# **David Joseph Peterman**

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2022-Present

Links: Google Scholar | ResearchGate | Personal Website

# **CURRENT POSITION**

Postdoctoral Scholar Penn State University, State College, PA

## **EMPLOYMENT/EXPERIENCE**

Research Associate, University of Utah, Salt Lake City, UT	2022			
National Science Foundation Postdoctoral Fellow (#1952756), University of Utah	2020-2022			
EDUCATION				
PhD, Environmental Sciences, Wright State University, Dayton OH	2020			
MS, Earth and Environmental Sciences (Geophysics), Wright State University, Dayton OH	2016			
BS, Earth and Environmental Sciences, Wright State University, Dayton OH	2014			
RESEARCH EXPERIENCE				
Penn State University, State College, PA	2022-Present			
Postdoctoral Scholar (Mentor: Margaret Byron)				
Bio-fluid dynamics				
- Hydrodynamics of flexible biological propulsors using Ctenophores (comb-jellies) as a r (involves materials characterization, motion tracking, particle image velocimetry, bioins soft robotics).	nodel system piration, and			
University of Utah, Salt Lake City, UT				
Postdoctoral Fellow (Mentor: Kathleen Ritterbush)	2020-2022			
Integrative functional morphology and evolutionary biomechanics				
- Developed virtual and physical workflows to reconstruct extinct organisms and their bio	mechanical			
properties, allowing constraints to be placed on their functions, life habits and ecological roles.				
- Designed 3D motion tracking workflow and submersible camera rigs for physical hydro	mechanics			
experiments.	avtinat			
organisms.	extinct			
Wright State University, Dayton, OH				
Graduate Researcher (Advisor: Christopher Barton)	2017-2020			
Ectocochleate cephalopod hydrostatics, hydrodynamics, and functional morphology				
- Investigated morphological patterns (ammonoid sutures) with fractal analyses.				
- Developed new virtual modeling technique to reconstruct animals from fossil remains.				
<ul> <li>Developed new computer modeling workflow to impart key biomechanical properties in models (buoyancy and 3D mass distribution using composite materials).</li> </ul>	physical			
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 Wright State University, Dayton, OH
 Graduate Researcher (collaboration with Wright-Patterson Air Force Base)
 2017-2020

 Fractal antenna design and performance
 - Developed a workflow to create fractal antennas for performance evaluation in multiphysics packages.

Wright State University, Dayton, OH

Graduate Researcher (Advisors: Doyle Watts and Ernest Hauser)2014-2016Seismic reflection imaging and structural geology2014-2016

- Synthesized the Neoproterozoic deformational history of southwestern Ohio with seismic reflection data and well log correlation.

## PEER-REVIEWED PUBLICATIONS

- **21.** Peterman, D.J., and Ritterbush, K.A. 2022. Stability-maneuverability tradeoffs provided diverse functional opportunities to shelled cephalopods. *Integrative Organismal Biology* 4(1):1–23. https://doi.org/10.1093/iob/obac048
- **20.** Johnson, E.H., **Peterman, D.J.**, and Carter, A.J. 2022. Updating studies of past life and ancient ecologies using defossilized organismal proxies. *Frontiers in Earth Science*, 10:1048662. https://doi.org/10.3389/feart.2022.1048662
- **19.** Peterman, D.J., and Ritterbush, K.A. 2022. Resurrecting extinct cephalopods with biomimetic robots to explore hydrodynamic stability, maneuverability, and physical constraints on life habits. *Scientific Reports* 12:11287. https://doi.org/10.1038/s41598-022-13006-6.
- **18.** Hebdon, N., Polly, D., **Peterman, D.J.**, and Ritterbush, K.A. 2022. Detecting mismatch in functional narratives of animal morphology: a test case with fossils. *Integrative and Comparative Biology* 62(3):817–828. https://doi.org/10.1093/icb/icac034
- Hebdon, N, Ritterbush, K.A., Choi, Y., and Peterman, D.J. 2022. Reevaluating hydrodynamic performance of Late Triassic–Early Jurassic ammonoid shells with a 1D trajectory model. *Geobios* 71:27–38. https://doi.org/10.1016/j.geobios.2022.02.002.
- 16. Peterman, D.J., Hebdon, N., and Ritterbush, K. 2022. Twirling torticones: hydrostatics and hydrodynamics of helically-coiled ammonoids. In: Slattery JS, Larson NL, Bingle-Davis M., and Bingle-Davis M., eds. Insights into the Cretaceous: Building on the Legacy of William A. Cobban (1916-2015), *American Association of Petroleum Geologists and Wyoming Geological Association Special Volume*, forthcoming. [Invited Article]
- **15.** Peterman, D.J., and Ritterbush, K.A. 2021. Vertical escape tactics and movement potential of orthoconic cephalopods. *PeerJ* 9:e11797. https://doi.org/10.7717/peerj.11797.
- Shell, R.C., Zimmerman, K., Peterman, D.J., Ciampaglio, C.N., Fuelling, F., Jacquemin, S.J. 2021. Vertebrate subfossil localities in Taylorsville Metropark, Montgomery County, Ohio, USA. *Ohio Journal of Science* 121(2): 78–89.
- **13.** Peterman, D.J., Ritterbush, K.A., Ciampaglio, C.N., Johnson, E.H., Inoue, S., Mikami, T., and Linn, T.J. 2021. Buoyancy control in ammonoid cephalopods refined by complex internal shell architecture *Scientific Reports* 11: 8055. https://doi.org/10.1038/s41598-021-87379-5.
- 12. Johnson, E.H., DiMarco, B.M., Peterman, D.J., Carter, A.M., and Allmon, W.D. 2021. Did shell-crushing predators drive the evolution of ammonoid septal shape?. *Paleobiology* 47(4): 666–679. https://doi.org/10.1017/pab.2021.13.

- Hoffmann, R., Slattery, J., Kruta, I., Linzmeier, B.J., Lemanis, R.E., Mironenko, A., Goolaerts, S., De Baets, K., Peterman, D.J., and Klug, C. 2021. Recent advances in heteromorph ammonoid palaeobiology. *Biological Reviews* 96: 576–610. https://doi.org/10.1111/brv.12669.
- **10.** Peterman, D.J., Mikami, T., and Inoue, S. 2020. The balancing act of *Nipponites mirabilis* (Nostoceratidae, Ammonoidea): managing hydrostatics throughout a complex ontogeny. *PLoS ONE* 15(8): e0235180. https://doi.org/10.1371/journal.pone.0235180.
- **9.** Peterman, D.J., Shell, R.C., Ciampaglio, C.N., and Yacobucci, M.M. 2020. Stable hooks: biomechanics of heteromorph ammonoids with U-shaped body chambers. *Journal of Molluscan Studies* 86(4): 267–279. https://doi.org/10.1093/mollus/eyaa018. [Featured Article]
- 8. Peterman, D.J., Hebdon, N., Ciampaglio, C.N., Yacobucci, M.M., Landman, N.H., and Linn, T. 2020. Syn vivo hydrostatic and hydrodynamic properties of scaphitid ammonoids from the U.S. Western Interior. *Geobios* 60:79-98. https://doi.org/10.1016/j.geobios.2020.04.004.
- Peterman, D.J., Yacobucci, M.M., Larson, N.L., Ciampaglio, C.N., and Linn, T. 2020. A method to the madness: ontogenetic changes in the hydrostatic properties of *Didymoceras* (Nostoceratidae, Ammonoidea). *Paleobiology* 46(2):237-258. http://dx.doi.org/10.1017/pab.2020.14.
- 6. Peterman, D.J., Hauser, E.C., and Watts, D.R. 2020. Grenville Foreland Deformation and Sedimentation in Southwest Ohio Indicated by Reprocessed Seismic Reflection Profiles near Middletown, Ohio, USA. *Ohio Journal of Science* 120(2):39-48.
- Morón-Alfonso, D.A., Peterman, D.J., Cichowolski, M., Hoffmann, R., and Lemanis, R.E. 2020. Virtual 3D modeling of the ammonoid conch to study its hydrostatic properties. *Acta Palaeontologica Polonica* 65(3): 467– 480. https://doi.org/10.4202/app.00776.2020. [Editor's Choice]
- 4. Shell, R.C., Peterman, D.J., Ciampaglio, C.N., Armstrong, A.A., and Fuelling, L.J. 2020. A fossil molluscan fauna from the lower Lueders Formation of north-central Texas. *Southeastern Geology* 54(1):1-19.
- **3.** Peterman, D.J., Ciampaglio. C., Shell, R.C., and Yacobucci, M.M. 2019. Mode of life and hydrostatic stability of orthoconic ectocochleate cephalopods: hydrodynamic analyses of restoring moments from 3D-printed, neutrally buoyant models of a baculite. *Acta Palaeontologica Polonica* 64(3):441-460. https://doi.org/10.4202/app.00595.2019. [Editor's Choice]
- 2. Peterman, D.J., Barton, C.C., and Yacobucci, M.M. 2019. The hydrostatics of Paleozoic ectocochleate cephalopods (Nautiloidea and Endoceratoidea) with implications for modes of life and early colonization of the pelagic zone. *Palaeontologia Electronica* 22.2.27A 1-29. https://doi.org/10.26879/884.
- 1. Peterman, D.J., and Barton, C.C. 2019. Power scaling of ammonitic suture patterns from Cretaceous Ancyloceratina: constraints on septal/sutural complexity. *Lethaia* 52: 77-90, doi: 10.1111/let.1229.

#### MANUSCRIPTS IN REVIEW

**23.** Dattilo, B.F., Freeman, R.L., Hartshorn, K., **Peterman, D.J.**, and Hagadorn, J.W. 2023. Paradox lost: wide gape in the Ordovician brachiopod *Rafinesquina* explains how unattached filter-feeding strophomenoids thrived on muddy substrates. *Palaeontology*, in review.

**22.** Shell, R.C., Ciampaglio, C.N., **Peterman, D.J.**, Ivanov, A., Armstrong, A., Fuelling, L., Jacquemin, S.J. 2023. A marine vertebrate fauna from the early Permian (Artinskian) Lueders Formation of North Central Texas, USA. *Southwestern Naturalist*, in review.

## FELLOWSHIPS, GRANTS, AND AWARDS

University of Utah, Geology and Geophysics "Earthies" Award		2022
Schuchert and Dunbar Collections Grant – Yale Peabody Museum	(\$1,000)	2022
NSF Earth Sciences Postdoctoral Fellowship (Award #1952756)	(\$174,000)	2020-2022
Paleontological Society invited speaker	(\$500)	2021
WSU Lake Campus Research Grant	(\$500)	2020
AIPG Ohio Student Chapter Award		2020
Benjamin Richard Memorial Fund Grant	(\$1,500)	2019
Columbus Rock and Mineral Society Scholarship	(\$2,000)	2019
Raymond H. and Beryl Dean Penick Memorial Scholarship	(\$9,000)	2019-2020
Graduate Student Excellence Award, Wright State University		2016
Yellow Springs Instruments Scholarship	(\$2,000)	2016
Raymond H. and Beryl Dean Penick Memorial Scholarship	(\$6,000)	2015-2016
Graduate Council Fellowship and Stipend	(\$13,500)	2014-2015
Raymond H. and Beryl Dean Penick Memorial Scholarship	(\$9,000)	2014-2015

# **TEACHING EXPERIENCE**

#### Wright State University

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Instructor (Fall	2019 –)	
EES 4010	Geomorphology, Volcanology & Glaciology of Iceland (Pending)	Summer 2024
EES 6010 .	Atlantic Coast Paleoecology	Spring 2020
EES 6190	Paleobiology	Fall 2019
EES 4010	Geology of the Appalachians	Summer 2019

Graduate Teaching Assistant (Fall 2015 – Spring 2019)

EES 4460 Sequence Stratigraphy EES 3120 Earth Materials EES 4290 Remote Sensing of Earth EES 4540 Subsurface Fluid Flow EES 4220 Introduction to Geophysics	EES 7160 Complexity in Environmental Systems EES 4010 Modeling Subsurface Fluid Flow EES 4430 Analysis and Prediction of Complex Systems EES 4370 Seismic Reflection Digital Imaging & Processing
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#### **Student Mentorship**

- Master's committee member: Greg Grierson (Wright State University), "Analysis of Amur honeysuckle stem density as a function of spatial clustering, horizontal distance from streams, trails, and elevation in riparian forests, Greene County, Ohio" defended in May 2021.
- Graduate student mentorship in the Geophysics Research Group, Wright State University (2014-2016).
- Undergraduate and graduate student membership in the Complexity Research Group, Wright State University (2016-2020)
- Undergraduate and graduate student mentorship at the University of Utah (2020-present): Virtual reconstruction, 3D scanning, 3D printing, and physics simulations.
- Undergraduate research opportunity program (UROP) mentorship at the University of Utah (2020present): Theoretical morphology generation, virtual modeling.
- Undergraduate and graduate student mentorship at Penn State University (2022-present).

# ACADEMIC SERVICE

#### Peer reviewer for:

- Science Advances
- Proceedings of the National Academy of Sciences
- Communications Biology
- Evolution
- Bioinspiration and Biomimetics
- PALAIOS
- Swiss Journal of Paleontology
- Neues Jahrbuch für Geologie und Paläontologie, Paläontologische Zeitschrift
- Irish Journal of Earth Sciences
- Acta Palaeontlogica Polonica
- Lethaia
- Paleontological Research
- GFF
- Geosciences
- Fossils
- Southeastern Geology
- Slattery, J.S., Larson, N.L., and Bingle-Davis, M. (eds.), *Insights into the Cretaceous: Building on the Legacy of William A. Cobban (1916-2015), Wyoming Geological Association Special Volume.*

Keynote speaker: 11<sup>th</sup> International Symposium on Cephalopods Past and Present (London).

**Invited speaker**: University of Zurich (Zurich; 2023), Yale University (New Haven, CT; 2022), University of Utah (Robotics Group; Salt Lake City, UT; 2022), Tate Geological Museum (Casper, WY; 2022), Geological Society of America Annual Meeting (Portland, OR; 2021), University of Washington (Seattle, WA; 2021), Wright State University (Dayton, OH; 2020, 2023).

**Extinct organism reconstructions for:** Yale Peabody Museum, American Museum of Natural History, Polish Academy of Sciences Museum of Evolution, Wright State University, Ohio State University, Oklahoma Baptist University, Daniel Fisk Fossil Museum, University of Utah, Salt Lake Community College, numerous other collections.

# OUTREACH

Provided 3D models for an exhibit at the Polish Academy of Sciences Museum of Evolution	2023
Led numerous fossil collecting trips at the University of Utah	2020-2022
Donation of 3D printed teaching specimens to Salt Lake Community College	2021
Geosciences outreach for the Salt Lake City career fair	2021
Shark Tooth Frenzy paleo outreach at Port Royal, South Carolina	2021
4H Presentation and Fossil Collecting at Caesar's Creek, Ohio	2019
Organized and led fossil collecting trips for the American Institute of Professional Geologists	2019
Donation and organization of auctions for the American Institute of Professional Geologists	2016-2020
Donation of mineral specimens from Iceland to Wright State University	2016

Volunteer for the Museum of Biological Diversity open house Volunteer for the Orton Museum of the Ohio State University Led numerous fossil collecting trips at Wright State University

# **MEDIA MENTIONS**

Consultant for "Life on Our Planet" (Netflix, 2023)

Consultant for "Prehistoric Planet Season 2" (Apple TV+, 2023).

Robotics: <u>Smithsonian Magazine</u>; <u>University of Utah Newsroom</u>; <u>EurekAlert!</u>; <u>Phys.org</u>; <u>Bioengineer</u>; <u>Science Daily</u>; <u>Scienmag</u>; and others

Functional morphology of ammonite sutures: <u>University of Utah Newsroom</u>; <u>Gizmodo</u>; <u>EurekAlert!</u>; <u>United</u> <u>Press International (UPI)</u>; <u>Florida News Times</u>; <u>Sci Tech Daily</u>; <u>Scienmag</u>; <u>Bioengineer</u>; <u>Science Daily</u>; and others.

Virtual and physical hydrostatics / hydrodynamics: <u>University of Utah Newsroom; Wright State University</u> <u>Newsroom; Forbes; Ars Technica; NSF Research News; EurekAlert!; Clockwise News; Ide Explore;</u> <u>Newsfounded; Pinkers Post; FuentiTech; 3DPrint.com;</u> and others.

#### SKILLS

Computational: programming, physics simulations (e.g., computational fluid dynamics), virtual reconstruction, 3D modeling, 3D scanning, CT scanning, morphometrics, motion tracking, particle image velocimetry (PIV), particle shadow velocimetry (PSV), seismic reflection processing, geophysical well log analysis.

Physical: robotics, soft robotics, molding and casting, mechatronics, magnetic elastomer actuation, biomimetic model fabrication, 3D printing (FDM and SLA) and machine maintenance, fluid mechanics experiments, self -developed workflows for replicating organismal 3D mass distributions (centers of mass and moments of inertia), laser alignment and maintenance, optics, high-speed videography.

Fossil collection, curation, storage, preparation (pneumatic tools, picks, and air abrasives), and preservation.

Field work: 27 states in the USA, England, & Iceland

Software: MATLAB, R, Python, Arduino, ArcGIS, Image editing (Photoshop, Canvas, Illustrator, paint.net), Virtual modeling (Autodesk Meshmixer, Autodesk Netfabb, Blender, MeshLab, MeshRoom, 3DF Zephyr, Artec, Solidworks, and others), 3D printing (Cura, KIS Slicer, Prusa Slicer), Geometric Morphometrics (tps, Benoit 1.3, Self-developed Cube Count Code), CT-Scanning (3DSlicer, MicroDicom, Molcer), motion tracking (tracker, DLTdv8), multiphysics (COMSOL, ANSYS, Solidworks), particle image velocimetry (PIVlab, LaVision DaVis), geophysics (Kingdom Suite, Neuralog, ProMax), subsurface fluid flow (Modflow).

#### **CONFERENCE PRESENTATIONS (\*denotes student mentorship)**

**Peterman, D.J.**, and Byron, M.L. 2023. Investigating pumping performance at intermediate Reynolds numbers with ctenophore-inspired magnetically actuated elastomers. *Biolocomotion: Les Houches School of Physics (France)*, forthcoming.

**Peterman, D.J.**, Byron, M.L. 2023. Exploring the efficacy of metachronal swimming and pumping at intermediate Reynolds numbers with magnetically actuated artificial cilia. APS DFD 2023, forthcoming.

\*Butler, G., Hebdon, N., \*Heberer, M., Choi, Y., **Peterman, D.J.**, Tom Linn, and Ritterbush, K.A. 2023. Precocious Scaphites: hydrodynamic advantages of shape and ornamentation in juvenile ammonites. *Geological Society of America Abstracts with Programs,* forthcoming.

**Peterman, D.J.**, Hebdon, N., and Ritterbush, R.A. 2023. Ammonoid conch ornamentation was not merely ornamental: physical tradeoffs between rocking attenuation and drag reduction. *Geological Society of America Abstracts with Programs*, forthcoming.

Friedman, M., Figueroa, R., Shell, R.C., **Peterman, D.J.**, and Ciampaglio, C.N. 2023. A new actinopterygian fish from the Mississippian (Serpukhovian) of Alabama clarifies the anatomy and relationships of the enigmatic family Paphosiscidae. *Society of Vertebrate Paleontology*, Cincinnati OH.

- **Peterman, D.J.**, and Ritterbush, K.A. 2022. Ammonoid cephalopods navigated stability-maneuverability tradeoffs with disparate conch morphologies. 11<sup>th</sup> International Symposium on Cephalopods Past and Present. London, England. [Keynote Speaker]
- \*Heberer, M., **Peterman, D.J.**, \*Crawford, C., Hebdon, N., Ritterbush, K.A. 2022. Simulation of ammonoid conch hydrodynamics through ontogeny. *11<sup>th</sup> International Symposium on Cephalopods Past and Present*. London, England.

Ritterbush, K.A., Hebdon, N., Peterman, D.J., Choi, Y., \*Heberer, M. 2022. Dynamic frontiers in ammonoid locomotion. 11<sup>th</sup> International Symposium on Cephalopods Past and Present. London, England.

- \*Butler, G., \*Heberer, M., Ferrill, T.J., **Peterman, D.J.**, and Ritterbush, K.A. 2022. A surface scanning methodology for accurate, high-resolution digitization of fossils. *Geological Society of America, Abstracts with Programs*, v. 54, n. 5, doi: 10.1130/abs/2022AM-381015.
- \*Heberer, M., **Peterman, D.J.**, \*Crawford, C., Hebdon, N., and Ritterbush, K.A. 2022. Hydrodynamic consequences of the ammonoid conch: shape change through ontogeny. *Geological Society of America*, *Abstracts with Programs*, v. 54, n. 5, doi: 10.1130/abs/2022AM-382260.
- **Peterman, D.J.**, and Ritterbush, K.A. 2022. De-fossilizing ancient cephalopods with computer simulations and biomimetic robots: implications for the biomechanics of modern cephalopods. *Cephalopod International Advisory Council 2022, Sesimbra, Portugal.*
- Ritterbush, K.A., Hebdon, N., Choi, Y., and **Peterman, D.J.** 2022. Lifestyles of the species-rich and famous: sleuthing ancient cephalopod-dominated ecosystem shifts with fluid dynamics. *Cephalopod International Advisory Council 2022*.
- Peterman, D.J., Hebdon, N., and Ritterbush, K.A. 2022. Resurrecting extinct cephalopods with neutrally buoyant, biomimetic robots and 3D motion tracking. *SICB 2022 Annual Meeting*.
- Peterman, D.J., Hebdon, N., and Ritterbush, K.A. 2022. Hydrostatic constraints on life habit: should modern cephalopod analogues be used for extinct morphologies? *SICB 2022 Annual Meeting*.
- \*Heberer, M.K., Hebdon, N., Peterman, D.J., Choi, Y., \*Crawford, C., \*Hoskins, B., and Ritterbush, K.A. 2022. Hydrodynamic consequences of ontogenetic shape gradients in planispiral ammonoids (Paleozoic-Mesozoic cephalopod mollusks). SICB 2022 Annual Meeting.
- Hebdon, N., Polly, D., Ritterbush, K.A., **Peterman, D.J.**, and Choi, Y. 2022. How well do our functional hypotheses explain animal morphology? *SICB 2022 Annual Meeting*.
- Ritterbush, K.A., Hebdon, N., Choi, Y., **Peterman, D.J.**, Heberer, M., Hoskins, B.M., and Crawford, C. 2022. Biomechanical study of extinct cephalopods suggests adaptation to transitional laminar-turbulent flow. *SICB* 2022 Annual Meeting.

- Peterman, D.J. 2021. The adaptive value of heteromorphy in ammonoid cephalopods. *Geological Society of America, Abstracts with Programs*, v. 53, n. 6, doi: 10.1130/abs/2021AM-370014. [Invited Talk]
- Peterman, D.J., Hebdon, N., Ritterbush, K. 2021. New approaches to study the relationships between functional morphology and morphological trends in ammonoid evolution. *Geological Society of America, Abstracts with Programs*, v. 53, n. 6, doi: 10.1130/abs/2021AM-370128.
- **Peterman, D.J.**, Hebdon, N., Ritterbush, K. 2021. Exploring the hydrodynamic consequences of cephalopods in the Westermann Morphospace with neutrally buoyant, 3D-printed robots. *Geological Society of America, Abstracts with Programs*, v. 53, n. 6, doi: 10.1130/abs/2021AM-370199.
- Hebdon, N., Ritterbush, K., Choi, Y., Peterman, D.J. 2021. Becoming a winner in just a million years: examining the functional consequences of ammonoids across the end-Triassic. *Geological Society of America, Abstracts with Programs*, v. 53, n. 6, doi: 10.1130/abs/2021AM-370300.
- Ritterbush, K., Hebdon, N., Peterman, D.J., Choi, Y., Hoskins, B., Heberer, M., Crawford, C., Hambleton, J.A. 2021. Did fluid dynamics drive ammonite biodiversity dynamics? *Geological Society of America, Abstracts with Programs*, v. 53, n. 6, doi: 10.1130/abs/2021AM-370678.
- \*Crawford, C., Ritterbush, K., Peterman, D.J., Hebdon, N., \*Hoskins, B. 2021. Exploring hydrodynamic consequences of ammonite ornamentation and ontogenetic shape change via computational fluid dynamics. *Geological Society of America, Abstracts with Programs*, v. 53, n. 6, doi: 10.1130/abs/2021AM-370302.
- \*Hoskins, B., Ritterbush, K., **Peterman, D.J.**, \*Crawford, C. Life on the edge: a morphospace evaluation of ancient ammonite hydrodynamics. *Geological Society of America, Abstracts with Programs*, v. 53, n. 6, doi: 10.1130/abs/2021AM-370513.
- Shell, R.C., **Peterman, D.J.** Large Ordovician cephalopods from Michigan's Upper Peninsula. *Geological Society of America, Abstracts with Programs*, v. 53, n. 6, doi: 10.1130/abs/2021AM-369444.
- Peterman, D.J., Ritterbush, K.A. 2021. Ectocochleate cephalopod hydrostatics are well constrained despite unknown soft body morphologies. *Fourth Annual Rocky Mountain Geobiology Symposium*.
- Peterman, D.J., Hebdon, N, Ritterbush, K. 2020. As the whorl turns: rotation mechanisms of torticone ammonoids. *Geological Society of America, Abstracts with Programs*, v. 52, n. 6, doi: 10.1130/abs/2020AM-359195.
- Peterman, D.J., Inoue, S., Tomoyuki, M., Ciampaglio, C.N. 2020. Why were ammonite sutures so complex? An investigation of liquid retention in the septal margins of ammonoid shells. *Geological Society of America, Abstracts with Programs*, v. 52, n. 5, doi: 10.1130/abs/2020NC-347070.
- \*Mitchell, M.G., Ciampaglio, C.N., **Peterman, D.J.**, Shell, R.C., Fuelling, L.J., Jacquemin, S.J. 2020. Changes in chondrichthyan tooth niche space across the Permian-Triassic boundary. *Geological Society of America, Abstracts with Programs*, v. 52, n. 5, doi: 10.1130/abs/2020NC-346516.
- Shell, R.C., Peterman, D.J., Ciampaglio, C.N. 2020. Additional vertebrates from the Wreford Limestone (Permian: Cisuralian, Sakmarian) of Southern Kansas. *Geological Society of America, Abstracts with Programs*, v. 52, n. 5, doi: 10.1130/abs/2020NC-345715.
- Ritterbush, K.A., Hebdon, N., Peterman, D.J., Choi, Y., Cronin, S. 2020. "Lazing along and frazzling out": testing Twain's vision of ammonite ecology. *Geological Society of America, Abstracts with Programs*, v. 52, n. 4, doi: 10.1130/abs/2020CD-347579.
- Peterman, D.J., Osborn, A.S., Ciampaglio, C.N. 2020. Echinoid fauna of the lower Pleistocene Waccamaw Formation. *Geological Society of America, Abstracts with Programs*, v. 52, n. 2, doi: 10.1130/abs/2020SE-344641.
- **Peterman, D.J.**, Ciampaglio, C.N., and Yacobucci, M. 2019. Stable hooks: effects of the U-shaped body chamber of adult heteromorphic ammonoids on hydrostatic stability and hydrodynamic restoration. *Geological Society of America, Abstracts with Programs* v. 51, n. 5. doi: 10.1130/abs/2019AM-334021.

- Ciampaglio, C.N., Fuelling, L.J., Peterman, D.J., and Clayton, A. 2019. Examination of conodont elements via focus-stacked photography. *Geological Society of America, Abstracts with Programs* v. 51, n. 5, doi: 10.1130/abs/2019AM-339423.
- Peterman, D.J., Barton, C., Ciampaglio, C.N., and Yacobucci, M.M. 2019. Sexual dimorphism in scaphitid ammonoids: differences in hydrostatic properties revealed by virtual 3D modeling. *North American Paleontological Conference Program with Abstracts, PaleoBios* 36(0).
- Peterman, D.J., and Barton, C.C. 2018. Ontogenetic Changes in the Hydrostatic Properties of the Heteromorphic Ammonite, *Didymoceras. American Geophysical Union Fall Meeting* 2018, n. PP13F-1402.
- Peterman, D.J., and Ciampaglio. C.N. 2018. How stable were orthoconic cephalopods? Hydrodynamic analyses of restoring moments from neutrally buoyant, 3D printed models of ectocochleate cephalopods. *Geological Society of America, Abstracts with Programs* v. 50, n. 6. doi: 10.1130/abs/2018AM-317321.
- Tebbens, S.F., Barton, C.C., Ewing, J., and Peterman, D.J. 2018. Fractal Wire Monopole Antennas: Design and Performance. American Geophysical Union Fall Meeting 2019, n. NG41B-0941.
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