Quebec, Canada. *Canadian Journal of Earth Sciences*.

33. Thompson, J. R. *In Press*. Molecular Paleobiology of the Echinoderm Skeleton. *Elements of Paleontology*.

32. **Thompson, J. R.**, Cotton, L. J., Candela, Y., Kutscher, M, Reich M. and Bottjer, D. J. *In Press*. The Ordovician diversification of the sea urchins: Systematics of the Bothriocidaroida (Echinodermata: Echinoidea). *Journal of Systematic Palaeontology*.
31. Woolley, C. H., **Thompson, J. R.**, Wu, Y-H, Bottjer, D. J., and Smith, N. D. *In Press*. A biased fossil record can preserve reliable phylogenetic signal. *Paleobiology*.
30. Mongiardino Koch, N., **Thompson, J. R.**, Hatch, A. S., McCowin, M. R., Armstrong, A. F., Coppard, S. E., Aguilera, F., Bronstein, O., Kroh, A., Mooi, R. and Rouse G. W. 2022. Phylogenomic analyses of echinoid diversification prompt a re-evaluation of their fossil record. *eLife*, Vol. 11:e72460.
29. Zamora, S., Rahman, I. A., Sumrall, C. D., Gibson, A. P. and **Thompson, J. R.** 2022. Cambrian edrioasteroid reveals new mechanism for secondary reduction of the skeleton in echinoderms. *Proceedings of the Royal Society B*, Vol. 289:20212733.
28. Carter, H. F.¹, **Thompson, J. R.**¹, Elphick, M, and Oliveri, P. 2021. The development and neuronal complexity of bipinnaria larvae of the sea star *Asterias rubens*. *Integrative and Comparative Biology*, Vol. 61. No 2, 337-351.
27. **Thompson, J. R.**, Paganos, P., Benvenuto, G., Arnone, M. I., and Oliveri, P. 2021. Post-metamorphic skeletal growth in the sea urchin *Paracentrotus lividus* and implications for body plan evolution. *EvoDevo*, Vol. 12, No 3, 2021.
26. Ausich, W. I., and **Thompson, J. R.** 2021. A possible Laurentian volchoviid ophiocistoid from the Katian of southwestern Ohio. *Journal of Paleontology*.
25. Mongiardino Koch, N., and **Thompson, J. R.** 2021. A total-evidence dated phylogeny of Echinoidea combining phylogenomic and paleontological data. *Systematic Biology*, Vol. 70, No 3, 421-439.
24. Zamora, S., Wright D. F., Mooi, R., Lefebvre, B., Guensburg, T. E., Gorzelak, P., David, B., Sumrall, C. D., Cole, S. R., Hunter, A. W., Sprinkle, J. T., **Thompson, J. R.**, Ewin T. A. M., Fatka, O., Nardin, E., Reich, M., Nohejlová, M., and Rahman I. A. 2020. Re-evaluating the phylogenetic position of the enigmatic early Cambrian deuterostome *Yanjiahella*. *Nature Communications*, Vol. 11, 1286.
23. Deline, B., **Thompson, J. R.**, Smith, N. S., Zamora, S. Z., Rahman, I. A., Sheffield, S. L., Ausich, W. I., Kammer, T. W., and Sumrall, C. D. 2020. Evolution and Development at the Origin of a Phylum. *Current Biology*, Vol. 30, No 9, pp. 1672-1679.e3.
22. **Thompson, J. R.**, Mirantsev, G. V., Petsios, E., and Bottjer D. J. 2020. Phylogenetic analysis of the Archaeocidaridae and Palaeozoic Miocidaridae (Echinodermata: Echinoidea) and the origin of crown group echinoids. *Papers in Palaeontology*, Vol. 6, No 2, pp. 217-249.
21. Nebelsick, J. H., Rasser, M., Hölte, O., **Thompson, J. R.**, and Beig, U. 2020. Turritelline mass accumulations from the Lower Miocene of southern Germany: Implications for tidal currents and nutrient transport within the North Alpine Foreland Basin. *Lethaia*, Vol. 53, pp. 280-293.
20. **Thompson, J. R.**, Posenato, R., Bottjer D. J., and Petsios, E. 2019. Echinoids from the Tesero Member (Werfen Formation) of the Dolomites (Italy): implications for extinction and survival of echinoids in the aftermath of the end-Permian mass extinction. *PeerJ*, Vol. 7:e7361.

19. Erkenbrack, E. M., and **Thompson, J. R.** Cell type phylogenetics informs the evolutionary origin of echinoderm larval skeletogenic cell identity. 2019. *Communications Biology*, Vol. 2, No 1, pp. 160.
18. Rahman, I. A., **Thompson, J. R.**, Briggs, D. E. G., Siveter, D. J., Siveter, D. J., Sutton M. D. 2019. A new ophiocistioid with soft-tissue preservation from the Silurian Herefordshire Lagerstätte, and the evolution of the holothurian body plan. *Proceedings of the Royal Society B*, Vol. 286, No. 1900, pp. 20182792.
17. Feng, X, Chen, Z. –Q., Benton, M. J., Wu, S., Bottjer, D. J., **Thompson, J. R.** 2019. A diverse trackway-dominated marine ichnoassemblage from the Lower Triassic in the northern Paleo-tethys: ichnology and implications for biotic recovery. *Palaeogeography, Palaeoclimatology, Palaeoecology*, Vol. 513, No. 1, pp. 124-140.
16. Petsios, E., **Thompson, J. R.**, Pietsch, C., Bottjer D. J. 2019. Biotic impacts of temperature before, during, and after the end-Permian extinction: a multi-metric and multi-scale approach to modeling extinction and recovery dynamics. *Palaeogeography, Palaeoclimatology, Palaeoecology*, Vol. 513, No. 1, pp. 86-99.
15. Pietsch, C., Ritterbush, K., **Thompson, J. R.**, Petsios, E., Bottjer D. J. 2019. Evolutionary models in the Early Triassic Marine Realm. *Palaeogeography, Palaeoclimatology, Palaeoecology*, Vol. 513, No. 1, pp. 65-85.
14. **Thompson, J. R.**, and Bottjer, D. J. 2019 Quantitative analysis of substrate preference in Carboniferous stem group echinoids. *Palaeogeography, Palaeoclimatology, Palaeoecology*, Vol. 513, No. 1, pp. 35-51
13. **Thompson, J. R.**, and Ewin, T. A. M. 2019. A new species of *Hyattechinus* (Echinoidea) from the type Devonian of the United Kingdom and implications for the distribution of Devonian proterocidarid echinoids. *Geological Magazine*, Vol. 156, No. 5, pp. 801-810.
12. **Thompson, J. R.**, Hu, S.-X., Zhang, Q-Y, Petsios, E., Cotton, L. J., Huang, J.-Y., Zhou, C.-y, Wen, W., Bottjer, D. J. 2018. A new stem group echinoid from the Triassic of China leads to a revised macroevolutionary history of echinoids during the end-Permian mass extinction. *Royal Society Open Science*. Vol. 5, 1711548.
11. **Thompson, J. R.**, Petsios, E., Bottjer, D. J. 2017. A diverse assemblage of Permian echinoids (Echinodermata, Echinoidea) and implications for character evolution in early crown group echinoids. *Journal of Paleontology*, Vol. 91, No. 4, pp. 767-780.
10. **Thompson, J. R.**, Erkenbrack, E. M., Hinman, V. F., McCauley, B. S., Petsios, E., Bottjer D. J. 2017. Paleogenomics of echinoids reveals an ancient origin for the double-negative specification of micromeres in sea urchins. *Proceedings of the National Academy of Sciences*, Vol. 114, No. 23, pp. 5870-5877.
9. **Thompson, J. R.**, and Denayer, J. 2017. Revision of echinoids from the Tournaisian (Mississippian) of Belgium and the importance of disarticulated material in assessing palaeodiversity. *Geological Journal*, Vol. 52, No. 4, pp. 529-538.
8. **Thompson, J. R.** and Ausich, W. I. 2016. Facies distribution and taphonomy of echinoids from the Fort Payne Formation (late Osagean, early Viséan, Mississippian) of Kentucky. *Journal of Paleontology*, Vol. 90, No. 2, pp. 239-249.
7. Erkenbrack, E. M., Ako-Asare, K., Miller, E., Tekelenburg, S., **Thompson, J. R.**, Romano, L. 2016. Ancestral state reconstruction by comparative analysis of a GRN kernel

operating in echinoderms. *Development Genes and Evolution*, Vol. 226, No. 1, pp. 37-45.

6. **Thompson, J. R.**, Petsios, E., Davidson, E. H., Erkenbrack, E. M., Gao, F., and Bottjer, D. J. 2015. Reorganization of sea urchin gene regulatory networks at least 268 million years ago as revealed by oldest fossil cidaroid echinoid. *Scientific Reports*, Vol. 5, 15541.
5. Corsetti, F. A., Ritterbush, K. A., Bottjer, D. J., Greene, S. E., Ibarra, Y., Yager, J. A., West, A. J., Berelson, W. M., Rosas, S., Becker, T. W., Levine, N. M., Loyd, S. J., Martindale, R. C., Petryshyn, V. A., Carroll, N. R., Petsios, E., Piazza, O., Pietsch, C., Stellmann, J. L., **Thompson, J. R.**, Washington, K. A., Wilmeth, D. T. 2015. Investigating the paleoecological consequences of supercontinent breakup: Sponges clean up in the Early Jurassic. *The Sedimentary Record* Vol. 13, No. 2, pp. 4-10.
4. Gao, F.¹, **Thompson, J. R.**¹, Petsios, E., Erkenbrack, E., Moats, R. A., Bottjer, D. J., and Davidson, E. H. 2015. Juvenile skeletogenesis in anciently diverged sea urchin clades. *Developmental Biology*, Vol. 400, No. 1, pp. 148-158
3. **Thompson, J. R.**, Crittenden, J., Schneider, C. L., and Bottjer, D. J. Lower Pennsylvanian (Bashkirian) echinoids from the Marble Falls Formation, San Saba, Texas, USA. 2015. *Neues Jahrbuch für Geologie und Paläontologie Abhandlung*, Vol. 276, No. 1, pp. 79-89.
2. **Thompson, J. R.**, and Ausich, W. I. 2015. Testing for escalation in Lower Mississippian camerate crinoids. *Paleobiology*, Vol. 41, No. 1, pp. 89-107.
1. **Thompson, J.R.**, Ausich, W.I., and Smith L. 2013. Echinoderms from the Lower Devonian (Emsian) Malvinokaffric Realm of Bolivia. *Journal of Paleontology*, Vol. 87. No. 1, pp. 166-175.

¹ denotes co-first authorship.

Published abstracts:

- Thompson, J. R.** and Rahman, I. A. 2019. Morphological and genomic evolution of the echinoderm skeleton, 11th North American Paleontological Convention Program with Abstracts. *Paleobios* Vol. 36. (Supplement 1) p. 348. Talk.
- Thompson, J. R.**, Petsios, E., Godbold A. L., and Bottjer, D. J. 2018. The Permian-Triassic macroevolutionary history of echinoids. Geological Society of America. Geological Society of America *Abstracts with Programs*. Vol 50. No. 6. Poster
- Thompson, J. R.**, Cotton, L. J., Candela, Y., Bottjer, D. J., and Reich, M. 2018. The Ordovician diversification of the Bothriocidaroida (Echinodermata: Echinoidea). Geological Society of America. Geological Society of America *Abstracts with Programs*. Vol 50. No. 6. Talk
- Deline, B., **Thompson, J. R.**, and Sumrall, C. D. 2018. Evolution and development at the origin of a phylum. Geological Society of America. Geological Society of America *Abstracts with Programs*. Vol 50. No. 6. Talk
- Erkenbrack, E. M. and **Thompson J. R.** 2018. Cells, fossils, and embryos: Using phylogenetic comparative methods to understand how specialized cells types have

changed in deep time. Geological Society of America. Geological Society of America *Abstracts with Programs*. Vol 50. No. 6. Talk

Rahman, I. A., Briggs, D. E. G., Siveter, D. J., Sutton, M. D., and **Thompson, J. R.** 2018. Exceptionally preserved echinoderms from the Silurian Herefordshire Lagerstätte, UK. Geological Society of America. Geological Society of America *Abstracts with Programs*. Vol 50. No. 6. Talk

Thompson, J. R., and Erkenbrack, E. M. 2017 Phylogenetics and the reconstruction of ancient gene regulatory networks. Geological Society of America. Geological Society of America *Abstracts with Programs*. Vol. 49. No. 6. Talk.

Nebelsick, J. H., and **Thompson, J. R.** 2017. Paleoecology and biotic controls of mixed carbonate-siliciclastic sediments: A case study from the echinoid dominated Miocene button beds of central California. Geological Society of America. Geological Society of America *Abstracts with Programs*. Vol. 49. No. 6. Talk.

Petsios, E., **Thompson, J. R.**, Pietsch, C., and Bottjer D. J. 2017. Biotic impacts of temperature before, during, and after the end-Permian extinction: a multi-metric and multi-scale approach to modeling extinction and recovery dynamics. Geological Society of America. Geological Society of America *Abstracts with Programs*. Vol. 49. No. 6. Poster

Thompson, J. R., Petsios, E., and Bottjer, D. J. 2016. Phylogenetic analysis of the Miocidaridae and Triadotiaridae with implications for the evolution of early post-Paleozoic echinoids. Geological Society of America. Geological Society of America *Abstracts with Programs*. Vol. 48. No. 7. Poster.

Thompson, J. R., Erkenbrack, E. M., Petsios, E., and Bottjer, D. J. 2016. Paleogenomics of echinoids and the evolution of echinoid gene regulatory networks. Geological Society of America. Geological Society of America *Abstracts with Programs*. Vol. 48. No. 7. Talk.

Erkenbrack, E. M., and **Thompson, J. R.** Embryos and ancestors: Reconstructing gene regulatory networks and embryonic development in ancestral echinoids. Geological Society of America. Geological Society of America *Abstracts with Programs*. Vol. 48. No. 7. Talk.

Thompson, J. R., Petsios, E., and Bottjer, D. J. 2015. Using fossils and phylogenies to date the timing of key gene regulatory network innovations: An example using echinoids. Geological Society of America. Geological Society of America *Abstracts with Programs*. Vol. 47. No. 7 p. 854. Talk.

Thompson, J. R. and Bottjer, D. J. 2015. Palaeoenvironmental setting and substrate affinity in Carboniferous echinoids. Geological Society of America. Geological Society of America *Abstracts with Programs*. Vol. 47. No. 7 p. 764. Poster.

Thompson, J. R. and Bottjer, D. J. 2015. Palaeoenvironmental controls on the distribution of Carboniferous Echinoids. pp. 181-183 in *Progress in Echinoderm Palaeobiology*. S. Zamora and I. Rábano (eds). Talk.

Thompson, J. R., Petsios, E., and Bottjer, D. J., 2014. Phylogenetic analysis of the Archaeocidaridae (Echinoidea) and implications for the evolution of crown group echinoids, Geological Society of America, Geological Society of America *Abstracts with Programs*. Vol. 46. No. 6, p. 79. Talk.

- Petsios, E., **Thompson, J. R.**, and Bottjer, D. J. 2014. Hidden Triassic echinoid diversity; Exploring lineages with no fossil record, Geological Society of America, Geological Society of America *Abstracts with Programs*. Vol. 46. No. 6, p. 79. Talk.
- Cole, S. R., Wright, D. F. and **Thompson, J. R.**, 2014. Brittle stars bid a farewell to arms: Testing the link between echinoderm regeneration rates and seawater chemistry, Geological Society of America, Geological Society of America *Abstracts with Programs*. Vol. 46. No. 6, p. 79. Talk.
- Bottjer, D. J., Pietsch, C., Ritterbush, K. A., Petsios, E. and **Thompson J. R.** 2014. Evolution in the Early Triassic, Geological Society of America, Geological Society of America *Abstracts with Programs*. Vol. 46 No. 6, p. 419. Talk.
- Thompson, J. R.**, Petsios, E., and Bottjer, D. J., 2014. A new basal cidaroid (Echinoidea) from the Middle Permian of North America, 10th North American Paleontological Convention, Paleontological Society special publications Vol. 13. p. 17. Poster.
- Cole, S. R., Wright, D. F. and **Thompson, J. R.**, 2013. A farewell to arms: Testing the effect of seawater chemistry on echinoderm regeneration rates using brittle stars, Geological Society of America, Geological Society of America *Abstracts with Programs*. Vol. 45. No. 7, p. 323. Poster
- Thompson, J. R.**, and Ausich, W. I., 2013. Escalation and speciation in Lower Mississippian camerate crinoids, Geological Society of America, Geological Society of America *Abstracts with Programs*. Vol. 45. No. 7, p. 682. Talk
- Thompson, J. R.**, and Ausich, W.I., 2012. Microevolutionary response in Lower Mississippian camerate crinoids to predatory pressures, Geological Society of America, Geological Society of America *Abstracts with Programs*. Vol. 44. No. 7, p. 137. Talk
- Thompson, J. R.**, 2012. A new method for evaluating the convexity of morphological characteristics, Geological Society of America, Geological Society of America *Abstracts with Programs*. Vol. 44, No. 5, p. 67. Poster
- Thompson, J. R.**, and Ausich, W. I., 2011. Four new crinoids from the Lower Devonian of Bolivia, Geological Society of America, Geological Society of America *Abstracts with Programs*. Vol. 43, No. 5, p. 85. Poster
- Ausich, W. I., and **Thompson, J. R.**, 2011. Three new crinoids from the Lower Devonian of Bolivia, Geological Society of America *Abstracts with Programs*. Vol. 43, No. 1, p. 164. Poster.

**Invited
Presentations:**

- Thompson, J. R.** 2022. Palaeobiological and developmental insight into echinoderm body plan evolution. Paleobiology Discussion Group Weekly Seminar Series. University of Bristol, UK.
- Thompson, J. R.** 2021. Molecular Palaeobiology of the Echinoderm Skeleton. *Palaeontological Society Annual Meeting Short Course, Portland, Oregon*.
- Thompson, J. R.** 2021. The developmental and molecular underpinning of sea urchin skeletal evolution. University College London, UK, Centre for Life's Origins and Evolution Seminar.

- Thompson, J. R.** 2021. Using Fossils, Genes, and Developmental Biology to understand the evolution of animal body plans. University of Southern California, USA Darwin Day, 2021.
- Thompson, J. R.** 2020. Unraveling the evolution of sea urchins: Mass extinctions, developmental evolution, and the origin of crown group echinoids. Smithsonian National Museum of Natural History, USA.
- Thompson, J. R.** 2019. Juvenile skeletogenesis in *Paracentrotus lividus* and the evolution of the sea urchin body plan. Stazione Zoologica Anton Dohrn, Italy.
- Thompson, J. R.** 2019. The early evolutionary history of sea urchins, their relatives, and the echinoderm larval skeletogenic cell. Oxford University PaleoClub, University of Oxford, UK.
- Thompson, J. R.** 2018. Unraveling the early evolution of sea urchins: Mass extinctions, gene regulatory networks, and the origin of crown group echinoids. University College London, UK.
- Thompson, J. R.** 2018. Unraveling the early evolution of sea urchins: Mass extinctions, gene regulatory networks, and the origin of crown group echinoids. Paleobiology Discussion Group Weekly Seminar Series. University of Bristol, UK.
- Thompson, J. R.** 2018. Integrated approaches to understanding diversification through time using sea urchins as a model system. Seminar Series. Los Angeles County Museum of Natural History, USA.
- Thompson, J. R.** 2017. Sea urchins and the Paleozoic-Mesozoic transition: Mass extinctions, gene regulatory networks and the origin of the crown group echinoids. Paleontology Seminar, The Natural History Museum, London, UK.
- Thompson, J. R.** Petsios, E. and Bottjer, D. J. 2014. A prelude to the present: Paleontological perspectives on 450 million years of echinoid evolution, Developmental Biology of the Sea Urchin Meeting XXII.

Popular science articles:

- Thompson, J.R.** 2015. Patterns in Palaeontology: Palaeogenomics. *Palaeontology Online*, Vol. 5, Article 11, pp. 1-9.

Book reviews:

- Thompson, J. R.** 2016. "British Jurassic regular echinoids. Part 1, Introduction, Cidaroida, Echinothurioida, Aspidodiadematoidea, and Pedinoida" by Andrew B. Smith. *Geological Journal*, Vol. 51, No. 6, pp. 968.
- Thompson, J. R.** 2015. "The British Devonian Crinoidea: Part 1, Introduction and Camerata" by Stephen K. Donovan and Fiona E. Fearnhead. *Geological Journal*, Vol. 50, No. 4, pp. 550-551.
- Thompson, J. R.** 2013. "The British Silurian Crinoidea: Part 3, Addendum to Parts 1 and 2, Camerata and columnals" by Stephen K. Donovan, Rosanne E. Widdison, David N. Lewis, and Fiona E. Fearnhead. *Geological Journal*, Vol. 49, No. 4-5, pp. 534-535.

Service to the community:

- USC Young Researchers Program, Executive board. September 2013-2015. Visited schools and in Central Los Angeles Area to encourage participation from high school students in collegiate level research.
- Educational Outreach through Orton Geological Museum, 2010-2013. Gave talks and participated in outreach to teach children and local families about geology.
- Educational Outreach through Ohio State Museum of Biological Diversity, 2011-2012
- I gave an invited general-audience talk about the evolution of sea urchins to the Dallas Paleontological Society, a group of avocational paleontologists in the North Texas area. November, 2018.
- I spoke with the media in June/July 2021 (BBC, CBS, Apollo) about palaeontological fieldwork in Cotswolds and its implications for understanding deep time biodiversity change.
- I have co-chaired topical sessions at international conferences on the following topics:
 - Echinoderm Paleobiology: Phylogenetics, morphology, and evolutionary paleoecology. Geological Society of America (GSA) Meeting 2014, Vancouver. With David Wright and Lena Cole
 - Echinoderm Paleobiology: Diversity, form, and phylogeny. GSA 2015, Baltimore. With David Wright and Lena Cole.
 - Evolution, Development, and Paleogenomics. GSA 2016, Denver. With David Bottjer
 - Paleogenomics and Geobiology. GSA 2017, Seattle. With David Bottjer
 - Deep Time Paleogenomics, North American Paleontological Convention 2019, Riverside. With David Gold.
- I co-chaired the weekly USC Earth Science Departmental Paleo/Environment Seminar from August 2017 to May 2018. With Dylan Wilmeth.
- I chaired the monthly UCL Centre for Life's Origins and Evolution Seminar. April 2019-December 2020.
- I planned, organized, and chaired the London Echinoderm Network Meeting 9 at University College London in July 2019. With Paola Oliveri.
- I planned, organized and co-chaired the first Virtual Echinoderm Network Meeting, attended virtually by ~100 researchers in July 2020. With Imran Rahman.
- I was the primary planner and organizer, and a co-chair of the *Fossils, Phylogenies, Genomes, Embryos & The Evolution of the Deuterostomes* meeting at the Natural History Museum with ~100 in person attendees in May 2022. With Max Telford, Tim Ewin, Paul Barrett, Greg Edgecombe and Tim Littlewood.
- I am an associate editor at the journal *Royal Society Open Science*.
- I am an editor at the journals *Palaeontology* and *Papers in Palaeontology*.
- I have peer-reviewed articles for the following journals:
 - Geology* (1)
 - Genomics* (1)
 - Geological Journal* (1)
 - Proceedings of the Geologists' Association* (5)

Proceedings of the Yorkshire Geological Society (1)
Journal of Paleontology (3)
Palaeogeography, Palaeoclimatology, Palaeoecology (2)
Acta Palaeontologica Polonica (2)
Annals of Marine Biology and Research (1)
BMC Evolutionary Biology (1)
Quaternary International (1)
Zootaxa (1)
Biology Letters (1)
Biological Reviews (1)
Elements of Paleontology (3)

-I have reviewed funding applications for the following funding agencies:

Swiss National Science Foundation
National Science Center, Poland

-I am on the council for *The Palaeontographical Society*.

**Research
presentations
without published
abstracts:**

Thompson, J. R., Rahman, I. A., Ewin, T. A. M., Mongiardino Koch, N., Schultz, Z. X., Oliveri, P., Marletaz, F., and Zamora S. 2021. Origins of the echinozoan body plan. The Palaeontological Association 65th Annual Meeting. Talk.

Thompson, J. R., Mongiardino Koch, N. and Oliveri, P. 2020. Analysis of skeletogenic gene evolution in echinoids and implications for body plan diversification. The Palaeontological Association 64th Annual Meeting. Poster.

Thompson, J. R. and Oliveri, P. 2019. Juvenile skeletogenesis and implications for body plan evolution in echinoids. The Palaeontological Association 63rd Annual Meeting. Talk.

Thompson, J. R. 2019. Growth and metamerism in the evolution of the post-metamorphic echinoid body plan. London Echinoderm Network 9. Talk.

Thompson, J. R., Petsios, E., Godbold A. L, and Bottjer, D. J. 2018. Recent insight into the Permian-Triassic macroevolutionary history of echinoids. The Palaeontological Association 62nd Annual Meeting. Talk

Thompson, J., Petsios, E., Godbold, A., and Bottjer D. 2018. The Permian-Triassic macroevolutionary history of echinoids. 5th International Paleontological Congress-Paris, 9th-13th July 2018. Talk.

Godbold, A., **Thompson J.**, Bottjer, D., Shen, S., and Henderson, C. 2018. Deep marine environments: A potential refuge during times of severe environmental stress. 5th International Paleontological Congress-Paris, 9th-13th July 2018. Talk.

Nebelsick, J., Belaústegui, Z., Mancosu, A., **Thompson J.**, and Zachos, L. 2018. Clypeasteroid echinoid shell beds: Sedimentology, taphonomy and paleoecology. 5th International Paleontological Congress-Paris, 9th-13th July 2018. Talk.

Thompson, J. R. 2017. Using phylogenies and fossils to constrain the timing of the evolution of echinoderm gene regulatory networks. London Echinoderm Network: Neurobiology, Evolution, Regeneration, and Development Meeting. Talk.

Thompson, J. R., and Erkenbrack, E. M. 2017. Reconstructing Ancestral Development in Echinoderm Evolutionary Developmental Biology. *Developmental Biology of the Sea Urchin XXIV*. Poster

Thompson, J. R., Petsios, E., and Bottjer, D. J., 2015. Using Fossils and Phylogenies to date the timing of key gene regulatory network innovations in echinoids, *The Palaeontological Association 59th Annual Meeting*. Talk

Thompson, J. R., and Bottjer, D. J. 2015. Testing for palaeoenvironmental preference and substrate affinity in Carboniferous echinoids. *The Palaeontological Association 59th Annual Meeting*. Poster

Thompson, J. R., Petsios, E., and Bottjer, D. J., 2015. Using Fossils and Phylogenies to date the timing of key gene regulatory network innovations: an example using sea urchins, *Developmental Biology of the Sea Urchin XXIII*. Talk

Thompson, J.R., 2012 Microevolutionary response in Lower Mississippian camerate crinoids to predatory pressures, *The Ohio State University Fall Undergraduate Research Forum*. Poster

Thompson, J.R., 2012 Microevolutionary response in Lower Mississippian camerate crinoids to predatory pressures, *Shell Undergraduate Research Experience Poster Session*. Poster

Thompson, J.R., 2012, A new method for evaluating the convexity of morphological characteristics, *Denman Undergraduate Research Forum*. Poster

Thompson, J.R., 2012, A new method for evaluating the convexity of morphological characteristics, *Natural and Mathematical Sciences Undergraduate Research Forum*. Poster

Thompson, J.R., 2011, Three new crinoids from the Lower Devonian of Bolivia, *Denman Undergraduate Research Forum*. Poster

Thompson, J.R., 2011, Three new crinoids from the Lower Devonian of Bolivia, *Natural and Mathematical Sciences Undergraduate Research Forum*. Poster

Awarded grants:

2021. Palaeontological Association Undergraduate Research Bursary for UCL undergraduate Ellen Campbell. **£1,559.25**

2021. Assemble + Transnational Access Grant. Conservation of the biomineralization toolkit across life history stages in sea urchins. **€2400**

2019. Assemble + Transnational Access Grant. Role of signaling pathways in adult sea urchin skeletal growth. **€3400**

2018. University of Southern California Paleosciences Research Consortium Student Award **\$500**

2016. Geological Society of America Student Grant In Aid **\$2500 & Outstanding Mention**

2016. Paleontological Society Student Research Grant N. Gary Lane Award **\$800**

2015. Palaeontological Association Student Travel Grant to Attend Progress in Echinoderm Paleontology Meeting Fieldtrip **€650**

2015. National Science Foundation Graduate Research Fellowship. **Honorable Mention.**

- 2014.** American Association of Petroleum Geologists Grant in Aid. **\$3000.**
- 2014.** National Science Foundation Graduate Research Fellowship. **Honorable Mention.**
- 2013,** Sigma Xi/OSU Undergraduate Research Office Grant in Aid of Research, **\$300.**
- 2011,** The Ohio State University Arts & Sciences Undergraduate Research Scholarship, **\$1200.**

Awards:

- 2020.** *Papers in Palaeontology* Best Paper Prize for *Phylogenetic analysis of the Archaeocidaridae and Palaeozoic Miocidaridae (Echinodermata: Echinoidea) and the origin of crown group echinoids.*
- 2017.** University of Southern California Dornsife College Fellowship.
- 2015.** USC Department of Earth Sciences Departmental Teaching Award.
- 2013.** University of Southern California Keck Fellowship.
- 2013.** Winner Ohio State Natural and Mathematical Sciences Research Forum.
- 2011.** Ohio State Board of Trustees Student Recognition Award, August.
- 2012.** 2nd Place Winner at Denman Undergraduate Research Forum.
- 2011.** 2nd Place Winner at Denman Undergraduate Research Forum.
- 2012.** Ohio State School of Earth Sciences Undergraduate Book Award recipient.
- 2011-2012.** Lieberman Scholarship recipient.
- 2011-2013.** The Ohio State University Honors College, Member.
- 2009-2013.** Ohio State Provost Scholarship recipient.
- 2009-2013.** Ohio State Biological Sciences Scholars Program, Member.
- Fall 2009, Autumn 2010-Spring 2011, Winter 2012.** Ohio State Dean's List.

Lab experience:

- Visited seven museums in the United States and twenty-one in western Europe to gather data for dissertation with total amount of in-museum working days totaling over 100 days.
- Worked in the lab of Eric Davidson (CalTech) cloning genes, making RNA probes and performing *in situ* hybridization experiments on developing juvenile sea urchins. June 2013.
- Worked in the lab of Eric Davidson (CalTech) cloning genes and performing quantitative pcr to examine temporal gene expression in sea urchin embryos. August-September 2014.
- Performed RNA extractions from embryonic sea urchins for rna-seq to determine embryonic transcriptome of *Centrostephanus coronatus*. August 2014.
- Performed RNA-extractions, whole mount and Hairpin chain-reaction *in situ* hybridization, immunohistochemistry staining, gene cloning, larval culture and confocal microscopy on the sea urchins *Paracentrotus lividus*, *Strongylocentrotus purpuratus*, the sea star *Asterias rubens*, and the brittle star *Amphiura filiformis*. March 2019-Present.

Field experience:

- Four days performing fieldwork in the Cotswolds collecting and extracting Jurassic fossil echinoderms for research. Summer, 2021.
- Three days doing boat- and shore-based collection of marine invertebrates as part of the Darwin Tree of Life project on the Isle of Cumbrae, Scotland, Summer, 2021.

Monthly field excursions performing fieldwork collecting fossil sea urchins in the Carboniferous marine strata of Texas. Fall 2018 and Winter 2019.

Four days performing field work for dissertation collecting fossil sea urchins in Northern England with Dr. S. K. Donovan. Summer 2017.

Two weeks performing field work on the sedimentology and taphonomy of Miocene-aged marine deposits in Central California with Dr. James Nebelsick. Fall 2016 and Spring 2017.

Two weeks performing field work for collaborative research project with Dr. William Foster and Dr. Alexa Sedlacek in Triassic rocks in Nevada and Utah. Spring 2016.

Five days performing field work as a field assistant to Elizabeth Petsios in Northern Italy. Summer 2014.

Two weeks performing field work for dissertation working on Pennsylvanian and Lower Triassic rocks in Nevada and California. Autumn 2013 and Spring 2014.

Two weeks of field hand experience in Estonia, July 2012. Worked as a field hand to paleontologist William Ausich looking for and recovering fossils in Estonia for National Geographic Society funded research.

Ohio State Geological Sciences Field Camp, Summer 2011. Six Week course of Geological Mapping in Central Utah

Computational Experience:

I have extensive experience (8 years+) using the statistical package and programming language R, and have used this in most of my research projects to produce figures and write scripts for statistical analysis including parametric and nonparametric tests, bootstrapping, Bayesian inference, and comparative phylogenetics.

I have experience with both MPI and non-MPI computing on multimode Linux computing clusters for bioinformatic analyses of transcriptomic and genomic sequence data using custom Python and shell scripts.

I attended the Workshop on Molecular Evolution at the Marine Biology Laboratory at Woods Hole to gain enhanced familiarity using BLAST, Multiple Sequence Alignment, Phylogenetic Inference in MrBayes, PAUP*, and RAxML and Divergence Time Estimation in RevBayes, PhyloBayes, BEAST and MCMCTREE. July 2016

Student Supervision:

I have supervised the following students:

Ash Hann, UCL Mres, 2021

Zoë Schultz, UCL Mres, 2021

Madeline Ford, UCL Mres, 2021

Ellen Campbell, UCL Undergraduate, 2021

Eleanor Wilson, Imperial MSc, 2022

Teaching experience:

Natural History Museum-Imperial College London joint MSc in Taxonomy, Biodiversity, Evolution
February 2022

Description: I delivered two lectures, one on *The History of the Seas Through Time* and the other on *Fossils in Phylogenetic Analysis*, and designed and taught a corresponding practical on *Fossils in Phylogenetic Analysis*.

Division of Biosciences, University College London
October 2021

Description: I delivered two virtual lectures and corresponding Q&A sessions as a part of the second year course Biology 0012, Animal Biodiversity, on echinoderm biodiversity, morphology, and evolution.

Division of Biosciences, University College London
November 2020

Description: I delivered two virtual lectures as a part of the second year course Biology 0012, Animal Biodiversity, on echinoderm biodiversity, morphology, and evolution.

Division of Biosciences, University College London
November 2019

Description: I lectured twice in the second year course Biology 0012, Animal Biodiversity, on echinoderm biodiversity, morphology, and evolution.

Department of Earth Sciences, University of Southern California, Teaching Assistant,
January-May 2017

Description: I taught three sections per week for 12 weeks of the laboratory portion of an introductory non-major's Earth History course.

Department of Earth Sciences, University of Southern California, Teaching Assistant,
August-December 2016

Description: I designed the curriculum, taught, and graded assignments for the once-weekly (12 weeks) laboratory portion of an upper division Earth Science major's course, Paleontology.

School of Earth Sciences, Ohio State, Teaching Assistant, August-December 2012.

Description: I lead labs, conducted and oversaw experiments, and graded assignments in a non-science major's introductory Earth Science course (9 weeks, once per week).

Work experience:

Shell Undergraduate Research Intern, June-August 2012.

Description: Performed independent research funded by Shell E & P.

School of Earth Sciences, Ohio State, Research Assistant, 2010-2011.

Description: Attained and organized data regarding Paleozoic crinoids for use in the NSF funded *Assembling the Echinoderm Tree of Life* International Research Collaborative. Work Supervised by Dr. William I. Ausich.

Byrd Polar Research Center, Ohio State, Research Assistant, 2010.

Description: Analyzed images of glaciers using ENVI geospatial imaging software and MATLAB computer programming software to edit Landsat images and track glacial advances and retreats. Work Supervised by Dr. Ian Howat.

Professional Memberships:

Geological Society of America
Paleontological Society
Palaeontological Association
Society for Developmental Biology

Referees:

Prof. David J. Bottjer
PhD Supervisor

Prof. William I. Ausich
BS Thesis Advisor

Prof. Paola Oliveri
Postdoctoral Supervisor

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