

Katherine R. Eaton

University of Miami CIMAS, NOAA-AOML
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EDUCATION

09/22 – present	University of Miami Rosenstiel School of Marine, Atmospheric, and Earth Science Master of Science in progress (part-time status, tuition remission), Marine Biology and Ecology, Advisor: Dr. Nikki Traylor-Knowles	Miami, FL.
09/12 - 12/16	Fitchburg State University Bachelor of Science, Biology; Minor, Chemistry	Fitchburg, MA.

CURRENT POSITION

09/22 – Present	Coral Restoration Project Manager/Research Associate III University of Miami CIMAS, based at NOAA AOML <ul style="list-style-type: none">• Oversight and management of AOML Coral Program projects pertaining to coral genotype performance, resilience, and restoration• Management of AOML Coral Program trees (nursery structures holding live coral). Includes tree maintenance, coral propagation and care, coral collection for experiments, data collection/health assessments• Direct engagement and effective communication with coral restoration collaborators within South Florida and the wider Caribbean• Development and utilization of techniques for the rapid evaluation of coral performance• Development and dissemination of databases related to coral genotype performance• Evaluation of mechanisms to increase resilience of outplanted coral fragments (e.g. stress-hardening)• Management of lab members working within the context of these efforts• Contribute to/draft scientific publications• Participate in outreach and educational events within the restoration community	Miami, FL.
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RELEVANT EXPERIENCE

12/21 - 09/22	'Omics Laboratory Manager/Research Associate II University of Miami CIMAS, based at NOAA AOML <ul style="list-style-type: none">• Maintain clean, organized, and safe laboratory spaces associated with molecular biological ample processing and analysis – includes equipment care/maintenance and ordering supplies• Arranging/scheduling use of laboratory spaces and equipment usage• Assist with laboratory work associated with various 'omics projects• Mentor/supervise college interns and volunteers, and provide training to new users	Miami, FL.
12/18 - 12/21	Laboratory Manager & Staff Biologist Mote Marine Laboratory <ul style="list-style-type: none">• 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	Sarasota, FL.

- 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

02/18 - 12/18

Research Technician
Mote's International Center for Coral Reef Research and Restoration

Summerland Key, FL.

- 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

05/17 - 02/18

Intern
Mote Marine Laboratory

Sarasota, FL.

- 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

05/16 - 08/16

NSF REU Intern
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

1. Rosales, S.M., Huebner, L.K., Evans, J.S., Apprill, A., Baker, A.C., Bellantuono, A.J., Brandt, M.E., **Eaton, K.R.**, ...et al. 2023. A meta-analysis of the stony coral tissue loss disease microbiome finds key bacteria in lesions and unaffected tissue of diseased colonies. ISME COMMUN. 3, 19.
2. Klepac, C.N., **Eaton, K.R.**, Petrik, C.G., Arick, L.N., Hall, E.R., & Muller, E.M. 2023. Symbiont composition and coral genotype determines the performance of restoration massive coral species under end of century climate scenarios. Frontiers in Marine Science, 10, 164.
3. **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 17(10): e0276902.
4. **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
5. 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.
6. 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.

7. 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.

8. Graham, K.K., **Eaton, K.R.**, Obrien, I., & Starks, PT. 2019. Anthidium manicatum, an invasive bee, excludes a native bumble bee, Bombus impatiens, from floral resources. Biol Invasions. 21(4),10891099.

SCIENTIFIC PRESENTATIONS

1. The *Acropora cervicornis* Data Coordination Hub workshop - invited to host. ReefFlorida Symposium, November 2023.
2. “The *Acropora cervicornis* Data Coordination Hub”. Oral presentation with Patrick Kiel. Reef Futures conference, September 2022.
3. “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.
4. “Rhodobacterales, Rhizobiales, Desulfovibrionales, and Clostridiales are Significant Taxa Associated with Stony Coral Tissue Loss Disease in *Montastraea cavernosa* and *Orbicella faveolata*”. Oral presentation. GCFI 2021 conference, November 2021.
5. “2019 SWG Disease Transmission Experiments: a Summary.” Oral presentation for the Florida Disease Advisory Committee (DAC) call, January 2020.
6. “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.
7. “Effects of Ocean Warming, Ocean Acidification, and SCTLTD on the Threatened Caribbean Coral *Orbicella faveolata*.” Oral presentation. 39th AMLC Meeting, Punta Cana, DR, May 2019.
8. “Effects of the Wool Carder Bee on Bumble Bee Foraging Behavior.” Oral presentation. Tufts University REU final presentation, Medford MA, August 2016.

SKILLS

- Data analysis and visualization using: R/Rstudio, ArcGIS desktop and ArcGIS online, Graphpad Prism, ImageJ imaging software, Coral Point Count software
- Microsoft Office: Excel, PowerPoint, Word
- Chemistry lab techniques: Titrations, Dissolved inorganic & organic carbon analyses, nutrient analyses
- Molecular lab techniques: DNA extractions, Polymerase Chain Reaction (PCR), gel electrophoresis, plating/culturing bacteria
- Scientific diving, 100+ scientific dives

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, expires 02/2025

COMMUNITY & OUTREACH

- Big Brother Big Sisters of Miami mentor (July 2023 - present)
- CIAC committee member (August 2022 – present) – serve as a member of the internal advisory committee for the University of Miami/NOAA Cooperative Institute (CIMAS).
- 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 30 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 – December 2021)
- Ideas for Us coral reef presentation – environmental awareness group in St. Petersburg, FL (October 201)
- 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 – 2021 - present
- International Coral Reef Society – 2020 - present
- Association of Marine Laboratories of the Caribbean – 2019 - present
- Sarasota Young Professionals – 2019 – 2021
- Leadership Sarasota - 2019-2020