

Katherine R. Eaton

4301 Rickenbacker Causeway, Miami, FL. 33149

| 508-353-9983 | katherine.eaton@noaa.gov | kre31@earth.miami.edu |

EDUCATION

2022 – present **Master of Science** – Marine Biology and Ecology
Advisor: Nikki Traylor – Knowles
University of Miami Rosenstiel – Miami, FL.

2012 – 2016 **Bachelor of Science** – Biology
Fitchburg State University – Fitchburg, MA.

EXPERIENCE

09/2022 – present **Coral Restoration Projects Manager**
Cooperative Institute for Marine and Atmospheric Studies (CIMAS)/University of Miami, based at NOAA AOML – Miami, Florida

- Management of projects pertaining to coral genotype performance, resilience, and restoration
- Development and utilization of techniques for the rapid evaluation of coral performance
- Direct engagement, and effective communication with partner nursery operations and managers to identify which growth characteristics and stressors are most important for informing successful restoration
- Effective management of multiple lab members working within the context of these efforts

12/2021 – 09/2022 **‘Omics Lab Manager/Research Associate II**
Cooperative Institute for Marine and Atmospheric Studies (CIMAS)/University of Miami, based at NOAA AOML – Miami, Florida

- Maintain clean, organized, and safe laboratory spaces associated with molecular biological sample processing and analysis – includes equipment care/maintenance and ordering supplies
- Arranging/scheduling use of laboratory spaces and equipment usage
- Assist with laboratory and field work associated with various ‘omics projects
- Mentor/supervise college interns and volunteers, and provide training to new users

12/2018 – 12/2021 **Laboratory Manager & Staff Biologist**
Mote Marine Laboratory – Sarasota, Florida

- Implement/manage Coral Health and Disease research experiments: oversee and manage experiments including experimental set up, sample processing, data collection, statistical analysis, and technical report/publication writing
- Maintain the Coral Health and Disease wet lab - includes coral husbandry, water quality testing, and general aquarium maintenance
- Maintain the Coral Health and Disease molecular and microbiology laboratories – includes equipment care/maintenance and ordering supplies
- Participate in field research activities, including AAUS scientific diving
- Mentor/supervise college interns and volunteers, including REU student researchers
- Participate in outreach and educational activities, presentations, and tours of the lab

02/2018 – 12/2018 **Research Technician**
Mote’s International Center for Coral Reef Research and Restoration – Summerland Key, Florida

- Implement/manage experiments in an outdoor flow-through experimental raceway system
- Assess coral holobiont health via PAM fluorometry, buoyancy weight, and physiology trials

- Contribute to technical reports for state-funded grants
- Mentor/supervise college interns and volunteers, including REU student researchers
- Participate in outreach and educational activities, presentations, and tours of the outdoor experimental area

05/2017 – 02/2018

Intern

Mote Marine Laboratory – Sarasota, Florida

- Experience with proper care, handling, and husbandry of various marine organisms
- Conduct regular water quality and water chemistry measurements
- Analyzing data in Microsoft Excel, R, and Coral Point Count software

05/2016 – 08/2016

NSF REU Researcher

Tufts University – Medford, MA.

- Design/implement an experiment examining the effects of the invasive wool-carder bee on native pollinators and plants
- Experience with proper care, handling, and husbandry of various insects and plants
- Conduct daily behavioral observations in the field
- Analyze data in Microsoft Excel, R, and Graphpad Prism software

SCIENTIFIC PUBLICATIONS

Eaton, K.R., Clark, A.S., Curtis, K., Favero, M., Holloway, N.H., Ewen, K., & Muller, E.M. 2022. A Highly Effective Therapeutic Ointment for Treating Corals with Black Band Disease. *PLoS ONE*. (in review)

Klepac, C.N., Petrik, C.G., **Eaton, K.R.**, Arick, L.N., Hall, E.R., & Muller, E.M. 2022. Symbiont composition and coral genotype determines the performance of restoration massive coral species under end of century climate scenarios. *Frontiers in Marine Science*. (in review)

Eaton, K.R., Klepac, C., Curtis, K., Banister, R.B., Petrik, C.G., Arick, L., Hall, E.R., & Muller, E.M. 2022. Genotype Rather than Environment Influences the Relative Risk of Stony Coral Tissue Loss Disease Transmission. (in prep)

Eaton, K.R., Landsberg, J.H., Kiryu, Y., Peters, E.C., & Muller, E.M. 2021. Measuring Stony Coral Tissue Loss Disease Transmission and Lesion Progression within Two Intermediately Susceptible Species, *Montastraea cavernosa* and *Orbicella faveolata*. *Front. Mar. Sci.* 8:717265. doi: 10.3389/fmars.2021.717265

Traylor-Knowles, N., Connelly, M.T., Young, B.D., **Eaton, K.R.**, Muller, E.M., Paul, V., Ushijima, B., DeMerlis, A., Drown, M.K., Goncalves, A., Kron, N., Martin, C., & Rodriguez, K. 2021. Gene Expression Response to Stony Coral Tissue Loss Disease Transmission in *M. cavernosa* and *O. faveolata* from Florida. *Front. Mar. Sci.* 8:681563.

Muller, E.M., Dungan, A. Million, W., **Eaton, K.R.**, Petrik, C., Bartels, E., Hall, E.R., & Kenkel, C.D. 2021. Heritable variation and lack of trade-offs indicate adaptive capacity in nursery-reared *Acropora cervicornis* in spite of negative synergistic response to combined temperature and acidification stress. *Proceedings of the Royal Society B*, 288(1960), 20210923.

Gravinese, P.M., Douwes, A, **Eaton, K.R.**, & Muller, E.M. 2021. Ephemeral hypoxia reduces oxygen consumption in the Caribbean coral *Orbicella faveolata*. *Coral Reefs*, 41(1), 13-18.

Graham, K.K., **Eaton, K.R.**, O'Brien, I., & Starks, P.T. 2019. *Anthidium manicatum*, an invasive bee, excludes a native bumble bee, *Bombus impatiens*, from floral resources. *Biol Invasions*. 21(4),10891099.

SCIENTIFIC PRESENTATIONS

“Exposing *Orbicella faveolata* to projected ocean conditions and disease suggests genetic diversity is critical for resilient-reef restoration.” Oral Presentation. ICRS 2020 Conference, July 2022.

“Rhodobacterales, Rhizobiales, Desulfovibrionales, and Clostridiales are Significant Taxa Associated with Stony Coral Tissue Loss Disease in *Montastraea cavernosa* and *Orbicella faveolata*”. Accepted Oral Presentation. GCFI 2021 conference, November 2021.

“2019 SWG Disease Transmission Experiments: a Summary.” Oral Presentation for the Florida Disease Advisory Committee (DAC) call, January 2020.

“Resilience Screening of Mote’s Ex-Situ Grown Restoration Corals.” Oral Presentation. Mote Marine Laboratory Annual Knowledge Exchange, International Center for Coral Reef Research and Restoration, December 2019 and December 2020.

“Effects of Ocean Warming, Ocean Acidification, and SCTLD on the Threatened Caribbean Coral *Orbicella faveolata*.” Oral Presentation. 39th AMLC Meeting, Punta Cana, DR, May 2019.

“Effects of the Wool Carder Bee on Bumble Bee Foraging Behavior.” Oral Presentation. Tufts University REU final presentation, Medford MA, August 2016.

SKILLS

- Scientific diving
- Mentoring
- Lab Management
- Titrations, Dissolved inorganic & organic carbon analyses, nutrient analyses
- Microsoft Word, Excel PowerPoint, Outlook
- R/Rstudio, ArcGIS, Prism, ImageJ imaging software, Coral Point Count software
- DNA extractions, Polymerase Chain Reaction (PCR), Gel electrophoresis
- Plating/culturing bacteria

CERTIFICATIONS

AAUS Scientific Diver – 07/2019 – present (active)

Enriched Air Diver – PADI, 12/2019

Rescue Diver – PADI, 09/2019

Advanced Open Water Diver – PADI, 08/2019

First Aid/CPR/AED/O2 – Divers Alert Network, 02/2021 – 02/2023

COMMUNITY & OUTREACH

Intern Mentor, CIMAS-MDC internship program (May 2022 – August 2022) – Mentored and managed a Miami-Dade college student at NOAA AOML (funded by CIMAS).

Frost Museum of Science Earth Day celebration (April 2022) – hosted a table representing NOAA AOML.

Intern Mentor (February 2018 – December 2021) - Mentored and managed over 50 student interns at Mote Marine Laboratory

Internship Scholarship Review Committee member for Mote's internship program (September 2020 – December 2021)

FMSEA Research Panel – Presentation on coral reefs/Mote’s coral reef research and restoration (June 2021)

ReMote Trivia night – Guest speaker for Mote's virtual trivia night (October 2020)

NSF REU mentor presentation – Presentation on coral health and disease for NSF REU 2020 students at Mote Marine Laboratory (July 2020)

SeaTrek webinar – guest speaker on the Mote SeaTrek webinar (April 2020) **Coral Health class/presentation** – led a class on coral health and disease for volunteers at Mote Marine Laboratory (February 2020)

Umbrella House development event – Showcased Mote's coral reef research and restoration at the Umbrella House in Sarasota, FL. (February 2020)

Endless Oceans Adult Education presentation – presentation on coral reefs every semester for the adult education class at Mote Marine Laboratory & Aquarium (February 2018 – present)

Ideas for Us coral reef presentation – environmental awareness group in St. Petersburg, FL (October 2019)

Plymouth Harbor development event - Showcased Mote's coral reef research and restoration at the Plymouth Harbor retirement community in Sarasota, FL. (September 2019)

Leadership Sarasota presentation on coral reefs – Mote Marine Laboratory & Aquarium (April 2019)

Teacher Professional Development Workshop presentation on coral reefs – Mote Marine Laboratory & Aquarium (February 2019)

Youth Making Ripples Film Festival – Mote Marine Laboratory & Aquarium (February 2019)

PBS Changing Seas filming/interview – Mote Marine Laboratory & Aquarium, (January 2019)

Sugarloaf School Marine Science Night – Sugarloaf Key, FL (November 2018)

That's What She Shot Fishing Tournament – Key West, FL (October 2018)

Live Blue Service Corps Volunteer – New England Aquarium (05/2017 – 10/2017)

Baypath Humane Society Volunteer – Hopkinton, MA. (05/2017 – 10/2017)

PROFESSIONAL MEMBERSHIPS

Gulf and Caribbean Fisheries Institute – September 2021 - present

International Coral Reef Society – January 2020 - present

Sarasota Young Professionals – May 2019 – December 2021

Association of Marine Laboratories of the Caribbean – May 2019 - present