

Paul V. Ullmann

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University of North Dakota
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PROFESSIONAL PREPARATION

- 2008 B.S. in Earth Sciences, Paleontology & Geology Concentrations, Montana State University
- 2015 Ph.D. in Biology (subfield: Paleontology), Drexel University
Dissertation: Insights into molecular taphonomy and the evolution of sauropod posture garnered from Late Cretaceous fossils
- 2015 - 2017 Postdoctoral Scholar, Jean and Ric Edelman Fossil Park at Rowan University
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PROFESSIONAL EXPERIENCE

- 2023 - present Assistant Professor, Harold Hamm School of Geology and Geological Engineering, University of North Dakota
- 2018 - 2023 Assistant Curator, Jean and Ric Edelman Fossil Park at Rowan University
- 2017 - 2023 Assistant Professor, Department of Geology, Rowan University
- 2013 - 2015 Teaching Assistant, Biology Department, Drexel University
- 2010 - 2013 National Science Foundation Graduate Research Fellow, Drexel University
- 2009 - 2010 Teaching Assistant, Biology Department, Drexel University
- 2008 - 2009 Field Crew Chief for Jack Horner, PhD, Museum of the Rockies
- 2007 - 2008 Paleontology Laboratory Assistant, Department of Earth Sciences, Montana State University
- 2006 Field Survey Paleontologist, Arcadis G&M, Inc., Highlands Ranch CO
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GRANTS, FELLOWSHIPS, & AWARDS

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|------|---|-----------|
| 2023 | NSF Pathways into the Earth, Ocean, Polar and Atmospheric & Geospace Sciences (GEOPATHs) Program (as a CoPI): | \$179,992 |
| 2022 | Open Access Publishing Fund, Rowan University: | \$1,890 |
| 2021 | Open Access Publishing Fund, Rowan University: | \$1,721 |
| 2020 | NSF MRI for an ICPMS (as Senior Personnel): | \$144,389 |
| 2020 | Southern Adventist University, funds for a student researcher: | \$5,000 |
| 2018 | Rowan University Seed Funding Program: | \$8,960 |
| 2014 | Jurassic Foundation Grant: | \$2,938 |

2010 - 2013	NSF Graduate Research Fellowship:	\$123,500
2009 - 2011	Provost's Fellowship, Drexel University:	\$11,250
2010, 2011, 2013, 2014	Office of Graduate Studies and Biology Department Travel Awards, Drexel University:	\$3,600
2008	Top Senior in Geology Award, Department of Earth Sciences, Montana State University	
2007 - 2008	Doctor C.C. Bradley Memorial Scholarship, Montana State University:	\$600

PEER-REVIEWED PUBLICATIONS (21); *undergraduate coauthors (9)

Ullmann PV and Schweitzer MH. 2023. A statistical meta-analysis of lithologic and other potential controls on fossil bone cellular and soft tissue preservation. *PALAIOS* 38: 246–257. [dx.doi.org/10.2110/palo.2022.026](https://doi.org/10.2110/palo.2022.026)

Ullmann PV, Voegele KK, Lacovara KJ. 2023. Actualistic testing of the influence of groundwater chemistry on degradation of collagen I in bone. *Minerals* 13 (Special Issue: Recent Advances in Bone Diagenesis): 596. (invited paper) [dx.doi.org/10.3390/min13050596](https://doi.org/10.3390/min13050596)

Ullmann PV, Ash RD, Scannella JB. 2022. Taphonomic and diagenetic pathways to protein preservation, part II: the case of *Brachylophosaurus canadensis* specimen MOR 2598. *Biology* 11 (Special Issue: Paleontology in the 21st Century): 1177. (invited paper) [dx.doi.org/10.3390/biology11081177](https://doi.org/10.3390/biology11081177)

Voegele KK, **Ullmann PV**, Boles ZM, Schroeter ER, Zheng W, Schweitzer MH, Lacovara KJ. 2022. Soft tissue and biomolecular preservation in vertebrate fossils from glauconitic, shallow marine sediments of the Hornerstown Formation, Edelman Fossil Park, New Jersey. *Biology* 11 (Special Issue: Paleontology in the 21st Century): 1161. (invited paper) [dx.doi.org/10.3390/biology11081161](https://doi.org/10.3390/biology11081161)

Schroeter ER, **Ullmann PV**, Zheng W, Schweitzer MH, Lacovara KJ. 2022. Soft-tissue, rare earth element, and molecular analyses of *Dreadnoughtus schrani*, an exceptionally complete titanosaur from Argentina. *Biology* 11 (Special Issue: Paleontology in the 21st Century): 1158. (invited paper) [dx.doi.org/10.3390/biology11081158](https://doi.org/10.3390/biology11081158)

Ullmann PV, *Macaulay K, Ash RD, Shoup B, Scannella JB. 2021. Taphonomic and diagenetic pathways to protein preservation, part I: the case of *Tyrannosaurus rex* specimen MOR 1125. *Biology* 10 (Special Issue: Paleontology in the 21st Century): 1193. (invited paper) [dx.doi.org/10.3390/biology10111193](https://doi.org/10.3390/biology10111193)

Voegele KK, **Ullmann PV**, *Lonsdorf T, Christman Z, Heierbacher M, *Kibelstis BJ, *Putnam I, Boles ZM, *Walsh S, Lacovara KJ. 2021. Microstratigraphic analysis of fossil distribution in the lower Hornerstown and upper Navesink formations at the Edelman Fossil Park, NJ. *Frontiers in Earth Science* 9: 756655. [dx.doi.org/10.3389/feart.2021.756655](https://doi.org/10.3389/feart.2021.756655)

Ullmann PV and *Carr E. 2021. *Catapleura* Cope 1868 is *Euclastes* Cope 1868 (Testudines: Pan-Cheloniidae): synonymy revealed by a new specimen from New Jersey. *Journal of Systematic Palaeontology* 19: 491–517. [dx.doi.org/10.1080/14772019.2021.1928306](https://doi.org/10.1080/14772019.2021.1928306)

- McLain M, **Ullmann PV**, Ash RD, Bohnstedt K, Nelsen D, Clark R, Brand LR, Chadwick AV. 2021. Independent confirmation of fluvial reworking at a Lance Formation (Maastrichtian) bonebed by traditional and chemical taphonomic analyses. *PALAIOS* 36: 193–215. [dx.doi.org/10.2110/palo.2020.064](https://doi.org/10.2110/palo.2020.064)
- Voegele KK, **Ullmann PV**, Lamanna MC, Lacovara KJ. 2021. Myological reconstruction of the pelvic girdle and hind limb of the giant titanosaurian sauropod dinosaur *Dreadnoughtus schrani*. *Journal of Anatomy* 238: 576–597. [dx.doi.org/10.1111/joa.13334](https://doi.org/10.1111/joa.13334)
- Ullmann PV**, Voegele KK, Grandstaff DE, Ash RD, Zheng W, Schroeter ER, Schweitzer MH, Lacovara KJ. 2020. Molecular tests support the viability of rare earth elements as proxies for fossil biomolecule preservation. *Scientific Reports* 10: 15566. [dx.doi.org/10.1038/s41598-020-72648-6](https://doi.org/10.1038/s41598-020-72648-6)
- Voegele KK, **Ullmann PV**, Lamanna MC, Lacovara KJ. 2020. Appendicular myological reconstruction of the forelimb of the giant titanosaurian sauropod dinosaur *Dreadnoughtus schrani*. *Journal of Anatomy* 237(1): 133–154. [dx.doi.org/10.1111/joa.13176](https://doi.org/10.1111/joa.13176)
- Ullmann PV**, Grandstaff DE, Ash RD, Lacovara KJ. 2020. Geochemical taphonomy of the Standing Rock Hadrosaur Site: exploring links between rare earth elements and cellular and soft tissue preservation. *Geochimica et Cosmochimica Acta* 269: 223–237. [dx.doi.org/10.1016/j.gca.2019.10.030](https://doi.org/10.1016/j.gca.2019.10.030)
- Ullmann PV**, *Pandya SH, Nellemoe R. 2019. Patterns of soft tissue and cellular preservation in relation to fossil bone tissue structure and overburden depth at the Standing Rock Hadrosaur Site. *Cretaceous Research* 99: 1–13. [dx.doi.org/10.1016/j.cretres.2019.02.012](https://doi.org/10.1016/j.cretres.2019.02.012)
- Ullmann PV**, Boles ZM, Knell MJ. 2018. Insights into cranial morphology and intraspecific variation from a new subadult specimen of the pan-cheloniid turtle *Euclastes wielandi*. *PaleoBios* 35: 1–22. escholarship.org/uc/item/8dw67415
- Ullmann PV**, Boles ZM, Lacovara KJ. 2018. Two new, large specimens of the pleurodiran sea turtle *Taphrosphys sulcatus* from Edelman Fossil Park, Mantua Township, New Jersey. *The Mosasaur* 10: 29–48.
- Ullmann PV**, Shaw A, Nellemoe R, Lacovara KJ. 2017. Taphonomy of the Standing Rock Hadrosaur Site, Corson County, South Dakota. *PALAIOS* 32(12): 779–796. **(cover feature)** [dx.doi.org/10.2110/palo.2017.060](https://doi.org/10.2110/palo.2017.060)
- Ullmann PV**, Bonnan MF, Lacovara KJ. 2017. Characterizing the evolution of wide-gauge features in stylopodial limb elements of titanosauriform sauropods via geometric morphometrics. *The Anatomical Record* 300(9): 1618–1635. [dx.doi.org/10.1002/ar.23607](https://doi.org/10.1002/ar.23607)
- Ullmann PV** and Lacovara KJ. 2016. Appendicular osteology of *Dreadnoughtus schrani*, a giant titanosaurian (Sauropoda, Titanosauria) from the Late Cretaceous of Patagonia, Argentina. *Journal of Vertebrate Paleontology* 36(6): e1225303. [dx.doi.org/10.1080/02724634.2016.1225303](https://doi.org/10.1080/02724634.2016.1225303)
- Lacovara KJ, Lamanna MC, Ibiricu LM, Poole JC, Schroeter ER, **Ullmann PV**, Voegele KK, Boles ZM, *Carter AM, *Fowler EK, Egerton VM, Moyer AE, Coughenour CL, Schein JP, Harris JD, Martínez RD, Novas FE. 2014. A gigantic, exceptionally complete titanosaurian dinosaur from southern Patagonia, Argentina. *Scientific Reports* 4: 6196. [dx.doi.org/10.1038/srep06196](https://doi.org/10.1038/srep06196)

Ullmann PV, Varricchio DJ, Knell MJ. 2012. Taphonomy and taxonomy of a vertebrate microsite in the mid-Cretaceous (Albian–Cenomanian) Blackleaf Formation, southwest Montana. *Historical Biology* 24(3): 311-328. [dx.doi.org/10.1080/08912963.2011.602405](https://doi.org/10.1080/08912963.2011.602405)

ABSTRACTS (43); *undergraduate coauthors (14)

Kibelstis BJ, Terry DO, and **Ullmann PV**. 2023. X-ray diffraction analysis of fossil bones from the Paleogene White River Group of South Dakota and Nebraska: influence of apatite crystallinity on soft tissue preservation. *GSA Connects 2023*.

*Armstrong Z and **Ullmann PV**. 2023. Actualistic assessment of early-diagenetic alteration of bones buried in highly-mature glauconitic greensands. *GSA Connects 2023*.

Boyd C, Drumheller S, Householder M, Saini-Eidukat B, Nestler JH, **Ullmann PV**. 2023. Geochemical examination of dinosaurian “mummies” from the Hell Creek Formation reveals a pathway for dermal tissue fossilization. *Society of Vertebrate Paleontology Meeting Program & Abstracts*.

Kibelstis BJ, **Ullmann PV**, Terry DO. 2023. Assessment of biomechanical function as a possible control on soft tissue preservation in Eocene–Oligocene bones from the White River Group of South Dakota and Nebraska. *Geological Society of America Abstracts with Programs, Joint Northeastern/Southeastern Section Meeting*: 20-43.

*Caputo C, Snyder K, Chadwick A, Ash RD, **Ullmann PV**. 2022. Using trace elements to characterize the geochemical history of the Hanson Ranch Bonebed, Cretaceous Lance Formation, Wyoming. *Society of Vertebrate Paleontology Meeting Program & Abstracts*: 99.

*Woolslayer G, **Ullmann PV**, Grandstaff DE, Terry DO. 2022. The effects of taphonomic variability on the preservation of cells and soft tissues in fossil bones from Badlands National Park, SD. *Geological Society of America Abstracts with Programs, Northeastern Section Meeting*: 1-8.

Ullmann PV and Schweitzer MH. 2021. A statistical meta-analysis of lithologic and other controls on fossil bone cellular and soft tissue preservation. *GSA Connects 2021*: 2-2.

Voegele KK, **Ullmann PV**, *Lonsdorf T, Christman Z, Lacovara KJ. 2021. Microstratigraphic analysis of fossil distribution in the lower Hornerstown and upper Navesink formations at the Edelman Fossil Park, NJ. *GSA Connects 2021*: 2-3.

*Barker K, Terry DO, **Ullmann PV**. 2021. Recovering endogenous cells and soft tissues from fossil bones: does the depositional environment matter? *GSA Connects 2021*: 225-10.

*Vieira J and **Ullmann PV**. 2021. Survivorship of invertebrate modes of life across the K/Pg boundary at Edelman Fossil Park, Mantua Township, New Jersey. *GSA Connects 2021*: 166-9.

Ullmann PV. 2021. Establishing criteria to differentiate mass-death and attritional fossil bonebeds based solely on trace element signatures. *9th International Bone Diagenesis Meeting*: 39.

Ullmann PV. 2020. Why rare earth elements and other trace elements should be included in every vertebrate paleontologist’s research toolkit. *TaphCon 2020*: 40.

*Vieira J, Voegele KK, Boles ZM, **Ullmann PV**. 2020. Building a comprehensive, multi-use fossil identification guide for the Edelman Fossil Park for education and outreach. *GSA Connects Online 2020*: 353979.

- *Grove J, *Dallmann AL, Voegele KK, **Ullmann PV**, Nellemoe R. 2020. Contextualizing a new, large *Allosaurus* skeleton from Wyoming into stratigraphic perspective the Late Jurassic Morrison Formation. *Geological Society of America Abstracts with Programs, North-Central Section Meeting*: 16-15.
- *Macauley KW, Ash RD, **Ullmann PV**. 2020. Relating rare earth element uptake to soft tissue preservation in Cretaceous and Miocene fossil bones. *Geological Society of America Abstracts with Programs, Joint Northeastern/Southeastern Section Meeting 52(2)*: 59-5.
- *Vieira J, Voegele KK, Boles ZM, **Ullmann PV**. 2020. Building a comprehensive, multi-use fossil identification guide for the Edelman Fossil Park for education and outreach. *Geological Society of America Abstracts with Programs, Joint Northeastern/Southeastern Section Meeting 52(2)*: 9-6.
- *Engrav S, Voegele KK, **Ullmann PV**, Nellemoe R. 2020. Using Computed Tomography to analyze the braincase of a new *Allosaurus* specimen from the Jurassic Morrison Formation of Wyoming. *Geological Society of America Abstracts with Programs, Joint Northeastern/Southeastern Section Meeting 52(2)*: 59-1.
- Galluci J, **Ullmann PV**, Grandstaff DE, Ash R, Terry DO. 2020. Soft tissue and cellular preservation in Late Eocene-Early Oligocene vertebrate fossils of the White River Badlands. *Geological Society of America Abstracts with Programs, Joint Northeastern/Southeastern Section Meeting 52(2)*: 40-7.
- Voegele KK, **Ullmann PV**, *Grove J, Nellemoe R. 2019. Characterizing the ontogenetic stage of a very large specimen of *Allosaurus* from the Jurassic of Wyoming with subadult characteristics. *Society of Vertebrate Paleontology Meeting Program & Abstracts*: 213.
- Ullmann PV**, *Macauley K, Ash RD. 2019. Geochemical taphonomy of *Tyrannosaurus rex* MOR 1125, the first Cretaceous fossil to yield endogenous protein sequences. *Society of Vertebrate Paleontology Meeting Program & Abstracts*: 209.
- Galluci J, Terry DO, **Ullmann PV**. 2019. Controls on soft tissue preservation in Eocene-Oligocene vertebrate fossils of the White River Group. *Geological Society of America Abstracts with Programs 51(5)*: 211-2.
- Galluci J, **Ullmann PV**, Terry DO. 2019. Soft tissue preservation in Late Eocene-Early Oligocene vertebrate fossils of the White River Group. *Proceedings of the Eleventh Conference on Fossil Resources, Dakoterra 7*.
- *Grove J, Voegele KK, **Ullmann PV**, Nellemoe R. 2019. Assessing the identify of a new *Allosaurus* skeleton from the Jurassic Morrison Formation of Wyoming. *Geological Society of America Abstracts with Programs, Joint South-Central/North-Central/Rocky Mountain Section Meeting*: 19-10.
- Ullmann PV** and Lacovara KJ. 2018. New insights into the osteology and phylogenetic affinities of the Cretaceous–Paleogene cheloniid sea turtle *Catapleura repanda*. *Society of Vertebrate Paleontology Meeting Program & Abstracts*: 231.
- Boles ZM, **Ullmann PV**, *Putnam I. 2018. Additions to the vertebrate fauna of Jean and Ric Edelman Fossil Park, including temporal range extensions across the K/Pg boundary. *Society of Vertebrate Paleontology Meeting Program & Abstracts*: 93.

- Ullmann PV** and Ash Rd. 2018. Characterizing the structure of diagenetically phosphatized K/Pg impact spherules from Edelman Fossil Park, Mantua Township, New Jersey. *Lunar and Planetary Science Conference*: 2767.
- Ullmann PV** and Lacovara KJ. 2017. Actualistic testing of the influence of groundwater chemistry on degradation of collagen I in bone. *Geological Society of America Abstracts with Programs* 49(7): 123-1.
- Voegele KK, **Ullmann PV**, Heierbacher M, *Kibelstis BJ, *Putnam I, Lacovara KJ. 2017. Vertical distribution of fossils in the lower Hornerstown and upper Navesink formations at Edelman Fossil Park, NJ. *Geological Society of America Abstracts with Programs* 49(7): 220-12.
- Ullmann PV** and Lacovara KJ. 2017. Appendicular osteology of *Dreadnoughtus schrani*, a giant titanosaurian sauropod from the Late Cretaceous of Patagonia, Argentina. *Society of Vertebrate Paleontology Meeting Program & Abstracts*: 206.
- Voegele KK, **Ullmann PV**, Boles ZM, Schroeter ER, Schweitzer MH, Lacovara KJ. 2017. Preservation of endogenous collagen I in a marine crocodile, *Thoracosaurus neoclesiensis*. *Society of Vertebrate Paleontology Meeting Program & Abstracts*: 209.
- Voegele KK, **Ullmann PV**, Lamanna MC, Lacovara KJ. 2016. Myological reconstructions from well-defined appendicular muscle scars in *Dreadnoughtus schrani*, a gigantic titanosaurian sauropod from Patagonia, Argentina. *Society of Vertebrate Paleontology Meeting Program & Abstracts*: 245.
- Ullmann PV**, Voegele KK, Grandstaff DE, Ash RD, Schroeter ER, Schweitzer MH. 2016. Evaluating the utility of rare earth element profiles as a proxy for soft tissue and biomolecular preservation potential in fossil bone. *Society of Vertebrate Paleontology Meeting Program & Abstracts*: 241. **(invited talk)**
- Ullmann PV**, Ash R, Grandstaff DE. 2016. Implications from diffusion modeling of trace element uptake by bones from the Standing Rock Hadrosaur Site, Hell Creek Formation, Corson County, SD. *Geological Society of America Abstracts with Programs* 48(7): 272-5.
- Ullmann PV** and Lacovara KJ. 2015. Evaluating the influence of body size on appendicular anatomy of titanosaurian sauropods. *Society of Vertebrate Paleontology Meeting Program & Abstracts*: 228.
- *Fowler EK, Voegele KK, **Ullmann PV**, Feldman V, Lacovara KJ. 2015. Restoring *Dreadnoughtus*: using lattice deformers in Autodesk Maya to retro-deform fossils from an exceptionally complete titanosaur. *Society of Vertebrate Paleontology Meeting Program & Abstracts*: 126.
- Lacovara KJ, Lamanna MC, Ibiricu LM, **Ullmann PV**, Voegele KK, Schroeter ER, Boles ZM. 2014. An exceptionally complete titanosaurian sauropod dinosaur from the Upper Cretaceous of southern Patagonia, Argentina. *Geological Society of America Abstracts with Programs* 46(6): 264-14.
- Ullmann PV**, Grandstaff DE, Ash R, Lacovara KJ. 2014. Rapid and brief trace element uptake by bone at the Standing Rock *Edmontosaurus* bonebed, Hell Creek Formation, Corson County, SD: an exception to long-term rare earth element uptake. *Geological Society of America Abstracts with Programs* 46(6): 221-10.
- *Fowler EK, **Ullmann PV**, Voegele KK, Lacovara KJ. 2014. Titanosaur meets NextEngine: coaxing big data from an entry-level 3D laser scanner. *Journal of Vertebrate Paleontology* 34(5, Supp): 132.

Ullmann PV, Nellemoe R, Shaw A, Lacovara KJ. 2014. Taphonomy of the Standing Rock *Edmontosaurus* bonebed, Corson County, SD: implications for biomolecular preservation. *Journal of Vertebrate Paleontology* 34(5, Supp): 243.

Ullmann PV, Bonnan MF, Lacovara KJ. 2013. Morphometric exploration of the evolution of wide gauge features in stylopodial limb elements of titanosauriform sauropods. *Journal of Vertebrate Paleontology* 33(5, Supp): 229.

Voegelé KK, **Ullmann PV**, *Patel A, and Lacovara KJ. 2012. Insights from a new specimen of the gavialoid crocodylian *Thoracosaurus neocesariensis* from the Maastrichtian-Danian Hornerstown Formation, Sewell, NJ. *Journal of Vertebrate Paleontology* 32(5, Supp): 190.

Ullmann PV and Lacovara KJ. 2011. Largest known specimen and first mandible of the Cretaceous side-necked turtle *Taphrosphys sulcatus* (Testudines: Pleurodira). *Journal of Vertebrate Paleontology* 31(6, Supp): 207A-208A.

Ullmann PV, Varricchio DJ, Knell MJ, Lacovara KJ. 2010. Taphonomy and taxonomy of a vertebrate microsite in the Cretaceous Blackleaf Formation in southwest Montana. *Journal of Vertebrate Paleontology* 30(6, Supp): 179A.

INVITED PRESENTATIONS

Ullmann PV. "Braving the elements: taphonomic and diagenetic pathways to protein preservation" – Keynote speech at the 2022 Annual Meeting of the Palaeontological Association, University College Cork, Ireland, July 2022.

Ullmann PV. "Soft tissues and biologic molecules can persist in fossil bones – but how?"
– Rowan University Geology Colloquium Series, Glassboro NJ, September 2021.
– Delaware Valley Earth Science Society, Berlin NJ, August 2021.
– Temple University, Philadelphia PA, February 2020.

Ullmann PV, Grandstaff DE, Ash R, Lacovara KJ. "Rapid and brief trace element uptake by bone at the Standing Rock *Edmontosaurus* bonebed, Hell Creek Formation, Corson County, SD: an exception to long-term rare earth element uptake" – Geobiology Symposium at the Smithsonian National Museum of Natural History, April 2017.

Voegelé KK and **Ullmann PV**. "Extinction is only the beginning: how to revive fossils" – Gloucester County Library, Mullica Hill NJ, November 2016.

Ullmann PV. "Death of the Dinosaurs, Birth of a Fossil Park"
– Age to Perfection, Woolwich NJ, November 2016.
– North Rocks Gem, Mineral, Fossil, & Jewelry Show, Lancaster PA, April 2016.
– Jersey Shore Sierra Club and Brookdale Community College, Lincroft NJ, April 2015.

Ullmann PV. "Exploring the evolution of wide gauge features in titanosauriform sauropods via geometric morphometrics" – Delaware Valley Paleontological Society, May 2013.

Ullmann PV. "Evolution of wide gauge posture in titanosauriform sauropods" – Geobiology Symposium at the Smithsonian National Museum of Natural History, February 2013.

Ullmann PV and Lacovara KJ. "Elaboration of the osteology and phylogenetic affinities of the Cretaceous–Paleogene cheloniid sea turtle *Catapleura repanda* (Cope 1868)" – Academy of Natural Sciences Biodiversity Symposium, October 2012.

MANUSCRIPTS IN PREPARATION (3)

Terry DO, **Ullmann PV**, Galluci J, Woollayer G. Paleoclimatic and taphonomic controls on cellular and soft tissue preservation in vertebrate fossils from the White River Group of South Dakota. *Minerals (Special Issue: Recent Advances in Bone Diagenesis)*. **(invited manuscript)**

Boles ZM, **Ullmann PV**, Putnam I. Additions to the vertebrate fauna of Edelman Fossil Park, including range extensions. *Palaeogeography, Palaeoclimatology, Palaeoecology*.

Lacovara KJ, **Ullmann PV**, Voegelé KK, Boles ZM, Terry DO, Waanders G, Gallagher WB. A vertebrate mass-death assemblage at the K/Pg boundary in southern New Jersey. *Science*.

MAJOR GRANT PROPOSAL EXPERIENCE (10)

- 2023 Title: “Collaborative Research: The path to persistence – unraveling the geochemical and diagenetic mechanisms that control long-term biomolecular preservation in fossilized bone”
CoPI: Elena Schroeter (North Carolina State University)
Source: NSF Frontier Research in Earth Sciences (FRES) Program
Amount: \$645,818 (declined)
- 2023 Title: “Collaborative Research: Elucidating climatic and geochemical controls on cellular and soft tissue preservation in vertebrate fossils”
CoPIs: Dennis Terry (Temple University)
Source: NSF Sedimentary Geology and Paleobiology (SGP) Program
Amount: \$88,660 (declined)
- 2022 Title: “Collaborative Research: GP-IN: Transforming geoscience fieldwork into integrated, virtual education experiences”
CoPIs: Deeksha Seth (Villanova University), Kristyn Voegelé (Rowan University)
Source: NSF Pathways into the Earth, Ocean, Polar and Atmospheric & Geospace Sciences (GEOPATHs) Program
Amount: \$179,992 (**awarded**)
- 2022 Title: “Collaborative Research: Facing the elements – actualistic testing of rare earth element uptake and overprinting in modern and fossil bone”
CoPIs: David Grandstaff (Temple University)
Source: NSF Geobiology & Low-Temperature Geochemistry (GG) Program
Amount: \$212,500 (declined)
- 2022 Title: “Collaborative Research: Elucidating climatic and geochemical controls on cellular and soft tissue preservation in vertebrate fossils”
CoPIs: Dennis Terry (Temple University)
Source: NSF Sedimentary Geology and Paleobiology (SGP) Program
Amount: \$96,890 (declined)
- 2021 Title: “Collaborative Research: Unraveling diagenetic controls on the preservation of soft tissues and biomolecules in fossil bones”
CoPIs: Mary Schweitzer and Elena Schroeter (North Carolina State University)
Source: NSF Sedimentary Geology and Paleobiology (SGP) Program
Amount: \$196,551 (declined)
- 2021 Title: “Transforming geoscience fieldwork into integrated, virtual education experiences”
CoPIs: Deeksha Seth (Villanova University), Kristyn Voegelé (Rowan University)

- Source: US ED Transformative Research in the Education Sciences Program
Amount: \$870,612 (declined)
- 2020 Title: “Collaborative Research: GP-IN: Transforming geoscience fieldwork into integrated, virtual education experiences”
CoPIs: Deeksha Seth (Villanova University), Kristyn Voegele (Rowan University), Ron Nellerhoe (Concordia College)
Source: NSF Pathways into the Earth, Ocean, Polar and Atmospheric & Geospace Sciences (GEOPATHs) Program
Amount: \$198,160 (declined)
- 2019 Title: “Collaborative Research: Facing the elements – actualistic testing of rare earth element uptake and overprinting in modern and fossil bone”
CoPIs: David Grandstaff (Temple University)
Source: NSF Geobiology & Low-Temperature Geochemistry (GG) Program
Amount: \$142,379 (declined)
- 2018 Title: “Collaborative Research: Diagenetic controls on the preservation of soft tissues and biomolecules in fossil bones”
CoPIs: Mary Schweitzer (North Carolina State University)
Source: NSF Sedimentary Geology and Paleobiology (SGP) Program
Amount: \$584,728 (declined)
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TEACHING EXPERIENCE

- 2021 - 2023 Dinosaur Paleontology (GEOL 312), Instructor, Rowan University
- 2020 - 2023 Taphonomy (GEOL 410), Instructor, Rowan University
- 2020 - 2023 Research Experience in Geology (GEOL 470), Instructor, Rowan University
- 2018 - 2023 Field Methods in Geology (GEOL 240), Instructor, Rowan University
- 2017 - 2023 Dinosaurs and Their World (GEOL 110), Instructor, Rowan University
- 2022 Paleontology Laboratory Techniques (GEOL 310), Co-Instructor, Rowan University
- 2022 Senior Seminar in Geology (GEOL 450), Instructor, Rowan University
- 2014 - 2015 History of Life (GEO 102), Instructor, Drexel University
- 2014 Advanced Field Methods in Earth Science (GEO 301), Teaching Assistant, Drexel University
- 2013 - 2014 Evolution (BIO/ENVS 217), Teaching Assistant, Drexel University
- 2010 Introductory Biology (BIO 151), Teaching Assistant, Drexel University
- 2009 Physical Geology (GEO 101), Teaching Assistant, Drexel University
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FIELD EXPERIENCE

- 2017 - present Cretaceous Hell Creek Formation, Montana; Field Manager.

2010 - 2023	Cretaceous–Paleocene Hornerstown Formation, New Jersey; Field Manager.
2019	Jurassic Morrison Formation, Wyoming; Field Manager.
2012	Cretaceous Hell Creek Formation, South Dakota; Field Manager.
2009	Cretaceous Hell Creek Formation, Montana; Field Crew Chief for Dr. Jack Horner of the Museum of the Rockies.
2008	Cretaceous Judith River Formation, Montana; Field Crew Chief for Dr. Jack Horner of the Museum of the Rockies.
2007	Cretaceous Wayan Formation, Idaho; Volunteer for Dr. David Varricchio of Montana State University.
2006	Eocene Bridger Formation, Wyoming; Field Survey Paleontologist for Arcadis G&M Inc.
2006	Cretaceous Blackleaf Formation, Montana; Volunteer for Dr. David Varricchio of Montana State University.
2003	Cretaceous Hell Creek Formation, Montana; Volunteer for Dr. Jack Horner of the Museum of the Rockies.

OUTREACH

2015 - 2023	Philadelphia Science Festival's annual Carnival - Co-run a geology-based activity booth for Rowan's Department of Geology and School of Earth and Environment.
2020	Grand Forks YMCA Adventure Camp & Association of Women Geoscientists-Williston Basin (ND) - Lead an interactive educational workshop about fossils and fossilization with underrepresented 1 st through 7 th grade students.
2012 - 2017	Edelman Fossil Park STEM Outreach Coordinator - Lead interactive educational workshops with regional K-12 classes focused on the science behind fossilization and reconstruction of ancient ecosystems.
2012 - 2017	Coordinator for visitor tours at Edelman Fossil Park - Helped plan tours for 2,000 visitors from around the world on our Annual Community Dig Day. - Guided visitor tours by regional boy scout troops, afterschool clubs and summer camps, chambers of commerce, economic development councils, science clubs, the Philadelphia Science Festival, TED council, private company mixers, and county, state, and federal offices. - Interactive discussions about the scientific importance of fossils.
2017	Instructor for inaugural Geo Explorers Camp at Edelman Fossil Park
2013	"Volcanoes!", Our Mother of Sorrows Catholic School, Philadelphia - Presentation and interactive lesson about the science of volcanoes with underrepresented 5th and 6th graders.
2012	Mantua Township Open House

- Interactive discussions about Edelman Fossil Park and the ancient history of New Jersey.

MEDIA

- Nov. 2021 S. Levine, Rowan Today: "Rowan researchers deploy 3D mapping tools to define fossil layer". <https://today.rowan.edu/news/2021/11/rowan-researchers-deploy-3d-mapping-tools-to-define-fossil-layer.html>
- Oct. 2020 S. Levine, Rowan Today: "Rowan-led research identifies chemical tool for finding proteins in fossil bones". <https://today.rowan.edu/news/2020/10/rowan-led-research-identifies-chemical-tool-for-finding-proteins-in-fossil-bones.html>
- Feb. 2019 T. Lonsdorf, The Whit: "John and Joan Wolf Teaching Collection gives second life to donated fossils". <https://thewhitonline.com/2019/02/news/john-and-joan-wolf-teaching-collection-gives-second-life-to-donated-fossils/>
- Feb. 2019 A. Heller, The Whit: "Rowan's Department of Environmental Science celebrates Darwin Day". <https://thewhitonline.com/2019/02/news/rowans-department-of-environmental-science-celebrates-darwin-day/>
- Feb. 2018 D. Olson, Concordia College News: "Completing the circle". <https://www.concordiacollege.edu/news/details/completing-the-circle/>
- Jul. 2017 J. Decker, South Jersey Times: "Here's what goes on behind the scenes at Rowan University's paleontology lab". http://www.nj.com/gloucester-county/index.ssf/2017/07/heres_what_goes_on_behind_the_scenes_at_rowan_univ_1.html
- Jul. 2017 C. Romalino, Courier-Post: "Little paleontologists dig for fossils". <http://www.courierpostonline.com/story/news/2017/07/17/rowan-kids-paleontologists-dig-fossils-dinosaurs/476056001/>
- Nov. 2016 M. Hill, NJTV News: "Rowan University buys fossil park to further education". <https://www.njtvonline.org/news/video/rowan-university-buys-fossil-park-education/>
- Aug. 2016 D. O'Reilly, Philadelphia Inquirer: "Bone by bone, fossil found in a Rowan dig takes shape on a lab floor". <http://www.philly.com/philly/education/20160829.html>
- Sep. 2015 G. Mulvihill, App.com/USA Today and The Morning Call: "Rowan University buying quarry for dinosaur research". <http://www.app.com/story/news/education/college-news/2015/09/23/rowan-buying-quarry-dinosaur-research/72699882/>
- Nov. 2014 M. Walsh, Yahoo News: "Paleontologists dig up prehistoric fossils behind New Jersey shopping center". <https://www.yahoo.com/news/165632314.html?ref=gs>

- Sep. 2011 T. Avril, Philadelphia Inquirer: "Researchers trying to piece together a 65 million-year-old turtle". <http://articles.philly.com/2011-09-21/news/30184889>
- Jun. 2011 T. Avril, Philadelphia Inquirer: "Heavy lifting in N.J.: a 65 million-year-old sea turtle". <http://articles.philly.com/2011-06-09/news/29638874>
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COLLECTIONS & CURATION EXPERIENCE

- 2015 - 2023 Paleontology Collection Manager, Rowan University
 - Identify, prepare, catalog, and manage fossil collection and its records
 - Advised an undergraduate student in construction of a database website (cretaceousmantua.com, now folded into rowan.edu/fossils) presenting fossil taxa from Edelman Fossil Park
- 2015 - 2023 Paleontology Laboratory Manager, Rowan University
 - Designed efficient layout of laboratory to facilitate work and visitor tours
 - Train students and community volunteers in fossil preparation techniques, microscopy, 3D laser scanning
 - Manage resources and supplies
 - Coordinate and run visitor tours of the Rowan Paleontology Laboratory
- 2011 - 2015 Paleontology Collection Manager, Drexel University
 - Implemented a cataloging and labeling system
 - Identified, organized, and prepared fossil specimens
 - Trained volunteers in fossil preparation techniques, 3D laser scanning
 - Guided visitor tours of the Drexel Paleo Lab
- 2009 Volunteer Fossil Preparator, Academy of Natural Sciences of Drexel University
- 2007 - 2008 Paleontology Laboratory Assistant, Department of Earth Sciences, Montana State University
 - Prepared and cataloged fossils
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PROFESSIONAL SERVICE

- Journal Reviewer: *PeerJ*, *PLoS ONE*, *Ecology and Evolution*, *Journal of Iberian Geology*, *PALAIOS*, *Cretaceous Research*, *Minerals*, *Historical Biology*, *Journal of Marine Science and Engineering*, *Geochimica et Cosmochimica Acta*, *Palaeontologia Electronica*, *Chemical Geology*
- NSF Panelist: BoCP, Biodiversity on a Changing Planet Program (2023)
 PRFB, Postdoctoral Research Fellowships in Biology (2018-19, 2021-23)
- 2022 - present Guest Editor for a Special Issue of *Minerals* entitled "Recent Advances in Bone Diagenesis"
- 2023 Ad Hoc Reviewer, NSF EAR-PF: Earth Sciences Postdoctoral Fellowships
- 2020 - 2023 Learning Assessment and Rowan Core Committee, Rowan University
- 2017 - 2023 Department of Geology Liaison to Cooper Medical School and the School of Osteopathic Medicine, Rowan University

2021	Ad Hoc Reviewer, NSF IntBIO, Integrative Research in Biology Program
2019 - 2020	Senate Curriculum Committee, Rowan University
2017 - 2020	Faculty Senate Alternate for Department of Geology, Rowan University
2018 - 2019	Rowan Core Committee, Rowan University

GRADUATE STUDENTS ADVISED

2022 - present	Brian Kibelstis, Temple University, M.S. Committee Member (topic: histologic controls on soft tissue preservation in fossil bones)
2018 - 2020	John Galluci, Temple University, M.S. Committee Member - now a PhD candidate at South Dakota School of Mines (topic: geologic controls on soft tissue preservation in fossil bones)

UNDERGRADUATE AND HIGH SCHOOL ADVISING & MENTORSHIP

2022 - present	Zachary Armstrong, Rowan University, Undergraduate Research Advisor (topic: actualistic study of bone diagenesis in glauconitic greensands)
2020 - present	Cooper Caputo, Rowan University, Undergraduate Research Advisor (topic: geochemical taphonomy of a dinosaur bonebed in WY)
2015 - present	Boy Scouts of America Liaison, Edelman Fossil Park - Supervise local boy scouts in accomplishing their Eagle Scout Projects - Scouts advised to date: Ryan Smith, Alex Glackin, Brenden Wood
2021 - 2022	Grace Woolslayer, Temple University, Undergrad. Research Co-advisor (topic: taphonomic controls on soft tissue preservation in fossil bones)
2021	Jonathon Tobacco, Rowan University, Undergraduate Research Advisor (topic: soft tissue preservation in bones from Edelman Fossil Park)
2021	Kelsey Barker, Rowan University, Undergraduate Research Advisor - now a PhD candidate at Rowan University (topic: soft tissue preservation in vertebrate fossils from NE and SD)
2019 - 2021	Justin Vieira, Rowan University, Undergraduate Research Advisor - now a geotechnician at ECORP Consulting Inc. (topic: invertebrate survivorship across the K/Pg at Edelman Fossil Park)
2018 - 2021	Kyle Macauley, Rowan University, Undergraduate Research Advisor - now a PhD candidate at the University of Arkansas (topic: geochemical taphonomy of several Cretaceous fossils)
2018 - 2020	Joe Grove, Concordia College, Undergraduate Research Co-Advisor - now in medical school at the University of Minnesota-Duluth (topic: description of a new, large <i>Allosaurus</i> specimen from WY)
2019	Eric Carr, Stockton University, Research Internship Advisor (topic: taxonomy of fossil turtles from Edelman Fossil Park, NJ)
2013 - 2018	Co-advisor for Drexel University Coop students

- Paleontology Research position: Joshua Yan, Kevin Meredith, Anthony Papaccio, Aaron Dimick, Heidi Mills, Sandra Pizarro
 - Digital Animation position: Zach Thomas, Emma Fowler, Brendan Brown, William Ruoff, Brandon Percia, McKayla Robbins
- 2016 - 2017 Clifford Pierce and Jalen Merchant, Deptford High School, Apprenticeship Program Advisor
- 2015 Francesca Mundrik, Rowan University, Research Internship Advisor (now teaching in Rowan's Dept. of Geography, Planning, & Sustainability)
- 2015 Keith Thompson, Masuk High School, Senior Capstone Project Advisor
- 2012 Emma Fowler, Drexel University STAR Scholar, Co-advisor
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PROFESSIONAL AFFILIATIONS

Geological Society of America
 Society of Vertebrate Paleontology
 Delaware Valley Earth Science Society
 Boy Scouts of America
 National Eagle Scout Association
 National Society of Collegiate Scholars