# Madeline S. Marshall, Ph.D.

STRATIGRAPHER | SEDIMENTOLOGIST | PALEONTOLOGIST | EDUCATOR mmarshall@albion.edu | office: 517-629-0883 | marshallgeo.weebly.com

#### **EDUCATION**

| EDUCATION   |                   |
|---|-------------------|
| Ph.D. The University of Chicago, Chicago, IL  | 2018              |
| Department of the Geophysical Sciences, Advisor: Susan M. Kidwell                                     |                   |
| Thesis: Sequence stratigraphy and taphonomic expression of hiatuses in a highly condensed, organic- a | nd phosphate-rich |
| record: Paleoenvironmental analysis and paleoecology of the Permian Phosphoria Rock Complex, southe   |                   |
| · College Teaching Certificate, Chicago Center for Teaching   | 2018              |
| · Wasatch-Uinta Field Camp, Park City, Utah   | 2013              |
|   |                   |
| B.A. Macalester College, St. Paul, MN   | 2012              |
| Geology Department, Summa cum Laude, Advisor: Raymond R. Rogers                                       |                   |
|   |                   |
| ACADEMIC POSITIONS AND AFFILIATIONS   |                   |
| Assistant Professor   | 2019-present      |
| Department of Earth & Environment (Geological Sciences), Albion College                               | P                 |
| Visiting Anderson Natural Science Lecturer and Assistant Professor,                                   | 2018-2019         |
| Geology Department, Cornell College   | ,                 |
| Research Associate, Department of Earth Sciences, Denver Museum of Nature and Science                 | 2016-present      |
|   | P                 |
| TEACHING EXPERIENCE   |                   |
| Albion College, Assistant Professor   |                   |
|   | ng 2020 & 2022    |
| Introduction to Earth History GEOL 103 (undergraduate lab course, 6 semesters) Fall 20                |                   |
| Oceans, Atmosphere, and Climate GEOL 115 (undergraduate environmental course) F. 20                   |                   |
|   | 019, 2020, 2022   |
| Life and Chemical Sediments GEOL 389 (undergraduate lab course)                                       | Spring 2021       |
| Life and Chemical Sediments GEOL 389 (undergraduate lab course)                                       | Spring 2021       |
|   | Fall 2021, 2022   |
| Regional Field Geology GEOL 210: Midwest Paleozoic (undergraduate field course)                       | Spring 2022       |
| Geology Field Camp (assisted teaching undergraduate field course)                                     | Summer 2019       |
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| Cornell College, Visiting Assistant Professor and Anderson Lecturer                                   |                   |
|   | & Spring 2019     |
| Invertebrate Paleontology GEO 217 (undergraduate course)  | Fall 2018         |
| Paleoecology GEO 317 (undergraduate course)   | Fall 2018         |
| Historical Geology GEO 130 (undergraduate course)   | Spring 2019       |
| Sedimentology & Stratigraphy GEO 324 (undergraduate course)   | Spring 2019       |
|   | 1 0               |
| The University of Chicago, Graduate TA  |                   |
| Field Course in Geology 29001 (undergraduate-graduate course)   | Fall 2017         |
| Environmental History of the Earth 11000 (undergraduate course)                                       | Spring 2017       |
| Biological Evolution 13900 (undergraduate course) Winter  | er 2017 & 2018    |
|   | all 2014 & 2016   |
| Environmental History of the Earth 11000 (undergraduate course)                                       | Spring 2013       |
| Natural Hazards 13600 (undergraduate course)  | Winter 2013       |
| · · · · · · · · · · · · · · · · · · ·   |                   |

#### **PUBLICATIONS**

- Marshall MS, Higley MC (2021) Multi-scale virtual field experience: sedimentology and stratigraphy of Grand Ledge, Michigan, USA. *Geoscience Communication*, 4(4): 461-474.
- Marshall MS, Rogers RR (2012) Lungfish burrows from the Upper Cretaceous Maevarano Formation, Mahajanga Basin, Northwestern Madagascar. *Palaios* 27:857–866.
- Rogers RR, Krause DW, Kast SC, **Marshall MS**, Rahantarisoa L, Robins CR, Sertich JJW (2013) A new, richly fossiliferous member comprised of tidal deposits in the Upper Cretaceous Maevarano Formation, northwestern Madagascar. *Cretaceous Research* 44:12–29.

## VIRTUAL RESOURCES PUBLISHED

 Multi-Scale Sed/Strat Virtual Field Experience: grandledge.weebly.com (a version is also published at: https://serc.carleton.edu/NAGTWorkshops/ online\_field/activities/242310.html)

#### **PUBLICATIONS IN PREPARATION**

- **Marshall MS**, Paleobiological implications of skeletal concentrations in organic-rich records: Hiatal duration and paleo-oxygenation in the Permian Phosphoria Rock Complex (*dissertation chapter and continued research at Albion, in preparation*, planned submission to *Palaios*).
- **Marshall MS**, Bergeron LD\*, Sertich JJW, Stratigraphy and sedimentology of a complex shallow marine dinosaur-bearing succession from the Late Cretaceous of the Morondava Basin, Western Madagascar (*in preparation*, planned submission to *Sedimentology*).
- Marshall MS, Sequence stratigraphic insights into paleoenvironments of a condensed record in an epicontinental sea: Permian Phosphoria Formation, southeastern Idaho (*dissertation chapter and continued research at Albion, in preparation*, planned submission to *Journal of Sedimentary Research*).
- **Marshall MS**, Bergeron LD\*, Sertich JJW, Miller IM, Andrianarivo MH, Paleontology and taphonomic history of a complex nearshore dinosaur-bearing succession during the early isolation of the Cretaceous Morondava Basin, Western Madagascar (*in preparation*, planned submission to *Journal of African Earth Sciences*).
- Andrianarivo MH, Rasoamiaramanana A, Ranivoharimanana L, **Marshall MS**, Randrianaly H (*submitted*). Les Brachiopodes de secteur de la Manera SW du bassin de Morondava, Madagascar.
- **Marshall MS**, Evidence and characteristics of hiatal surfaces in nutrient-rich records: Phosphatic and glauconitic microfacies of the Permian Phosphoria Rock Complex (*in preparation*, planned submission to *Sedimentology*).
- **Marshall MS**, Andrianarivo MH, Stratigraphy and taphonomy of a shallow marine shell-rich sequence, upper Jurassic, southern Morondava Basin, Western Madagascar (*in preparation*, planned submission to *Palaios*).

## **ABSTRACTS OF CONFERENCE PRESENTATIONS**

- Marshall MS, \*Bergeron LD, \*Jatta M (2022) Paleoenvironmental implications of glaucony facies: A case study in the Lower Paleozoic of the Midwest, USA. Geological Society of America *Abstracts with Programs*, Vol 54, No. 5, doi: 10.1130/abs/2022AM-38092581069
- \*Bergeron LD, **Marshall MS**, Thole JT (2022) Green key to the past: A comparative study of the paleoenvironmental implications of optical vs. chemical properties of glauconite. Geological Society of America *Abstracts with Programs*, Vol 54, No. 5, doi: 10.1130/abs/2022AM-383723
- \*Jonkman H, Andrianarivo MH, \*Bergeron LD, \*Jatta M, **Marshall MS** (2022) Stratigraphy of shell beds from high-sediment, high-productivity deposits of the Late Jurassic Ilona River, Morondava Basin,

Western Madagascar. Geological Society of America Abstracts with Programs, Vol 54, No. 5, doi: 10.1130/abs/2022AM-3

- Marshall MS, Warme JE (2022) Incised valley depositional sequence and root traces of the Late Devonian (Frasnian) Temple Butte Formation in Marble Canyon, Eastern Grand Canyon. Geological Society of America *Abstracts with Programs*, Vol 54, No. 5, doi: 10.1130/abs/2022AM-379532
- \*Bergeron LD, **Marshall MS**, Lau K (2022) Stratigraphic insights from Permian shell beds: Comparison of Franson Member deposits of the Permian Phosphoria Rock Complex, Idaho. Geological Society of America *Abstracts with Programs*, Vol 54, No. 5, doi: 10.1130/abs/2022AM-381333
- \*Zink S, **Marshall MS** (2022) Glass ramps and ceramic sponges: Sculpturally reconstructing taphonomic patterns of Permian demosponges in the Phosphoria Rock Complex, Idaho. Geological Society of America *Abstracts with Programs*, Vol 54, No. 5, doi: 10.1130/abs/2022AM-378057
- Bowman C, Marshall MS, Garber JM, Owens J, Young S, Soares GG, Lau K (2022) Insights into phosphogenesis from a multi-proxy paleo-redox reconstruction of the Permian Phosphoria Basin, Idaho, USA. Geological Society of America *Abstracts with Programs*, Vol 54, No. 5, doi: 10.1130/abs/ 2022AM-381810
- Bowman C, **Marshall MS**, Owens JD, Young SA, Lau, KV (2021) Paleo-redox conditions of the eastern margin of the Permian Phosphoria Basin, Idaho, USA (PP21B-03). America Geophysical Union Fall Meeting, 13-17 Dec.
- Marshall MS, \*Bergeron LD, \*Jatta M (2021) Comparison of glauconitic units of the northern and southern Morondava Basin, Cretaceous of Western Madagascar. Geological Society of America *Abstracts with Programs,* Vol 53, No. 6, doi: 10.1130/abs/2021AM-364384.
- \*Bergeron LD, **Marshall MS** (2021) A complex marine succession revealed by authigenic minerals and microfossils in dinosaur-bearing deposits of the Late Cretaceous of the Morondava Basin, Madagascar. Geological Society of America *Abstracts with Programs*, Vol 53, No. 6, doi: 10.1130/abs/2021AM-364396.
- \*Rodarte DE, **Marshall MS** (2021) Comparative analysis of phosphorite hardgrounds from the Recent of the California Borderlands and the Permian Phosphoria Rock Complex of Idaho. Geological Society of America *Abstracts with Programs*, Vol 53, No. 6, doi: 10.1130/abs/2021AM-364563.
- **Marshall MS**, Sharp ND, Warme, JE (2020) Terrestrial paleoenvironments and transgressive history of the Devonian Temple Butte Formation in eastern Grand Canyon. International Sedimentary Geosciences Congress (ISGC), Abstract #298.
- Marshall MS (2018) Hiatal association of skeletal concentrations in high-productivity records: Paleoecological implications for the Phosphoria Rock Complex. Geological Society of America *Abstracts with Programs*, Vol. 50, No. 6, doi: 10.1130/abs/2018AM-320471.
- Marshall MS (2017) Paleoecological and physical evidence of a complex mosaic of oxygen conditions in the Phosphoria Sea, Permian of southeastern Idaho. Geological Society of America *Abstracts with Programs*, Vol. 49, No. 6, doi: 10.1130/abs/2017AM-304932.
- Marshall MS (2016) Paleobiological implications of skeletal concentrations in organic-rich records: Taphonomy of shell- and fish-rich intervals of the Permian Phosphoria Formation. Geological Society of America *Abstracts with Programs*, Vol. 48, No. 7, doi: 10.1130/abs/2016AM-285858.
- Marshall MS, \*DeCorte I (2015) Hiatal surfaces within the phosphorite, organic-rich, and chert facies of the Permian Phosphoria Formation, southeastern Idaho. Geological Society of America *Abstracts with Programs*, Vol. 47, No. 7, p. 830.
- Marshall MS, Sertich JJW, Miller IM, Andrianarivo MH (2015) Stratigraphy and paleontology of a new nearshore dinosaur-bearing succession from the Late Cretaceous of the Morondava Basin, Western Madagascar. Geological Society of America *Abstracts with Programs*, Vol. 47, No. 7, p. 566.
- Marshall MS (2014) Variation in macrofossil abundance and preservation under upwelling conditions: A case study in the Permian Phosphoria Formation. Geological Society of America *Abstracts with Programs*, Vol. 46, No. 6, p. 540.
- Rogers RR, Carrano MT, Curry Rogers K, Faulkner B, Lawrence A, **Marshall MS**, Perez M (2012) Taphonomy of vertebrate microfossil bonebeds in the Upper Cretaceous (Campanian) Judith River

Formation of Central Montana. Geological Society of America *Abstracts with Programs*, Vol. 44, No. 7, p. 397.

Marshall MS, Rogers RR (2011) Exceptional record of lungfish burrows from the Upper Cretaceous Maevarano Formation, Mahajanga Basin, Northwestern Madagascar. Geological Society of America *Abstracts with Programs*, Vol. 43, No. 5, p. 310.
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(\*indicates undergraduate co-author)

## **RESEARCH & FIELDWORK ADVISING**

Albion College undergraduate research students:

- Sam Zink '23 (spring 2022-present, 2 directed studies; Spring 2022 FURSCA; co-advised by Shauna Merriman, ceramics): Exploring gregarious Permian sponge morphologies and composition through multiple media, Phosphoria Rock Complex, Idaho
- Hayley Jonkman '23 (spring 2021-present, 2 directed studies; Spring 2022 FURSCA): Stratigraphic analysis of oyster reefs and authigenic minerals of the Late Jurassic Ilona River, Madagascar
- Adia Langeland '23 (fall 2022-present, 2 directed studies; Fall 2022 FURSCA): Regional comparative analysis of an exceptional bioclastic phosphorite unit ("fish scale marker bed") across the Permian Phosphoria Basin, Idaho
- Lauren Bergeron '22 (2020-2022, 4 directed studies; summer 2021 FURSCA): Thesis: Sedimentology of the Cretaceous Morondava Basin, Madagascar
- Moses Jatta '22 (2021-2022; summer 2021 FURSCA): Thesis: French translation and Stratigraphic correlation of outcrops in the Cretaceous Morondava Basin, Madagascar
- Dorothy Rodarte '21 (spring 2021 FURSCA and directed study): Comparative analysis of Phosphorite Hardgrounds from the Permian Phosphoria Rock Complex of Idaho and Recent of the California Borderlands
- Willow Montague '22 (fall 2021 directed study): Identification and description of invertebrate fossils from the Permian Phosphoria Rock Complex, Idaho

Albion College undergraduate thesis committee member (non-advisee):

- Emily Gerlach (2021-2022, International Studies and Environmental Biology), Honors Thesis committee member: *Climate change and global conflict*.
- Alexis Wilkerson (2020-2021, Biology), Honors Thesis committee member: Seasonal comparison of bacterial occurrences and their hydrolytic enzymatic activities among different soil types using combinations of standard microbiology and molecular approaches.

Albion College Academic Advisees:

• Advised and mentored 11 undergraduate students in 2020-21, 9 in 2021-22, 8 in 2022-23

Cornell College undergraduate research students:

- Matt Stivland (2018-2019), mentored research on Spiculite microfacies, Permian PRC
- Kira Fish (2018-2019), Thesis committee member: Boron isotope record in corals

Macalester College undergraduate research students:

- Ted Toegel (2016-2017), Sedimentology of phosphate nodules in the Permian Phosphoria Formation
- Mentored Field Assistants: Ilian DeCorte (2015, 10 weeks); Margo Yaravitz (2014, 3 weeks)

| • | Blanchard Faculty Fellowship, Albion College (2022)                        | \$5000 |
|---|--|--------|
| ٠ | Faculty Development Committee Summer Research Grant, Albion College (2022) | \$5500 |
| ٠ | Norman Newell Early Career Research Grant, Paleontological Society (2021)  | \$5000 |
| • | Faculty Development Committee Summer Research Grant, Albion College (2021) | \$5500 |

| • | American Chemical Society - Petroleum Research Fund Grant for Redox controls on organic carbon accumulation and sedimentary phosphorus cycling in highly productive environments, PI Kim Lau (collaborate |           |
|---|---|-----------|
| • | Faculty Development Committee Summer Research Grant, Albion College (2020)  | \$5500    |
| • | Lewis & Clark Fund for Exploration & Field Research, American Philosophical Society (2016)  | \$3900    |
| ٠ | SEPM (Society for Sedimentary Geology) Student Research Grant (2016)  | \$1500    |
| ٠ | National Science Foundation Graduate Research Fellowship (2013-2016)  | \$132,000 |
| ٠ | Geological Society of America Student Research Grant (2015)   | \$1232    |
| ٠ | National Geographic Society Committee for Research & Exploration Grant #9527-14   | \$26,000  |
|   | (co-investigator on grant authored by Dr. Joseph Sertich, "Evolution in Isolation: Fossils from t   | he        |
|   | Cretaceous of the Morondava Basin, southwestern Madagascar," 2014-2015)   |           |
| • | G. Arthur Cooper Award, Paleontological Society research grant (2014)   | \$800     |
| ٠ | Donald & Mary O'Nesky research grant, American Association of Petroleum Geologists (2014)   | \$1500    |
| ٠ | Theodore Roosevelt Memorial Research Grant, American Museum of Natural History (2014)   | \$1500    |
| ٠ | International Association of Sedimentologists post-graduate research grant (2014)   | €1000     |
| ٠ | McCormick Fellowship at The University of Chicago (2012-2014)   | \$8000    |
| ٠ | Barry M. Goldwater Scholar (2011-2012)  | \$7500    |
| ٠ | Minnesota Space Grant NASA Summer Research Award (Macalester College, 2011-2012)  |           |
| ٠ | Henry Lepp Award for academic excellence in geology (Macalester College, 2012)  |           |
| • | Student Faculty Summer Research Collaboration Award (Macalester College, 2010)  |           |
| • | DeWitt Wallace Distinguished Scholarship (Macalester College, 2008-2012)  |           |
| • | National Merit Scholar Finalist Award (Mead Witter Foundation, 2008-2012)   | \$10,000  |
|   | Futional ment benoal Finance finance (meat writer Foundation, 2000 2012)  | ¥10,000   |

## FIELD EXPERIENCE

| • | Glauconite in context: comparative analysis of optical vs. chemical properties, stratigraphic of and paleoenvironments of glauconitic minerals in the Paleozoic of the Midwest (2 weeks) | context, 2022 |
|---|--|---------------|
| ٠ | Comparison of the paleoecology and sedimentology of nutrient-rich vs. nutrient-poor  | 2021          |
|   | environments, Permian of southern Idaho; 3 weeks (collaborative with Dr. Kim Lau, Penn S   | State)        |
| • | Stratigraphy and paleoenvironments of the Devonian Temple Butte Formation, and Grand   | 2013, 2019    |
|   | Canyon Geology (trip led by Dr. John Warme and Lew Kleinhans); 2 weeks.  | ŕ             |
| ٠ | Sequence stratigraphy, facies analysis, and macrofossil preservation in the Permian  | 2014-2016     |
|   | Phosphoria & Park City Formations, Caribou-Targhee National Forest, southeast Idaho,   |               |
|   | and Beaverhead National Forest, southwest Montana; 20 weeks fieldwork.   |               |
| ٠ | Basin-wide stratigraphy, vertebrate paleontology, and paleobotany of the Campanian   | 2015          |
|   | Kaiparowits Formation, Grand Staircase-Escalante National Monument, southern   |               |
|   | Utah (Led by Dr. Joseph Sertich and Dr. Ian Miller, Denver Museum of Nature &  |               |
|   | Science); stratigraphy co-investigator, 3 weeks fieldwork.   |               |
| • | Evolution in Isolation: Paleontology & Stratigraphy of the Cretaceous of the Morondava   | 2012 & 2015   |
|   | Basin, southwestern Madagascar (Led by Dr. Joseph Sertich and Dr. Ian Miller, DMNS);   |               |
|   | geology co-investigator, 9 weeks fieldwork.  |               |
| ٠ | Stratigraphy & paleontology of the Mahajanga Basin, northwestern Madagascar (Led   | 2010 & 2012   |
|   | by Dr. David Krause (SUNY-Stony Brook), Dr. Raymond Rogers (Macalester   |               |
|   | College), and Dr. Joseph Sertich (DMNS); student researcher, 9 weeks fieldwork.  |               |
| ٠ | Taphonomy and paleontology of vertebrate microfossil bonebeds in the Judith River  | 2011          |
|   | Formation, north-central Montana (Led by Dr. Raymond Rogers and Dr. Kristi Curry   |               |
|   | Rogers, Macalester College); student researcher, 3 weeks fieldwork.  |               |
| • | Sedimentology & stratigraphy of Ashfall Fossil Beds, Nebraska (Led by Dr. Raymond  | 2009          |
|   | Rogers, Macalester College); field assistant, 1 week fieldwork.  |               |
|   |  |               |

# **PROFESSIONAL DEVELOPMENT COURSES**

• Speaking Up Bias Training (PowerPlay Interactive Development, U of New Hampshire, virtual) 2022

| ٠ | Field Safety Leadership Workshop (led by Dr. Kurt Burmeister)                               | 2021 |
|---|---|------|
| ٠ | Centering Diversity, Inclusion, and Equity in Undergraduate Research & Creative Activity    | 2021 |
|   | Conference (Council on Undergraduate Research)  |      |
| ٠ | Workshop for Early Career Geoscience Faculty (NAGT and NSF)                                 | 2020 |
| ٠ | Anti-Racism Primer short course (Truth & Titus Collective)                                  | 2020 |
| ٠ | Pedagogy and Technology in the Modern Paleontology Classroom (Paleontological Society, GSA) | 2018 |
| ٠ | Pedagogy and Technology in the Modern Paleontology Classroom (Paleontological Society, GSA) | 2018 |
| ٠ | Course Design and College Teaching (spring quarter course, Chicago Center for Teaching)     | 2017 |
| ٠ | Teaching "Difference" inclusive pedagogy workshop (Chicago Center for Teaching)             | 2017 |
| ٠ | Improv for Science Communication Workshop (UChicago Physical Sciences & Second City)        | 2017 |
| • | Seminar and Workshop on Course Design (Chicago Center for Teaching)                         | 2016 |
|   |   |      |
|   |   |      |

## SCIENTIFIC SHORT COURSES

| • | StraboSed Virtual Workshop, digital field notebook and data management system for sedimentological data and stratigraphic sections. (NSF-EarthCube) | 2020 |
|---|---|------|
| ٠ | Taphonomy, online graduate course (Taught by Dr. Susan Kidwell, University of Chicago)  | 2020 |
| ٠ | Structural and Stratigraphic Concepts Applied to Basin Exploration. ExxonMobil short course.  | 2017 |
|   | The Permian-Triassic transition in Colorado. GSA. (Led by Dr. James Hagadorn, DMNS)   | 2016 |
| ٠ | Miocene Stratigraphy and Paleoenvironments of the Calvert Cliffs, Maryland. GSA. (Led by  | 2015 |
|   | Dr. Susan Kidwell and Dr. Lucy Edwards, USGS)   |      |
| ٠ | Stratigraphy and Paleontology of the Fish Creek, Vallecito, and Coyote Mountains, Salton  | 2015 |
|   | Trough, California (Led by Dr. Susan Kidwell, University of Chicago)  |      |
| • | Siliciclastic Core-Logging and Ichnology for Graduate Students. GSA short course.   | 2014 |
| • | Geology of Death Valley and the Sierra Nevada Mountains (led by Dr. David Rowley & Dr.  | 2014 |
|   | Mark Webster, University of Chicago)  |      |
| • | Sequence Stratigraphy for Graduate Students. GSA short course.  | 2013 |
| • | Modern and Ancient Carbonate Environments, San Salvador, The Bahamas (Led by Dr.  | 2013 |
|   | Susan Kidwell and Dr. Michael LaBarbera, University of Chicago)   |      |
|   |   |      |

## **TECHNICAL SKILLS**

| • | Imaging and Analysis: Petrographic microscopy, PETROG (point counting), SEM, Micro-XRF, XRD,            |
|---|---|
|   | thin section preparation, basic experience in phosphate and carbonate $\delta^{18}$ O isotopic analyses |

- Data Analysis and Computation: Agisoft Metashape, R, ArcGIS, Adobe Illustrator, Adobe Photoshop
- Sedimentology & Stratigraphy: measuring stratigraphic sections, rock description in the field and lab
- Field Geology: field mapping, field logistics, vertebrate fossil quarrying (mapping, excavation, jacketing)

# INVITED TALKS

Albion College - Faculty Lecture

• Keys to the Past: Reconstructing Earth's ancient environments (Jan. 2023)

University of Missouri

• Tales of two shell beds: The role of sedimentation regime in the preservation of high-productivity skeletal concentrations (Feb. 2022)

Rocky Mountain Section-SEPM

• Tales of two shell beds: The role of sedimentation regime in the preservation of high-productivity skeletal concentrations (Jan. 2022)

South Dakota School of Mines and Technology

• Tales of two shell beds: The role of sedimentation regime in the preservation of high-productivity skeletal concentrations (Nov. 2021)

Denver Museum of Nature & Science

Paleoecology, taphonomy, and paleoenvironments of the Permian Phosphoria Rock Complex (Feb. 2020)

Texas A&M University

Hiatuses and Shell Beds: Windows into the paleoecology of high-productivity environments (April 2019)

Kent State University

• Hiatuses and Shell Beds: Windows into the paleoecology of high-productivity environments (2019) Georgia Southern University

• Hiatuses and bioelemental sediments as windows into the paleoecology of high-productivity environments (2019)

SUNY-Fredonia

• Hiatuses and Shell Beds: Windows into the paleoecology of high-productivity environments (2019) California Lutheran University

• Hiatuses and Shell Beds: Windows into the paleoecology of high-productivity environments (2019) Albion College

• Hiatuses and bioelemental sediments as windows into the paleoecology of high-productivity environments (2019)

Cornell College

- Piecing Together the Past: Reconstructing ancient environments when dinosaurs roamed western Madagascar Anderson Natural Science Lecture (2019)
- Bioelemental Sediments: Paleoenvironmental inference in the nutrient-rich Permian Phosphoria Formation (2018)

The University of Chicago Dept. of Geophysical Sciences annual research Expo

- A closer look at the hiatal surfaces of the Permian Phosphoria Formation, southeastern Idaho (2016)
- Lungfish burrows from the Upper Cretaceous Maevarano Formation, Mahajanga Basin, Northwestern Madagascar (2013)

The University of Chicago Dept. of Geophysical Sciences graduate seminar series

• Paleobiological implications of skeletal concentrations in organic-rich records: Taphonomy of shelland fish-rich intervals of the Permian Phosphoria Formation (2016)

• Stratigraphic paleobiology and taphonomy in the Permian sea of southeast Idaho (2015)

- The University of Chicago GeoUnion undergraduate seminar series
  - Geology and Paleontology in the Field (2015)

Macalester College Geology Department

- Bioelemental Sediments & The Phosphoria Formation (2016, undergraduate Sedimentology/ Stratigraphy class)
- The Phosphoria Formation: Deposition and paleobiology (2014, undergraduate Paleobiology class)
- guest presentations on geology graduate school and research (2015-2017, Senior Seminar course)

#### **COLLEGE AND PROFESSIONAL SERVICE**

| • | Paleontological Society Communications Officer (Elected to PS Council) | 2021-2025    |
|---|--|--------------|
|   | North American Paleontological Congress organizing committee member    | 2022-2024    |
| ٠ | Earth Science Women's Network invited panelist                         | 2022         |
|   | • Academic Applications for Faculty Positions in the US virtual event  |              |
| ٠ | Paleontological Society GSA student poster judge                       | 2021-2022    |
| ٠ | The Sedimentary Record Reviewer  | 2021         |
| ٠ | Albion College Environmental Club advisor                              | 2021-present |
| ٠ | Goldwater Scholars Campus Representative, Albion College               | 2022-present |
| ٠ | Albion College FURSCA Advisory Committee Member (Foundation for        | 2020-present |
|   | Undergraduate Research, Scholarship, and Creative Activity)            |              |
| ٠ | Albion College Hearing & Grievance Committee Member (elected)          | 2021-present |
| • | Mentor, Goldwater Scholars Community                                   | 2021-present |
|   |  |              |

| Albion College Earth & Environment Department Colloquium Subcommittee Chair                   | 2021-2022    |
|---|--------------|
| Albion College Diversity Task Force   | 2020-2021    |
| Albion College Assistant Faculty Parliamentarian  | 2020-present |
| Albion College Geology Department Hydrogeology Search Committee                               | 2019-2020    |
| Albion College Geology Club co-advisor  | 2019-2021    |
| Invited panelist for UChicagoGRAD, The University of Chicago                                  | 2020-2021    |
| Considering Lecturer, Visiting, and Adjunct Positions (Academic Job Market Sumn               | ner Camp);   |
| First Years as Faculty in STEM (GRADUCon); Mental Health in Grad School (PSI                  |              |
| American Chemical Society Petroleum Research Fund Reviewer                                    | 2020         |
| Member of Selection Committee for the AGI's Harriet Evelyn Wallace Scholarship                | 2018-2019    |
| Palaios Reviewer  | 2016-2018    |
| Graduate student seminar series chair, Dept. of Geophysical Sciences, UChicago                | 2014-2015    |
| • Co-chair of Actualistic Taphonomy symposium, NAPC (Gainesville, FL)                         | 2014         |
| PUBLIC OUTREACH   |              |
|   |              |
| South Side Science Festival (scientific demonstration volunteer) at The University of Chicage |              |
| March for Science Chicago Expo exhibitor and representative for The Paleontological Socie     | ety 2017     |
| • University of Chicago Paleobiology digital outreach ("Ask a Paleontologist" project,        | 2013-2016    |
| addressing geology & paleontology questions from local kindergarten students via              |              |
| Skype presentations and online exchanges)   |              |
| • Denver Paleontology digital media contributor (blogging, photos, & video science            | 2015         |
| communications to the public from Madagascar & southern Utah during fieldwork)                |              |
| Outreach volunteer at the Field Museum of Natural History                                     | 2013         |
| · ·   |              |
| PROFESSIONAL AFFILIATIONS   |              |

- Geological Society of America (since 2010)
- Society of Sedimentary Geology (SEPM) (since 2010)
  SEPM Rocky Mountain Section (since 2022)
- American Association of Petroleum Geologists (since 2012)
- International Association of Sedimentologists (since 2012)
- The Paleontological Society (since 2013)