Kelsey M. Arkle (Feser)

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EDUCATION

Doctor of Philosophy 2010-2015 Geology (Paleoecology/Conservation Paleobiology), University of Cincinnati Thesis: *Variations in benthic community structure around St. Croix, USVI:* Delineating the unique signatures of different anthropogenic agents

Supervisor: Dr. Arnold I. Miller

Bachelor of Arts

2006-2010

Geology, Summa Cum Laude, Cornell College

Thesis: Mitigating the effects of the shifting baseline syndrome by utilizing the

benthic molluscan death assemblage Supervisor: Dr. Benjamin J. Greenstein

TEACHING EXPERIENCE

Visiting Assistant Professor

Cornell College

Paleoecology, 2016

Upper level, seminar-style course focused on organism-organism and organism-environment interactions; involved independent field research component, paper discussions, and final research papers/presentations

Invertebrate Paleontology, 2015, 2016

Mid-level, lecture + lab course focused on phylogeny, taphonomy, and functional morphology; final project involved creating and 3D printing a hypothetical organism based on a random set of functional attributes

Historical Geology, 2015, 2016

Introductory level, lecture + lab course meant to highlight the interconnectedness between Earth's physical and biologic systems, museum visit and/or field trip accompanied by final video presentations

Physical Geology, 2015, 2016

Introductory level, lecture + lab course providing an introduction to Earth systems, with a focus on surface processes; local field trips; final projects involved modeling natural hazards and describing their geologic cause(s)

Marine Science, 2016

Introductory level, lecture course examining physical, chemical, and biological oceanographic processes; course format emphasizes critical thinking, small- and large-group discussion, and applications to modern marine issues

Co-Instructor

Univ. of Cincinnati

Capstone Field Course: Modern and Ancient Carbonate Systems

of the Bahamas, 2013, 2015

Mid/Upper-level, two week field course aimed at elucidating the processes of carbonate sediment formation by comparing to modern analogues; involved snorkeling, SCUBA diving, paleontological and sedimentological field work and sample collection

Instructor

Historical Geology Lab, 2013

Univ. of Cincinnati

Introductory geology series, lab course highlighting local Ordovician geology; organized and led several local field trips

Physical Geology Lab, 2010 & 2011

Introductory geology series, lab course providing an introduction to fundamental geologic processes; organized and led local field trips

Visiting Instructor

Invertebrate Paleontology, 2012

Cornell College

Mid-level, lecture + lab course focused on phylogeny, taphonomy, and morphology of major fossil-forming groups; included a local field trip where students collected specimens and curated their own fossil collections

Historical Geology, 2012

Introductory level, lecture + lab course highlighting the interconnectedness among Earth's physical and biological systems; included local field and museum trips

Teaching Assistant

Evolution of Life, 2012

Univ. of Cincinnati

Introductory level, lecture course; assisted with teaching related activities, held office hours/tutored students; graded assignments and exams and led review sessions

Physical Geology, 2011

Introductory level, lecture course; assisted with teaching related activities, held office hours/tutored students, graded assignments and exams, led review sessions, and delivered one lecture

Coral Reef Ecology, 2011

Assisted with teaching related activities, held office hours, tutored students, graded assignments and exams, and led review sessions.

Tutor

Physical Geology, 2009

Cornell College

Introductory level, lecture + lab course, tutored students twice a week for the duration of the course

DIVERSITY AND INCLUSION TRAINING

Participant

Martin Luther King, Jr. Teach-in Event, 2017

A two-hour seminar held to promote diversity and inclusion on campus by, among other topics, describing the "danger" of a single story and brainstorming methods of bystander intervention.

Diversity and Inclusion Workshop, 2016

Aimed at developing a foundation for talking about diversity and inclusion in the classroom, identified critical classroom biases, and brainstormed steps to take toward creating an inclusive classroom where participants appreciate and communicate across differences (8 hours)

Inclusive Teaching Practices, 2014

Panel discussion on best practices for creating and maintaining a diverse, inclusive, and comfortable classroom environment for all students (2 hours)

Applying What We Know About How People Learn, 2014

Discovered the most effective methods of student retention based on scientists' understanding of the brain; brainstormed strategies that appeal to various learning styles (2 hours)

TEACHING ENHANCEMENT

Committee Chair/ Presenter

Assessing Student Learning in your Class

Developed and co-presented this new workshop aimed at providing both theoretical and practical information on assessment for graduate student TAs and instructors (2 hours)

Organizer/ Presenter

Teach me to Teach Pedagogical Seminar

Helped design this full-day workshop aimed at improving instructor effectiveness through discussions of evidence-based pedagogical methods and hands-on course planning activities (2 sessions, 7 hours each)

Professional ePortfolios

Practical advice and practice in preparing a professional ePortfolio to showcase professional accomplishments (2 hours)

Capturing Student Attention

Organized and presented a portion of this two-hour workshop designed to provide practical techniques to help graduate student instructors maximize student learning (2 hours)

Get up and Go!

Helped to organize this half-day workshop aimed at preparing new graduate students for their first teaching assignment. Used active learning techniques to provide classroom and time management techniques to participants (4.5 hours)

Participant

Flipped and Blended Classrooms

Discussed practical methods for integrating flipped/blended techniques into the classroom. Practiced using a few software programs allowing for videomaking, screen-capture, and file-sharing (1 hour)

Technology in the Classroom

Tested several technologies that can be incorporated into courses, including: video recording/editing, screen capture, and file sharing (2 hours)

Models of Teaching Excellence

Brainstormed and evaluated effective teaching strategies and learned how to implement them by participating in one hour "courses" taught by some of UCs finest educators. (2 hours)

Writing Across the Curriculum

Designed writing prompts to more effectively elicit thoughtful student responses (2 hours)

Developing Your Teaching Philosophy and Creating an ePortfolio

Discussed the ways to clearly articulate the teaching philosophy statement, and identified the important components of a teaching philosophy statement (2 hours)

Teaching Effectiveness Seminar

This semester-long course provided an opportunity to redesign a course to emphasize active learning. Created an online professional ePortfolio and conducted several classroom observations of faculty on campus (14 weeks)

3T: Teaching, Techniques, and Technology Seminar

This full day course emphasized learning techniques for engaging students using technology. We discovered effective practices for conveying information to students through various online software programs and discussed how to incorporate active research in the classroom (8 hours)

"Teach me to Teach" Pedagogical Seminar

This full-day seminar focused on familiarizing us with student learning outcomes, and allowed us to begin developing a course that aligned outcomes with appropriate and meaningful activities and assessments (7 hours)

STUDENT ADVISING

Research Advisor

Cornell Summer Research Institute, John Lewis, Cornell College, 2016-17 Worked with student to develop a chronology of shells collected from seagrass beds around St. Croix using amino acid racemization. Included a significant literature review and laboratory work at Cornell University (*10 weeks*)

Directed Research, Nina Morris, Cornell College, 2016-17 Departmental capstone project whose goal was to examine underlying chemical, physical, and biological causes of spatial variation in molluscan composition at a variety of localities around St. Croix, USVI

Directed Research, Jeannie Kort, Cornell College, 2016-17 Departmental capstone project whose goal was to quantify variation in potential terrestrial anthropogenic drivers (including: lithology, land use/vegetative cover, and environmental variables) of offshore molluscan community compositional variation **Directed Research**, Bryan Hernandez, Cornell College, 2016-17 Independent research project aimed at examining variation in metal concentrations in shells collected around St. Croix, USVI, with the goal of identifying potential terrestrial anthropogenic pollutants in offshore environments

Directed Research, Ryan Shanks, Cornell College, 2015-16 Student worked semi-independently developing a specimen-based project aimed at linking aspects of trilobite (genus: *Ceraurus*) body size to potential paleoecology; involved literature review and museum work at the Field Museum of Natural History in Chicago (*4 weeks*)

Grad/Undergrad Summer Mentoring Program, Spencer Fogelman, University of Cincinnati, 2013

Worked with student to analyze the variation in metal composition in marine sediments around St. Croix, USVI using XRF spectroscopy (10 weeks)

Directed Research, Doug Sberna, University of Cincinnati, 2013 Student worked semi-independently on a project aimed at quantifying body size variation within the bivalve taxon *Chione cancellata* from samples collected around St. Croix, USVI (14 weeks)

High School Capstone Project, Mariah Peters, University of Cincinnati/Walnut HS, 2014

Mentored a high school senior on a research project aimed at comparing modern coral reef decline to changes seen during the Paleocene-Eocene Thermal Maximum (28 weeks)

Committee Member **Departmental Thesis,** James Garrett, Cornell College, 2016-17 Reconstruction of coastal Western Australia paleoclimate over the last five alacial cycles using stalagmites from Cape Range, Australia

Departmental Thesis, Elena Skosey-LaLonde, Cornell College, 2016-17 Assessing Southern Hemisphere behavior of the Indo-Pacific tropical rain belt during the late Holocene through stable isotope and U-Th analyses of a tropical Western Australian stalagmite

Honors Thesis, Thomas Weiss, Cornell College, 2015-16 Testing the state of ENSO at the Miocene/Pliocene boundary using a monthly resolved oxygen isotopic time series from a pristine fossil coral from the central Caribbean

Honors Thesis, Christopher Felt, Cornell College, 2015-16 A characterization of layer-bounding surfaces in a Great Basin stalagmite utilizing both petrographic and high resolution stable isotope analyses

RESEARCH EXPERIENCE

Field Research Assistant Multi-Year Crinoid Censuses in Jamaica and the Bahamas (2012-2014) Repeated sampling of crinoids on shallow reefs in Jamaica and the Bahamas with the intention of determining how populations changed through time.

Used visual and video methods to perform censuses.

Dissertation Research **Department of Geology, University of Cincinnati (2010-present)**Sampling molluscan communities and quantifying pollutants at several venues around St. Croix, USVI, in order to identify distinct taphonomic signatures of different types of anthropogenic modification.

*see research statement for details on methods used

Research Assistant Geology, University of Cincinnati (2010)

Disaggregated and identified mollusks in Cretaceous sediments from California, collected as part of another student's dissertation. Also located and obtained literature sources of data for an ongoing on the nature of epicontinental sea versus open ocean biotas throughout the Mesozoic era.

Honors Research Department of Geology, Cornell College (2009-2010)

Quantified the live-dead similarity of molluscan assemblages to determine whether the baseline community was still present following two decades of

anthropogenic development.

Paleontology Internship Cornell College Fellow, Field Museum of Natural History (2009)

Updated century-old paleobotany catalog collections to electronic format to

facilitate scientific access and promote collaboration.

Directed

NSF Research Experience for Undergraduates, Univ. of Minnesota

(2008)

Research

Determined whether authigenic chemical zonation was present in conodont

fossil elements using electron microprobe trace element mapping.

PEER-REVIEWED PUBLICATIONS

Feser, K.M., and Miller, A.I., (In Press) The diagnosis and significance of stratigraphy in subfossil mollusk assemblages preserved in seagrass beds: St Croix, US Virgin Islands: Paleobiology.

Feser, K.M., and Miller, A.I., 2014, Temporal dynamics of shallow seagrass-associated molluscan assemblages in St. Croix, USVI: Towards the calibration of taphonomic inertia: Palaios, 29 (5), p. 218-230.

*Outstanding Paper Honorable Mention, 2014

Feser, K.M., and Miller, A.I., and Ferguson, C.A., 2012, Sieve-size overprint on experimental results: A correction to Ferguson and Miller (2007): Palaeogeography, Palaeoclimatology, Palaeoecology, 358-360, p. 109-111.

Feser, K.M., and Miller, A.I., (In Prep.), Geographic variation in mollusk assemblages and its relationship to geochemistry: St. Croix, U.S. Virgin Islands.

PUBLISHED ABSTRACTS AND ORAL PRESENTATIONS

- **Feser, K.M.,** Miller, A.I., Arkle, J.C., 2016, Identifying terrestrial controls on spatial variation in molluscan death assemblages, St.. Croix, USVI, Geological Society of America Abstracts with Programs: 138 (2).
- **Feser, K.M.**, and Miller, A.I., 2015, The diagnosis and significance of stratigraphy in subfossil molluscan assemblages preserved in seagrass beds: St. Croix, US Virgin Islands, Geological Society of America Abstracts with Programs: 194(1).
- **Feser, K.M.**, and Miller, A.I., 2014, Diagnosing environmental change in seagrass beds based on stratigraphic transitions in molluscan death assemblages, Geological Society of America Abstracts with Programs: 81(8).
- **Feser, K.M.**, and Miller, A.I., 2014, Enhanced resolution in live/dead molluscan fidelity studies through comparisons among multiple stratigraphic intervals, *in* 10th North American Paleontological Convention: Florida Museum of Natural History, Gainesville, FL, The Paleontological Society Special Publications, p. 80-81.
- **Feser, K.M.,** and Miller, A.I., 2013, Geographic variation in mollusk assemblages and its relationship to geochemistry: St. Croix, U.S. Virgin Islands. Geological Society of America Abstracts with Programs: 45 (7), p. 684.
- **Feser, K.M.,** and Miller, A.I., 2012, Quantifying decadal-scale compositional changes in seagrass-associated molluscan assemblages using multi-year census data from two sites around St. Croix, USVI. Geological Society of America Abstracts with Programs: 44 (7), p. 475.
- **Feser, K.M,** and Miller, A.I., 2012, Quantifying decadal-scale variation in molluscan assemblages using multi-year census data: St. Croix, USVI. Abstracts of the 6th Annual College of the Bahamas Geology Symposium, San Salvador, Bahamas.
- **Feser, K.M.,** and Miller, A.I., 2011, Variation in mollusk communities from seagrass beds around St. Croix, US Virgin Islands. Sigma Xi Award Dinner.
- **Feser, K.M.,** and Miller, A.I., 2011, Temporal and geographic variation in molluscan assemblages from seagrass beds around St. Croix, US Virgin Islands: Towards the delineation of natural versus anthropogenic drivers. Geological Society of America Abstracts with Programs: 43 (5), p. 32.
- **Feser, K.M.**, and Greenstein, B.J., 2010, Mitigating the effects of the shifting baseline by utilizing the benthic molluscan death assemblage, Geological Society of America Abstracts with Programs: 42 (2), p. 73.
- **Feser, K.M.**, and Greenstein, B.J., 2010, Mitigating the Effects of the Shifting Baseline by Utilizing the Benthic Molluscan Death Assemblage, Abstracts of the 5th Annual College of the Bahamas Geology Symposium, San Salvador, Bahamas.

POSTER PRESENTATIONS

Feser, K.M., and Webb, C., 2015, A Bomb or a Blessing: Hurricane Hugo and the Economy of St. Croix, Graduate Poster Forum, University of Cincinnati.

Feser, K.M., and Miller, A.I., 2012, Quantifying variation in seagrass-associated mollusks around St. Croix, USVI, Graduate Poster Forum, University of Cincinnati.

INVITED TALKS

How shell accumulations in seagrass beds reveal recent changes in coastal marine environments. University of Northern Iowa, Cedar Falls, IA, 2016

From Information Loss to Information Gain: How taphonomy informs ancient and modern **ecological processes**. University of Wisconsin, Madison, WI, 2016

Time-Averaging and Taphonomic Inertia in Shallow Marine Sediments. Centre College, Danville, KY, 2014

QUANTITATIVE WORKSHOPS

workshop	Using R for Quantitative Analyses (4 hours)
Leader	Organized and taught this workshop focusing on helping beginners use the

programming language R by introducing them to basic concepts, breaking down help files, and identifying ways they could incorporate R in their own

research.

Instructional An Introduction to Programming and Data in R (2 days)

Support Acted as a "teaching assistant" for this workshop aimed at beginners to R.

Worked one-on-one with participants as they worked through problem sets

using the program.

GRANTS AND SCHOLARSHIPS

\$3500	Cornell Summer Research Institute (2016)
\$600	Graduate Student Governance Association (2014)
\$1,000	University of Cincinnati Caster Fund (2014)
\$1,500	Lerner Gray Memorial Fund - American Museum of Natural History (2013)
\$1,200	University of Cincinnati Sedimentology Fund (2013)
\$3,000	University Research Council Graduate Student Research Fellowship (2012)
\$800	Gerace Research Centre BEST Grant (2012)
\$800	Paleontological Society - Richard Osgood Research Grant (2011)
\$1,890	Geological Society of America Graduate Research Grant (2011)
\$3,000	UC Sigma XI Chapter Grant-in-Aid of Research Award (2011)
\$120	Geological Society of America Travel Grant (2010)
\$300	Vokes Grant-in-aid for Invertebrate Paleontological Research (2009)
\$300	Geological Society of America Grant for Undergraduate Research (2009)
\$3,000	Cornell College Student-Faculty Research Grant (2009)
\$17,500 annually	Samuel S. Fellows Scholar (2006-2010)
\$1,500 annually	Robert C. Byrd Scholarship (2006-2010)

HONORS & AWARDS

2015	Kenneth Caster Award, University of Cincinnati Department of Geology
2014	Outstanding Paper in PALAIOS, Honorable Mention
2012	Outstanding Poster Presentation, UC Graduate School Poster Forum

2012	Departmental Good Spirit Award, University of Cincinnati
2011	Nominee for University Research Council summer funding, UC Geology
2010	Honorable Mention, NSF Graduate Research Fellowship Program
2010	Nominee, McElroy Graduate Scholarship, Cornell College
2010	Best Undergraduate Oral Presentation, North-Central Section GSA
2010	Outstanding Senior Geologist, Herb Hendriks Award, Cornell College
2009	Phi Beta Kappa National Honor Society
2009	Outstanding Junior Geologist, Wm. Harmon Norton Award, Cornell College
2008	Academic Excellence, C.O. Pauley Award, Cornell College

SERVICE AND LEADERSHIP

Second Vic President, North-Central section NAGT
Organizer, Science Interest Group, Cornell College
Member, Environmental Science Committee, Cornell College
Ad Hoc Reviewer, Biodiversity and Conservation
Ad Hoc Reviewer, Turkish Journal of Fisheries and Aquatic Sciences
Technical Program Chair, Quaternary Geoscience Conference at UC
Ad Hoc Reviewer, Palaios
Member, Graduate Association for Teaching Enhancement
Ad Hoc Reviewer, National Science Foundation
President, University of Cincinnati Geology Club
Judge, Cincinnati Regional Science and Engineering Expo
Exhibitor, Cincinnati Gem and Mineral Show
Exhibitor , Falls Fossil Festival
Event Supervisor, Cincinnati Science Olympiad
Judge, Horizon Academy Middle School/High School Science Fair
Outreach Coordinator, University of Cincinnati Geology Club
Vice President, Cornell College Mountaineering Club
President, Cornell College Geology Club
Exhibitor, Cedar Valley Rock and Mineral Show

PROFESSIONAL AFFILIATIONS

2016-present	National Association of Geoscience Teachers
2013-present	Association of Women Geologists
2012-present	American Academy of Underwater Sciences
2010-present	Sigma Xi
2009-present	Geological Society of America
2009-present	Paleontological Society
2009-present	Sigma Gamma Epsilon, Beta Pi Chapter