

Jacalyn M. (Wittmer) Malinowski

Department of Geological Sciences

SUNY Geneseo

Geneseo, NY 14454

Cell: 636.399.0042

E-mail: malinowski@geneseo.edu

EDUCATION

- 2009-2014 Doctor of Philosophy, Geosciences **Virginia Polytechnic Institute and State University**,
Dissertation: *Quantifying the dynamics of Pleistocene-Holocene mollusk communities from the Po Plain of Italy*
Advisor: Dr. Michał Kowalewski
Committee: Dr. Shuhai Xiao, Dr. Brian Romans, Dr. Daniele Scarponi
- 2007-2009 Master of Science, Geology **University of Cincinnati**,
Thesis: *The regional and global diversity of tentaculitoids: A new look at the spatio-temporal and paleogeographic history of an enigmatic group*
Advisor: Dr. Arnold I. Miller
Committee: Dr. Philip Novack-Gottshall, Dr. Carlton Brett, Dr. David Meyer
- 2003-2007 Bachelor of Science with departmental Honors, Geology **Beloit College**,
Undergraduate Thesis: *The paleoecology of tentaculitids from the Silurian Arisaig Group, Nova Scotia, Canada*
Advisor: Dr. Carl Mendelson

ACADEMIC EXPERIENCE/EMPLOYMENT

- 2017 - Present Assistant Professor Department of Geological Sciences, **SUNY Geneseo**
- 2014 - 2017 Lecturer Department of Geology, **University of Illinois at Urbana-Champaign**
- 2014 Visiting Instructor Department of Geology, **University of Illinois at Urbana-Champaign**

COURSES TAUGHT

State University of New York at Geneseo

Sedimentation GSCI 352, FA 2018, 2020

An elective course that examines how sediments form, weather, erode, and the sedimentary processes that transport them to their depositional environments. The goals of the course are to analyze sediments and sedimentary structures to determine processes and settings that led to their deposition, thereby shedding light on aspects of geologic history, paleoclimate, tectonic setting, and sea-level change. The course involves field and lab research, experiments, data synthesis and exploration where the student learns how to effectively present data/information gathered from the field, labs, and from their own independent experimental designs.

Basin Analysis GSCI 388, SP 2018, 2020, FA 2021

An elective course that is an in-depth examination of sedimentary basins in terms of their tectonic context (compressive, extensional or strike-slip), sedimentary fill and sequence stratigraphy, climate controls on facies distribution and provenance, and thermal and geochemical evolution/alteration of the basin fill. This course covers these processes and their interactions, as understood from various observational data sets (sedimentary, structural, geochemical, and geophysical), as well as the quantitative forward and inverse models commonly used to extract or constrain basin history. The

course has a semester-long petroleum exploration activity where students understand both the mechanics and play of petroleum systems in a specific basin and predict where oil can be extracted.

Environmental Geology *GSCI 200, SP 2019, FA 2017 - 2021*

An online course that covers a survey of important geologic concepts relevant to current environmental issues. Emphasis is placed on geologic principles underlying problems related to water resources, pollution, natural hazards, waste disposal, energy and mineral resources, and on the scientific bases for current strategies proposed to limit adverse consequences of our impact on environmental systems. Activities and assignments in the course include case studies on various topics, exploration of earth processes through Google Earth, and student-development of informational wikis with risk assessments on assigned topics.

Invertebrate Paleontology *GSCI 361, FA 2017, SP 2019 -2022*

This course covers a range of topics central to modern paleobiology: how the fossil record informs our understanding of evolutionary processes including speciation; the causes and consequences of mass extinctions; how fossils help us tell time and reconstruct the Earth's climactic and tectonic history; statistical analysis of the fossil record to reconstruct biodiversity through time; analysis of fossil morphology to recreate the biomechanics of extinct organisms; and using fossil communities to reconstruct past ecosystems. Weekly laboratory exercises focus on invertebrate collections as well as published datasets to provide a broad understanding of fossils and the methods we use to study the history of life on Earth. Multiple projects and one-semester long project using analytical tools in paleontology occur throughout the course. Multiple field trips to local exposures in New York and a weekend-long field trip to explore the paleontology of Ohio-Kentucky.

Paleoclimatology *GSCI 335, SP 2021, 2022*

This is a lecture and lab-intensive course that explores in detail about climate proxies and how proxies are used to interpret past, current and future climate change. The course focuses heavily on reconstructing the Earth's past climate using different records and measures of climate change by collecting samples, conducting data analysis, and making interpretations of the NY region climate history. The goals of the course are to analyze proxies, instrumental records, and assess global and regional datasets to determine the timing and magnitude of climate change in Earth history, in the current record and to aid in our preparation for future environmental change. This course involves lab research, experiments, data synthesis and exploration.

Geological Field Methods *SU 2015 - 2016, 2018*

Instructor at the Wasatch-Uinta Field Camp that is a field methods course that focuses on the geology of the Wasatch-Uinta range in Park City, Utah. I am an instructor for the first three weeks of the course, focusing on sedimentology, stratigraphy, and paleontology.

University of Illinois at Urbana-Champaign

Emergence of Life *GEOL 111 (online) and Massive Open Online Course (MOOC), SU 2014*

MOOC - A Massive Open Online Course that was developed by Bruce W. Fouke (UIUC) and myself on the evolution of life through time.

GEOL 111 - A 8 week online course that covers various topics on the evolution of life from the first physical evidence of life, to invertebrates, to reptiles, and to mammals. The course explores the great transitions from sea to land and from land to air in a geologic context.

Natural Disasters *GEOL 118, SP 2014, 2015*

An introductory, general education course on the violent geological and environmental processes on our planet, such as Earthquakes, Volcanoes, Hurricanes, Tornadoes, Floods, Climate Change, Meteorite Impacts, and Mass Extinction. The course focuses on the prevention, mitigation, and education about natural disasters to our society and communities.

History of Life *GEOL 143, FA 2014 - 2016*

An introductory-level course focusing on how life began on Earth and the processes and events that led to the kind of life we see on Earth today. The class and labs explore the key events in the Earth's history that paved the way for life and the key events in evolutionary history that chemically and physically changed the Earth to make it suitable for its inhabitants.

History of the Earth System *GEOL 208, FA 2014 - 2016*

An intermediate-level course that steps through the formation and evolution of the Earth and its dynamic systems (lithosphere, hydrosphere, atmosphere, and biosphere). This course included a 3-day field trip to the St. Francois Mountains in Southeastern Missouri where students investigate the formation of PreCambrian and Early Paleozoic rocks, The Great Unconformity and put together a geologic history of the region.

Sedimentology and Stratigraphy *GEOL 440, SP 2015, 2016*

An upper-level course with an in-depth focus on the topics of sedimentology, depositional environments, stratigraphy, sequence stratigraphy, and basin analysis. This course included a 3-day field trip to Northeastern Kentucky along the Cincinnati Arch where students study the evolution of a forebulge platform and foreland basin throughout the Ordovician - Pennsylvanian (carbonate reef to mixed siliciclastic-carbonate shallow marine settings to siliciclastic-dominated delta and coal systems).

Paleobiology *GEOL 497, SP 2016*

An upper-level course on the evolution of invertebrates. This course also included a 2-day field trip to southeastern Indiana, southwestern Ohio and northwestern Kentucky to view a diversity of fossils in their geologic and paleo-environmental context.

Evolution of Sedimentary Basins *GEOL 593, FA 2016*

A graduate-level seminar class that explores the architecture and evolution of sedimentary basins controlled by tectonics and climate. Topics covered focus on the tectonic-climate controls on facies distribution, sequence stratigraphy, provenance, and basin analysis. The seminar involves discussions, student-led presentations, and term papers based on recent literature.

ADVISING AND MENTORING

SUNY Geneseo

Graduate Committee Advisees

2020 - Present	Josephine Chiarello (University of Cincinnati, Ph.D.)
2015 - 2021	Ingrid Romero Valero (University of Illinois, Ph.D.)
2017- 2018	Stephanie Rosbach (University of Missouri, Masters)

Undergraduate Honors Thesis

- 2019 Jacob Okun, Live-Dead Macroinvertebrate Agreement within Conesus Lake, Livingston County New York: Evidence of Anthropogenic Impact in the Finger Lakes *
Masters student at University of Michigan
- 2019 Josephine Chiarello, Determining the Role of Taxa and Biovolume of Reef Buildup Stages in the Late Ordovician Kimmswick Limestone, East-Central Missouri * *Masters student at University of Cincinnati*

Undergraduate Student Directed Studies

- 2022 – Present Kate Burns, *Conesus Lake NE Watershed Analysis*
- 2022 – Present Al Tejera, *Conesus Lake Diatom Paleoclimate Proxies*
- 2022 – Present Julia Rogerson, *Conesus Lake Sedimentological History*
- 2021 – Present Kaitlyn Gerstler, *Conesus Lake Sedimentological History*
- 2021 – Present Emily Abbati, *Conesus Lake Phosphate History Through Time*
- 2021 – Present Griffin Rose, *Conesus Lake Diatom Diversity Through Time*
- 2019 – 2020 Lauren Kaehler, *Anthropogenic impacts on Honeoye Lake*
- 2020 Carla Crampton, *Live-Dead comparisons of Canadice Lake*
- 2019 – 2020 Grace Buechner, *Anthropogenic impacts on Conesus Lake*
- 2019 Abigale O'Connor, *Wetland stratigraphy and paleobiology*
- 2019 Katie Meerdink, *Anthropogenic impacts on Canadice Lake*
- 2018 – 2019 Jacob Okun, *Lake Fidelity of Conesus*
- 2018 – 2019 Josephine Chiarello, *Kimmswick Reef Diversity*
- 2018 – 2019 Gavin Gleasman, *Lake Fidelity of Conesus* **Doctoral student at Clemson University*
- 2018 - 2019 Sydney Welch, *Lake Fidelity of Conesus*
- 2018 – 2019 Carly Davis, *Lake Fidelity of Conesus*
- 2018 Vincent Farrugia, *Shell mineralogy and latitude*
- 2017 – 2018 Anthony Wagman, *Post-glacial paleontology*

SCHOLARLY ACTIVITY

PUBLICATIONS

§ Indicates undergraduate research

PUBLISHED

- Monson, C.C., Sweet, D., Segvic, B., Giovanni, Z., Balling, K., **Wittmer, J.M.**, Ganis, G.R., Cheng, G., 2019, The Late Ordovician (Sandbian) Glasford Structure: A marine-target impact crater with a possible connection to the Ordovician meteorite event: *Meteoritics and Planetary Science.*, v. 54, 12, p. 1-24.
- Fouke, B.W., Fouke, K.W., Murphy, T., Cook, C., Michelson, B.F., DeStefano, L., Cross, J.L., Fried, G.A., Sollai, K., **Wittmer, J.M.**, Kelly, S.B., Louer, E., Fenlon, C.C., Vasi, N.P., Gulley, A.M., Sivaguru, M., 2019, Online, Classroom and Wilderness Teaching Environments: Reaching Astrobiology Learners of All Ages from Around the World: *Handbook of Astrobiology*, Vera Kolb (ed.), Taylor and Francis Group, Chap. 1.3.
- Nawrot, R., Scarponi, D., Azzarone, M., Dexter, T.A., Kusnerik, K., **Wittmer, J.M.**, Amorosi, A., Kowalewski, M., 2018, Stratigraphic signatures of mass extinctions: Ecological and sedimentary determinants: *Proceedings of the Royal Society B.*, v. 119, p. 1-9.
- §Cohen, H., **Wittmer, J.**, Butler, S., Young, J.M., 2018, Geochemistry, clay mineralogy, and taphonomy of the fossil-rich butter shales: *Palaios*, v. 33, no. 8, p. 393-402.

- Meyer, M. B., Ganis, R., **Wittmer, J.**, Zalasiewicz, J.A., De Baets, K., 2018, A Late Ordovician planktic assemblage with exceptionally preserved soft-bodied problematica from the Martinsburg Formation, Pennsylvania: *Palaios*, v. 33, no. 1, p. 36-46.
- Kowalewski, M., **Wittmer, J.**, Dexter, T.A., Amorosi, A., and Scarponi, D. 2015, Differential responses of marine communities to natural and anthropogenic changes: *Proceedings of the Royal Society B.*, v. 282, p. 1-8.
- Wittmer, J.**, Dexter, T., Scarponi, D., Kowalewski, M., Amorosi, A. 2014, Quantitative bathymetric models for Late Quaternary transgressive-regressive cycles of the Po Plain, Italy: *The Journal of Geology*, v. 122, p. 649-670.
- Wittmer, J.**, 2012, Preservation potential and diversity of tropical rocky shore gastropod communities from San Salvador Island, the Bahamas: *Palaios*, v. 27, no. 3, 171-180.
- Wittmer, J.**, Miller, A. I., 2011, Macroevolutionary history of tentaculitoids: A paleogeographic approach: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 312, no. 1-2, p. 54-65.
- Wittmer, J.**, 2007, The paleoecology of tentaculitids from the Silurian Arisaig Group, Nova Scotia, Canada: 20th Annual Keck Research Symposium in Geology Proceedings, p. 283-289.

IN REVIEW

- Wittmer, J.**, Chiarello, J., Brett, C.E., Guensburg, T., Darrough, G., and Stock, C.W. *in review*, Stromatoporoid-Echinoderm ecological successions in the Late Ordovician (Katian): Reef facies and the role of key biota in reef architecture: *Palaios*, *Submitted January 2022*.

IN PREP

- Wittmer, J.** and Michelson, A.V., *in prep*, Live-Dead macroinvertebrate assemblages of western New York Finger Lakes: The paleoecology of invasive and introduced communities: *Palaios*.
- Wittmer, J.**, Miller, A. I., Brett, C. *in prep*, Regional and spatio-temporal distribution of tentaculitoids in the type Cincinnati: Cincinnati Museum Center Scientific Contributions.

SELECTED MEETING ABSTRACTS

* Denotes Presenter

§ Indicates undergraduate research

- §*Gerstler, K., Abbati, E., Rogerson, J., Rose, G., **Wittmer, J. M.**, Michelson, A.V. 2022, A study of sedimentation rate and elemental trends in the north and south basins of Conesus Lake, western New York: Geological Society of America Abstracts with Programs.
- §*Rose, G., Gerstler, K., Abbati, **Wittmer, J. M.**, Michelson, A.V. 2022, An investigation of diatom morphometry and population in the sedimentary archive of Conesus Lake in western New York: Geological Society of America Abstracts with Programs.
- §Abbati, E., Gerstler, K., Rose, G., Gahlod, S., Morgan, J., Rios, P., Street, C., Michelson, A., ***Wittmer, J. M.**, 2021, An investigation of Finger Lake sedimentological and micro-algal communities in western New York: Geological Society of America Abstracts with Programs.
- §*Michelson, A.V., Abbati, E., Gahlod, S., Gerstler, K., Morgan, J., Rios, P., Rose, G., Street, C., **Wittmer, J.M.**, 2021, Subfossil ostracodes reveal ongoing remediation efforts in Conesus Lake recreating pre-european ecosystem state: Geological Society of America Abstracts with Programs.
- §*Rios, P., Street, C., **Wittmer, J.M.**, Michelson, A.V., 2021, A dichotomous key to quickly differentiate between ostracodes to establish pre-european ecosystem state from Conesus Lake: Geological Society of America Abstracts with Programs.
- §*Kaehler, L., Buechner, G.H., Meerdink, K., **Wittmer, J.M.**, Michelson, A.V., 2020, Detecting anthropogenic impacts on live-dead macroinvertebrate communities in Honeoye and Conesus Lake, New York: Geological Society of America Abstracts with Programs.

- ***Wittmer, J.M.**, Buechner, G.H., Kaehler, L., Meerdink, K., Michelson, A.V., 2020, An investigation of finger lake (Conesus, Canadice, and Honeoye) live-dead communities in western New York: Geological Society of America Abstracts with Programs.
- §*Buechner, G.H., Kaehler, L., Meerdink, K., **Wittmer, J.M.**, Michelson, A.V. 2020, Analysis of contaminants in Conensus Lake, New York using sediments and live-dead communities: Geological Society of America Abstracts with Programs.
- §*Kaehler, L., Buechner, G.H., Meerdink, K., **Wittmer, J.M.**, Michelson, A.V., 2020, Detecting human impacts on live-dead macroinvertebrate communities in Honeoye Lake, New York: Geological Society of America Abstracts with Programs.
- Guensburg, T.E., Sprinkle, J.*, **Wittmer, J.M.**, Darrough, G., Chiarello, J., 2019, Reef dwelling paracrinoidea *Wellerocystis* in the Late Ordovician Kimmswick Limestone, southeast Missouri: Geological Society of America Abstracts with Programs, v. 51, no. 5.
- *Chiarello, J., **Wittmer, J.M.**, Guensburg, T., Stock, C.W., Darrough, G., Brett, C.E., 2019, An investigation of reef buildup stages in the Late Ordovician (Katian) Kimmswick Limestone, east-central Missouri: The role of taxa, biovolume and stratigraphy: Geological Society of America Abstracts with Programs, v. 51, no. 5.
- Scarponi, D., Azzarone, M., Pellegrini, C., Nawrot, R.*, Kusknerik, K.M., Dexter, T.A., **Wittmer, J.M.**, Gamberi, F., Trincardi, F., Kowalewski, M., 2019, Resilience of delta-associated benthic communities during the latest quaternary glacial-interglacial cycles in the Po Plain-Adriatic sea system: Geological Society of America Abstract with Programs, v. 50, no. 6.
- §*Okun, J.M., **Wittmer, J.M.**, *Gleasant, G.L., 2018, Anthropogenic effects on lacustrine fidelity: A study of live-dead macroinvertebrate assemblages in Conesus Lake, Lakeville, NY: Geological Society of America Abstracts with Programs, v. 50, no.6.
- §*Chiarello, J., **Wittmer, J.M.**, Guensburg, T.E., Stock, C.W., Darrough, G., Brett, C.E., 2018, Determining faunal diversity and the role of key biota from reef-like buildups in the Late Ordovician (Katian) Kimmswick Limestone, East-Central Missouri: Geological Society of America Abstracts with Programs, v. 50, no.6.
- §*Demott, A., Over, D.J., **Wittmer, J.M.**, 2018, Tentaculitoids from the Upper Sodus Shale, Silurian, Western New York: Geological Society of America Abstracts with Programs, v. 50, no.6.
- *Rosbach, S.A., Muscente, D.A., **Wittmer, J.M.**, Fike, D.A., Shelton, K.L., Schiffbauer, J.D., 2018, Pyrite sulfur isotopic analysis of Mazon Creek fossils may provide clue on nodule formation: Geological Society of America Abstracts with Programs, v. 50, no.6.
- ***Wittmer, J.M.**, Guensburg, T.E., Stock, C.W., Darrough, G., Brett, C.E. 2017, Extraordinary stromatoporoid-echinoderm buildups in the Late Ordovician (Katian) Kimmswick limestone of east-central Missouri: Geological Society of America Abstracts with Programs, v. 49, no. 6.
- ***Wittmer, J.M.**, Meyer, M.B., Ganis, R. 2016, New evidence of predator-prey relationships in the planktic ecosystem during the Great Ordovician Biodiversity Event: A report of a suggested predator of graptolites: Geological Society of America Abstracts with Programs, v. 48, no. 7.
- *Selly, T., Rosbach, S.A., Schiffbauer, J.D., **Wittmer, J.M.** 2016, Comparing preservation of different histologies: Mazon Creek-type fossils of the Sun Spot Mine, Illinois, USA. Geological Society of America Abstracts with Programs, v. 48, no. 7.
- ***Wittmer, J.M.**, Wasserman, N.L., Hug, B., Wattnem, J. 2016, Digging into dinosaur behavior: Development of an interactive and field-based dinosaur dig site for K-12 education and outreach: Geological Society of America Abstracts with Programs, v. 48, no. 5.
- §*Cohen, H., **Wittmer, J.M.**, Butler, S.K., Young, J.M. 2016, A geochemical and clay mineralogical analysis of the butter shales from the Waynesville Formation (Upper Ordovician) in the Cincinnati Arch: Geological Society of America Abstracts with Programs, v. 48, no. 7.

- §*Gabel, V., **Wittmer, J.M.**, Heads, S.W., Guensburg, T.E. 2016, Paleocology of a Middle Ordovician reef of the Kimmswick Formation, Jefferson County, Missouri: Geological Society of America Abstracts with Programs, v. 48, no. 5.
- §*Daum, J.M., **Wittmer, J.M.**, Butler, S.K., Guensburg, T.E. 2016, An investigation of unusual shale intervals within an echinoderm-stromatoporoid carbonate buildup from the Kimmswick Formation, Jefferson County, Missouri: Geological Society of America Abstracts with Programs, v. 48, no. 5.
- *Awarded Best Undergraduate Student Poster Presentation from the 2016 North Central Section of GSA Meeting**
- §*Cohen, H., Young, J., **Wittmer, J.M.**, Butler, S.K. 2015, A sedimentological and geochemical approach to understanding the “Butter” shales from the Waynesville Formation (Upper Ordovician) in the Cincinnati Arch: Geological Society of America Abstracts with Programs, v. 47, no. 7, p. 361.
- ***Wittmer, J. M.**, Kowalewski, M., Scarponi, D. Amorosi, A., Dexter, T. 2015, Ecological ordination patterns and ecological turnover gradients in mollusk associations from the Quaternary sedimentary successions of the Po Plain, Italy: Geological Society of America Abstracts with Programs, v. 47, no. 7, p. 361.
- ***Wittmer, J.M.**, Dexter, T.A., Scarponi, D., Amorosi, A. Kowalewski, M., 2014, Quantitative bathymetric models and their applications for Late Quaternary transgressive-regressive cycles of the Po Plain, Italy: 10th North American Paleontological Convention Abstracts with Programs, v.10, p. 25.
- ***Wittmer, J.M.**, Schiffbauer, J., Dexter, T.A., Scarponi, D., Kowalewski, M., 2012, Micro-scale taphonomy of mollusk assemblages from the Late Quaternary of the Po Plain, Italy: Geological Society of America Abstracts with Programs, v. 44, no. 4, p. 67.
- ***Wittmer, J.M.**, Scarponi, D., Dexter, T.A., Kowalewski, M., 2011, Ecospace partitioning in mollusk assemblages across quaternary transgressive-regressive cycles of Po Plain, Italy: Geological Society of America Abstracts with Programs, v. 43, no. 5, p. 84.
- ***Wittmer, J.**, 2010, Spatial scaling of alpha, beta, and gamma: Diversity patterns of rocky intertidal gastropods on San Salvador Island, Bahamas: Geological Society of America Abstracts with Programs, v. 42, no. 5.
- ***Wittmer, J.**, 2009, Regional paleoecology and global paleogeographic history of tentaculitoids: Geological Society of America Abstracts with Programs, v. 41, no. 7, p. 159.
- ***Wittmer, J.** and Miller, A.I., 2009, Spatial and temporal patchiness of tentaculitoid-rich fossil assemblages in the type Cincinnati: Cincinnati Museum Center Scientific Contributions, no. 3, p. 354-355.

PANELIST AT PROFESSIONAL MEETINGS

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| 2020 | Chair for Conservation Paleobiology session at the northeastern Geological Society of America Regional Conference: The Past is the Key to the Present – The Role of Paleontology and Geology in Management and Decision Making |
| 2014 | Chair for Stratigraphic Paleobiology session at the North American Paleontological Convention (NAPC), Gainesville, FL |
| 2010 | Chair for Topical Session at Geological Society of America National Conference (GSA): Dynamics of Diversity, Extinction, and Origination |
| 2009 | Head Coordinator of Topical Sessions at the North American Paleontological Convention (NAPC), Cincinnati OH |

GRANTS

External

2022 **In Prep for Submission March 1, 2022:** Great Lakes Research Consortium Small Grants Program (J. Wittmer and A.V. Michelson), *Establishing baselines for the restoration and remediation of western Finger Lake systems: Conesus, Canadice, and Honeoye*, \$25,000

SUNY Geneseo

- 2021 **Funded:** Proposal Writing Support Award at SUNY Geneseo (J. Wittmer), *Establishing baselines for the restoration and remediation of human-influenced freshwater and coastal ecosystems*, \$3750
- 2020 **Funded:** Pre-Tenure Faculty Research Support Award at SUNY Geneseo (J. Wittmer), *Assessing human impacts across three Finger Lakes using living and dead invertebrate assemblages: An investigation of Metal Contamination of Conesus, Canadice, and Honeoye Lake communities*, \$300
- 2019 **Funded:** Undergraduate Research/Creative Grant (awarded to G. Buechner and L. Kaehler), *Assessing human impacts across three Finger Lakes using living and dead invertebrate assemblages: An investigation of Conesus, Canadice, and Honeoye Lake communities*, \$962
- 2019 **Funded:** Faculty Internal Funding Program at SUNY Geneseo, Incentive Grant (J. Wittmer), *Assessing human impacts across three Finger Lakes using living and dead invertebrate assemblages: An investigation of Conesus, Canadice, and Honeoye Lake communities*, \$1,500
- 2018 **Funded:** Paleontological Society Education and Outreach Grant (J. Wittmer and N. Wasserman), *Digging into Dinosaur Behavior: Development of an interdisciplinary and field-based dinosaur dig site for PreK-8 education and outreach at the Orpheum Children's Science Museum*, \$1,746.62.

University of Illinois Urbana-Champaign

- 2016 **Funded:** Undergraduate Research Award (awarded to K. Balling), *Graptolite Biostratigraphy and Hydrothermal Alteration of the Glasford Impact Crater Fill (Ordovician)*, \$600
- 2016 **Funded:** Undergraduate Research Award (awarded to E. Mason), *Clay Mineralogy of the Cypress Sandstone: Permeability and Porosity*, \$1,100
- 2016 **Funded:** Undergraduate Research Award (awarded to J. Young), *Mineralogical and Geochemical Analysis of the Butter Shales from the Waynesville Formation (Upper Ordovician) of Eastern Indiana*, \$2,373
- 2015 - 2016 **Funded:** Undergraduate Research Award (awarded to V. Gabel), *Sedimentology, Stratigraphy, and Characterization of a reef community from the Kimmswick Formation (Middle Ordovician)*, \$2,968
- 2015 - 2016 **Funded:** Undergraduate Research Award (awarded to H. Cohen), *A Sedimentological and Geochemical Approach to Understanding the Butter Shales from the Waynesville Formation (Upper Ordovician) in the Cincinnati Arch*, \$2,080
- 2015 - 2016 **Funded:** Undergraduate Research Award (awarded to J. Daum), *Sedimentology and Clay Mineralogy of Paleokarst within the Kimmswick Formation (Middle Ordovician)*, \$1,720

WORKSHOPS

- 2022 ACCC Facilitator Training
- 2021 Geneseo's Online Teaching Institute, 4 week course
- 2021 Council on Undergraduate Research Conference: Centering Diversity, Equity, and Inclusion in Undergraduate Research and Creative Activity, 2 week Course
- 2021 Unlearning Racism in Geoscience 16-week Course, POD Leader
- 2021 Advancing Cultural Competency Certificate (ACCC) program

- 2020 Climate Central Workshop: Billion Dollar Disasters & Recovery
- 2020 Paleontological Research Institution 2020 Summer Symposium: Diversity, Equity, and Inclusion in Paleontology
- 2020 SUNY Remote Teaching Institute Webinar
- Rethinking your student learning goals
 - Reimagining instruction to accommodate our new teaching reality
 - Designing for students
 - How to create content and assessment for your online course
 - How to organize and structure your online course
 - Bb Basics: Discussions, Assignments, & Tests
 - Promoting Academic Integrity Online
 - Accessible content creation and alternative assessments for STEM courses
 - Virtual Learning: The next generation of science labs
- 2020 GSA/NAGT Webinar Series
- Google Earth Remote Teaching
 - Using Gigapan for Remote Teaching
 - Using Virtual Landscapes
- 2020 SUNY Geneseo Center for Integrative Teaching, Learning Center Workshops
- Debrief, Reflection and Lessons
 - What worked for me
 - Introduction to Flipped Classrooms
 - Backwards Design
 - Promoting Academic Honesty
 - Advising Undeclared Students
 - Flex your course muscles with OA and OER
 - Creating a Microcredential
- 2019 High Impact Online Teaching by Rebecca Frost Davis (St. Edward's University)
- 2018 Paleontological Society Short Course: Pedagogy and Technology in the Modern Paleontology Classroom (SERC, Paleontological Society)
- 2018 Field Safety Training by Kurt Burmeister (Pacific)
- 2017 Early Career Geoscience Faculty Workshop: Teaching, Research, and Managing Your Career at the University of Maryland, hosted by NAGT, SERC, and NSF
- 2014 University of Illinois at Urbana-Champaign Faculty Summer Institute Workshop

INVITED TALKS

- 2022 Rochester Committee for Scientific Information: *Establishing baselines for the restoration and remediation of human-influenced freshwater ecosystem: A detailed investigation of Conesus Lake, Canadice Lake and Honeoye Lake*
- 2022 Conesus Lake Association: *Establishing baselines for the restoration and remediation of human-influenced freshwater ecosystem: A detailed investigation of Conesus Lake*
- 2021 Harrisburg Area Geological Society: *Assessing human impacts across the Finger Lakes using living and dead invertebrate assemblages*
- 2019 Binghamton University, Department of Geology: *Extraordinary stromatoporoid-echinoderm reefs in the Late Ordovician: Diversity and the role of key biota in Ordovician reef construction*
- 2018 Rochester Academy of Sciences: *Extraordinary stromatoporoid-echinoderm buildups in the Late Ordovician: Diversity and the role of key biota from the (Katian) Kimmswick Limestone of east-central Missouri*

2015 University of Illinois at Chicago, Department of Geology: *Quantitative bathymetric applications and variable marine community patterns across upper Quaternary sequences of the Po Plain, Italy*

HONORS AND AWARDS

University of Illinois at Urbana Champaign

2015 - 2016 List of Teachers Ranked as Excellent

Virginia Tech

2012 Geosciences Outstanding Service Recognition Award

2011 Tillman Award for Teaching Excellence in Introductory Laboratories

2010 Paleontological Society: Ellis L. Yochelson Award

University of Cincinnati

2009 Kenneth E. Caster Award

2008 Paleontological Society: Stephen J. Gould Grant Award

SERVICE

COLLEGE SERVICE

2021 - Present Honorary Degree and Speaker Committee of the College

2020 - Present Curricular Design Working Group Liaison

2019 - 2021 Undergraduate Curriculum Committee

2019 - 2021 College Senate

2018 - Present Undergraduate Academic Advisor

2017 SUNY Geneseo Safe Zone Training

2017 SUNY Geneseo Canvas and Google Drive Training

2017 SUNY Geneseo First Year Faculty Orientation and Training

DEPARTMENT SERVICE

2021 - Present Chair of GSCI department DEI Task Force

2020 - Present Co-development of Field Skills in Geology Microcredential

2020 Developed Department Diversity Equity and Inclusivity Statement

2019-Present Advisement of GSCI department seminar capstone research projects

2019 Department Curation and Collection of Soft-Rock Collection

2019 Taught and aided GSCI department January trip to California

2017 - Present Review and evaluate GSCI Seminar Capstone Presentations

2017 - 2020 Mentor to Undergraduate Teaching Assistants in GSCI 121, 361

2017 - 2019 Department Retreat: Helped with logistics and teaching throughout 3-day retreat for all GSCI majors

COMMUNITY SERVICE

2021 Conesus Lake Association Watershed Education Center Showcase: How SUNY science student research is rewarding us

2021 Livonia Elementary School YMCA Fossil Day with Geology Club

2021 Livonia High School Environmental Science Demonstration on lake archives

2020 Education Outreach Activity at Livonia Elementary School on Rocks and Minerals

2019 Master Teacher Lecturer and Educator on Dinosaur Fossil Dig Resources

2018 World's Largest Fossil Dig at Penn Dixie Fossil Park, Participant

2018 Geneseo Central Mad Science Camp - Rock and Fossil Instructor

- 2015 – 2020 Orpheum Children’s Science Museum – Development of new field-based Dino Dig interactive display
- 2014 – 2017 Oversaw the development of Department of Geology Museum Displays and curation of the department rock and fossil collection
- 2015 STEAM judge at the Next Generation Middle School
- 2014 Geology Learning Activities presented by GEOL 208 class to Leal Elementary School in Urbana, IL
- 2014 – 2017 Centennial High School Geology Canoe Trip along the Middle Fork River
- 2014 Urbana Middle School Family STEM Night booth presenter

SERVICE TO DISCIPLINE

- 2021 – Present Paleontological Society of America Development Committee
- 2020 – Present NSF ADVANCE COPLAC PLAN Affinity Group
- 2018 – Present Northeastern section chair of the Paleontological Society of America
- 2015 - 2019 Grant review panel member for the Paleontological Society Student Research Grant Awards
- 2018 Reviewer for Palaeogeography, Palaeoclimatology, Palaeoecology
- 2015 Grant reviewer for the American Chemical Society Petroleum Research Fund

PRESS

- Knight Lights, SUNY Geneseo: [Wave Table Deltas](#) and Flume
- International Business Times: 450-million-year-old fossil of ancient sea creature that looked like ice cream cone has just been discovered <https://www.ibtimes.co.uk/450-million-year-old-fossil-ancient-sea-creature-that-looked-like-ice-cream-cone-has-just-been-1656631>
- Newsweek: Enigmatic fossil from 450 million years ago and shaped like a tiny ice cream cone found in Pennsylvania <http://www.newsweek.com/enigmatic-fossil-450-million-years-ago-and-shaped-tiny-ice-cream-cone-found-790158>
- WCIA T.V. News Broadcast: New Dinosaur Exhibit at the Children’s Orpheum Museum <http://www.illinoishomepage.net/news/local-news/orpheum-opens-new-exhibit>

FIELD EXPERIENCES

Directed/Led:

- 2018 – Present Undergraduate Research on the live-dead assemblages, sediment, and coring of Conesus Lake, Livingston County, NY
- 2018 – Present Sedimentology of Western New York
- 2017 - Present Paleontology the Devonian of Western New York
- 2016 - Present Paleontology of the Cincinnati Arch (Ordovician)
- 2015 – 2018 Stratigraphy, Sedimentology, Paleontology, and Structure of the Wasatch Uinta Range
- 2015 – 2018 Sedimentology and Stratigraphy of the Cincinnati Arch (Ordovician – Pennsylvanian)
- 2015 – 2016 Historical Geology of Southern Missouri (Precambrian and Early Paleozoic sedimentology, igneous systems, and tectonics)
- 2015 - 2016 Undergraduate Research on the sedimentology, stratigraphy, and paleoecology of the Middle Ordovician Kimmswick Formation in St. Louis, MO
- 2015 - 2016 Undergraduate Research on the sedimentology and stratigraphy of the Upper Ordovician Waynesville Formation in Eastern Indiana

Participated:

- 2017 NYSGA 89th Annual Meeting: Depositional environments across a central trough of the Northern Appalachian Basin and Upper Devonian Kellwasser extinction events in NY and PA
- 2010 Spatial distribution patterns and diversity of modern intertidal gastropods of San Salvador Island, Bahamas - Paleontological Society Field Course, Gerace Research Centre: Taphonomic & Ecological Processes in Tropical Environments
- 2007-2009 Sequence Stratigraphy and Paleoecology of the Ordovician of the Cincinnati Arch, specifically tentaculitoids from the Waynesville Fm: Indiana, Ohio, and Kentucky
- 2008 Stratigraphy and Paleobiology of the Ordovician-Devonian strata of northern New York
- 2008 Spatial distribution and diversity of modern intertidal gastropods of the San Juan Islands, Friday Harbor, Washington - Friday Harbor Laboratories, University of Washington Field Course: Marine Invertebrate Zoology
- 2006 Stratigraphy and Paleoecology of tentaculitoids from the Silurian Arisaig Group, Nova Scotia - Keck Geology Consortium
- 2006 Stratigraphy, structure, and paleontology of western South Dakota and Southeastern Wyoming

PROFESSIONAL SOCIETIES

- The Geological Society of America
American Association of Petroleum Geologists
The Paleontological Society of America
AWG: Association for Women Geoscientists
National Science Teachers Association
National Association of Geoscience Teachers
STEPPE: Sedimentary Geology, Time, Environment, Paleoclimatology, Paleontology, Energy
URGE: Unlearning Racism in Geoscience
IAGD: International Association for Geoscience Diversity
SACNAS: Society for Advancement of Chicanos/Hispanics and Native Americans in Science