

Elise F. Keister

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RESEARCH INTERESTS

Impact of thermal stress on coral, coral-algal symbiosis, and cascading impact on coral reef ecology

EDUCATION

Ph.D. student, Department of Biology, University of Alabama at Birmingham, Alabama, 2017—present
(Advisor: Dustin W. Kemp, Ph.D.)

B.S., Marine Science and Biology with Chemistry minor, University of Miami, Coral Gables, Florida, May 2012

FELLOWSHIPS

Dr. Nancy Foster Scholar, National Oceanic and Atmospheric Administration (NOAA), summer 2019 - present

Blazer Graduate Research Fellow, University of Alabama at Birmingham, AL (summer 2017- winter 2018), \$26,000 per year

Research Experience for Undergraduates (REU), National Science Foundation, Duke Marine Laboratory, Beaufort, NC (summer 2011), \$5,000

GRANTS

Funded

PADI Foundation Grant, PADI (2018), requested and awarded: \$5,430

Not Funded

Graduate Research Fellowship Program (GRFP), National Science Foundation (NSF) (Fall 2018)

Ford Foundation Predoctoral Fellowship, National Academies of Science, Engineering and Medicine (Fall 2018)

Lerner Grey Grants for Marine Science Research, American Museum of Natural History (Spring 2018)

Sigma Xi Grants in Aid of Research, Sigma Xi (Spring 2018)

Dr. Nancy Foster Scholarship Program, NOAA (Fall 2017)

Protect Our Reefs, Mote Marine Laboratory, Sarasota, FL (Spring 2017)

SCHOLARSHIPS

International Women's Fishing Association Trust Scholarship, Ft. Lauderdale, FL (2018-2019, 2019-2020), \$500 each academic year

Individual Fellowship Incentive, University of Alabama at Birmingham, AL (Spring 2019), \$500

Mote Marine Laboratory Internship Scholarship, Sarasota, FL (Spring 2017), \$500

Fish Florida Scholarship, Fish Florida, Hollywood, FL (2011-2012), \$2,000

Dean Scholarship, University of Miami, Coral Gables, FL (2008-2012), \$12,000

Florida Residence Access Grant, State of Florida (2008-2012), \$3,000

AWARDS

NSF GRFP Honorable Mention, Fall 2018
 President's List, University of Alabama at Birmingham, Fall 2017, Spring 2018
 Provost Honor Roll, University of Miami, Spring 2012
 Dean's List, University of Miami, Fall 2010 and Spring 2012
 Dean's Honor Roll, University of South Florida, Fall 2009 and Spring 2010
 President's Honor Roll, University of Miami, Fall 2008

PRESENTATIONS

Oral:

E. F. Keister and D.W. Kemp. "Identifying Resilience Mechanisms in a Coral Refugium in the Florida Keys." Symbiofest, University of Georgia, April 2019. Athens, GA

Poster:

E. F. Keister and D.W. Kemp. "Hope for corals in a warming world." Darwin Day, University of Alabama at Birmingham (UAB), February 2018. Birmingham, AL
 R. Tykot, **E. F. Keister**, A. Bear, C. Wells. "Experimental Analysis of Archaeological Soils from Honduras Using Portable X-Ray Fluorescence Spectrometry." 38th International Symposium on Archaeometry, May 2010. Tampa, FL

UNREFEREED PUBLICATIONS

E. F. Keister. "Is taxonomy still relevant for innovative science?" *Molecular Ecologist*, January 2019.
E. F. Keister. "Are we restoring coral reefs for today or for tomorrow?" *Molecular Ecologist*, September 2018.
E. F. Keister. "The Relationship Between Arsenic and Growth of *Amphistegina gibbosa*" *Undergraduate Journal of Mathematical Modeling: One + Two*. 2:1, University of South Florida, Fall 2009. Tampa, FL

PROFESSIONAL HONOR SOCIETIES

Phi Sigma Honor Society, University of Alabama at Birmingham, Spring 2019
Rho Rho Rho: Marine Science Honor Society, University of Miami, Fall 2011
Beta Beta Beta: Biological Honor Society, University of Miami, Spring 2011
Alpha Lambda Delta National Honor Society, University of Miami, Spring 2009

RESEARCH EXPERIENCE

University of Alabama at Birmingham (UAB), Biology Department, Research Assistant August 2017-Present, Birmingham, AL

- Develop and implement lipid extraction and lipid class analysis protocol of coral tissue
- Settle and maintain polyp forms of *Cassiopea xamachana* and *C. frondosa*
- Collect samples of coral colonies for 20+ year coral physiology and ecology project within the Florida Keys National Marine Sanctuary
- Design an induced coral bleaching experiment with coral fragments to be taken from two study sites with known differential physiological responses to high temperatures

Mote Marine Laboratory Tropical Research Laboratory, Intern August 2016 – February 2017, Summerland Key, FL

- Designed, set up and ran physiology experiment with *Porites porites*, *Orbicella faveolata*, *Pseudodiploria clivosa*, and *Montastraea cavernosa* fragments exposed to thermal stress and ocean acidification conditions
- Monitored, maintained and analyzed *Acropora cervicornis* fragments in physiology experiment

National Oceanic and Atmospheric Administration (NOAA), Early Life History Laboratory,
Research Assistant November 2013 – November 2015, Miami, FL

- Identified, sorted and measured plankton samples collected during the National Resource Damage Assessment (NRDA) of the Deep-Water Horizon oil spill
- Maintained the associated database in order to uphold a current and accurate data system

NOAA Southeast Fisheries Science Center, Benthic Ecosystem Assessment and Research Team,
Volunteer, August 2015, Key Largo, FL

- Set up settlement experiment of *O. faveolata* to determine competency of larvae
- Assisted in determining larval survivorship of *Acropora palmata* and *O. faveolata* exposed to different water treatments over a four-day period

University of Miami, UGalápagos Program, Study abroad student, January – April 2012, Puerto Villamil, Isla Isabela, Galápagos, Ecuador

- Interviewed Puerto Villamil locals to determine the cultural origin of tortoise consumption
- Surveyed and conducted studies on marine and terrestrial ecosystems, such as: distribution and density of sea urchins and Galápagos Giant Tortoise behavior

Rosenstiel School of Marine and Atmospheric Science, National Center of Research Resources,
Research Assistant August – December 2011 and October 2010 – May 2011, Miami, FL

- Cultivated and maintained a series of newly recruited *O. faveolata* polyps infected with two different clades of zooxanthellae
- Monitored and analyzed growth of multiple coral species within various water systems

Duke University Marine Laboratory, REU Intern June – August 2011, Beaufort, NC

- Extracted DNA and amplified Internal Transcribed Spacer (ITS) region of surface populations of *Prochlorococcus* within the Eastern Tropical Pacific (ETP)
- Interpreted and analyzed pyrosequenced amplicon data to characterize diversity, abundance and biodiversity of *Prochlorococcus* within surface waters of ETP

University of South Florida (USF), Reef Indicator Lab, Volunteer Assistant September 2010 – May 2011, St. Petersburg, FL

- Assisted in collecting foraminifera, maintaining live cultures and measuring skeletons
- Prepared sediment samples organic matter, heavy metal content and bioavailability determination

The Whitney Laboratory for Marine Bioscience, Volunteer Research Assistant, June – August 2007, St. Augustine, FL

- Collected Microsporidia, infected flasks, and stained slides of infected cells to be photographed

INVITED SEMINAR SPEAKER

- E. F. Keister.** “Metapopulations.” Guest Lecturer for Conservation Genetics, BY768, Instructor on Record: Dr. Stacy Krueger-Hadfield, UAB, March 2019. Birmingham, AL
- E. F. Keister.** “Quorum Sensing.” Guest Lecturer for Chemical Ecology, BY674, Instructor on Record: Dr. Charles Amsler, UAB, February 2019. Birmingham, AL
- E. F. Keister** and C. Lloyd. “Understanding Graduate School.” Undergraduate Seminar Series, UAB, April 2018. Birmingham, AL

OUTREACH AND EDUCATION

- Fall Undergraduate Research Workshop, UAB, Invited Panelist,** September 2019
- Understanding Bias and Fostering Collegiality Seminar Series, UAB Biology Dept, Graduate Student Liaison** to UAB’s Office of Diversity, Equity and Inclusion, Fall 2019
- S.T.E.M. Outreach Club at UAB, Co-founder and President,** Summer 2019 - present
- Science Outreach, Girls, Inc. of Central Alabama, Mentor,** Spring 2019 - present
- Chasing Coral, Indian Springs School, Expert Panelist,** February 2019
- Darwin Day, UAB, Volunteer,** February 2019
- Ocean Day, Palau High School, Koror, Palau, Educator,** December 2018
- Marine Symbiosis in Palau, Co-developer and Organizer,** Fall 2018 - present
- Freedom Reigns Academy, Science Mentoring Program, Mentor,** Spring – Fall 2018
- Kemp Lab, UAB, Graduate Mentor for Undergraduates,** Spring 2018 - present
- Women in STEM Mentoring Program, UAB, Mentor,** Fall 2018
- 3 Minute Thesis, UAB, Judge,** Fall 2018
- Florida Keys Community College, Substitute Instructor,** September 2016
- American Tall Ship Institute, Educator and Deckhand,** June – September 2013
- Ocean Kids, University of Miami, Educator,** Spring 2010, 2011, and 2014
- University of Miami Aquarium Club, President,** Fall 2011, Secretary 2010 – 2011
- Department of Mathematics, USF, Calculus tutor,** February – May 2010

CERTIFICATIONS

- DFAPro DAN Course, October 2018
- American Academy of Underwater Sciences (AAUS) Diver-in-Training, Spring 2018
- SSI Divemaster, February 2017
- PADI Enriched Air Diver, February 2017
- PADI Rescue Diver, October 2013
- U.S. Coast Guard Seamanship Course, August 2012
- PADI Advanced Diver, October 2010
- PADI Ocean Water, March 2007