

# SOPHIA MACVITTIE

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## EDUCATION

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05/2019 **Bachelor of Science Marine Science, Eckerd College, St. Petersburg FL**  
Marine Biology concentration; Minor in Chemistry

## RESEARCH AND TEACHING EXPERIENCE

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- 07/2021- Present **Laboratory Technician**  
Sogin Lab, University of California Merced, Merced, CA, USA
- Started and maintained laboratory cultures of *Exaiptasia diaphana*
  - Helped set up and organize lab spaces and systems
  - Developed protocols for 16S Library preparation
  - Conducted research on Microbiome function in Aiptasia through generation of gnotobiotic individuals, and monitoring of physiological parameters
  - Isolated and grew microbes from Aiptasia
- 08/2020-07/2021 **Laboratory Technician**  
Department of Health and Mental Hygiene, New York, NY, USA
- Conducted Covid-19 testing through qPCR and analyzed testing results
  - Performed antigen testing of blood samples
  - Performed inventory and instrument maintenance of equipment
  - Assisted in protocol development of Covid-19 identification assays for new equipment.
  - Entered patient data into Laboratory Information Management System (LIMS)
- 05/2019-11/2019 **Marine Research Intern**  
Central Caribbean Marine Institute, Little Cayman, CYM
- Supported visiting researchers during fieldwork facilitated by CCMI
  - Maintained databases of research activities on station, compile and analyzed field data for use in CCMI run experiments
  - Conducted reef health monitoring surveys using transects and Identification of reef coral, algae and fish species.
  - Maintained coral nurseries and set up and monitored restoration experimental treatments within nursery and after out planting
- 02/2019-05/2019 **Comparative Physiology Teaching Assistant**  
Eckerd College Biology Department, St. Petersburg, FL, USA
- Delivered prelab lectures and facilitated lab activities
  - Calibrated equipment and mixed necessary buffers and reagents
  - Performed husbandry of field collected organisms
  - Experiments explored such principles as respiration measurement, neuron response, and diving adaptations

- 09/2018-05/2019 **Marine Science Tutor**  
Eckerd College Natural Sciences Collegium, St. Petersburg, FL, USA
- Assisted students writing lab reports
  - Demonstrated use of formulas, tables and graphs in excel
  - Explained key concepts from courses such as Marine Botany, Marine Invertebrates and Biological and Geological Oceanography
- 09/2018-12/2018 **Marine Invertebrates Teaching Assistant**  
Eckerd College Marine Science Department, St. Petersburg, FL, USA
- Facilitated lab activities
  - Mixed buffers and calibrated equipment
  - Guided students through field collections and slide fixation
  - Aided in design and grading of examinations
- 06/2018-08/2018 **NOAA Hollings Scholar**  
Chesapeake Bay National Estuarine Research Reserve, Williamsburg VA, USA
- Conducted research on effectiveness of providing resources to primary school teachers
  - Taught and facilitated summer camps for third through eighth grade.
  - Designed lesson plans on estuaries and environmental stewardship
- 09/2016-05/2019 **Student Researcher**  
Eckerd College Cnidarian Physiology Lab, St. Petersburg, FL, USA
- Analyzed changes in bacterial community composition of *Exaiptasia diaphana* under thermal stress over four months using TRFLP analysis
  - Oversaw general lab maintenance and supervised other student researchers in the lab including maintaining a stock of over 2000 anemones
- 06/2016-07/2016 **Summer Research Intern**  
InterUniversity Institute for Marine Science, Eilat, ISR
- Used genetic barcoding to understand makeup of released coral larvae in the Red Sea
  - Analyzed chimaera formation of *Styllophora pistillata*, through natural larval collection and settling, and through inducement
  - Performed nursery maintenance, outplant site scouting of nursery grown corals and conducted husbandry of various coral species
- 08/2015-05/2016 **Freshman Research Associate**  
Eckerd College Marine Science Department, St. Petersburg, FL, USA
- Managed small scale aquaponics system growing a variety of garden plants and tilapia and catfish
  - Performed water quality and husbandry activities
  - Conducted research on efficacy methods through growth and biomass measurements of both plants and fish

08/2014-05/2015

### **Science Research Mentoring Program Awardee**

American Museum of Natural History, New York, NY, USA

- Assisted Post-doctoral fellow with research in population divergence of *Orthochromis stormsi*
- Performed DNA extraction, and Sanger sequencing of mtDNA and microsatellite DNA, analyzing results with Geneious

## **Skills**

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- Proficient in Microsoft Word, Excel and PowerPoint
- Basic coding and statistics in R, markdown, SPSS
- Certified SDI SCUBA Instructor and PADI Divemaster with over 500 dives
- Water Quality Monitoring
- DNA extraction, PCR, Bacterial Isolation, Microscopy, Flow Cytometry
- CPR and First Aid
- Writing designing and delivering lesson plans

## **Awards/Honors**

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- Eckerd College Honors Program (4 years)
- Eckerd College Freshman Research Scholarship Recipient (1 year)
- Eckerd College Ford Apprentice Scholar (2years)
- NOAA Hollings Scholar (2 years)
- Fulbright Open Study/Research Semi-finalist
- Eckerd College Marine Science Academic Excellence (Awarded to 2 seniors)
- Eckerd College Natural Sciences Collegium Scholarship and Service Award (Awarded to 2 seniors)
- American Australian Association Graduate Education Scholarship (2 years support)\*

\*Award declined due to inability to enter the country as a result of Covid-19

## **Research Presentations**

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- MacVittie S\*, Krediet CJ (2019) Bacterial Community Stability and Heat stress response in Aiptasia. Outreach talk at the Little Cayman Beach Resort, Little Cayman, CYM
- MacVittie S\*, Krediet CJ (2019) Bacterial Community Stability and Heat stress response in Aiptasia. Poster Presentation at the Association of sciences in Limnology and Oceanography 2019 Aquatic Sciences Meeting, San Juan PR
- MacVittie S\*, McGuire S, Ibanez A (2019) Differentiating Curriculums: Making Science Accessible for Elementary School Students. Oral Presentation at the Association of sciences in Limnology and Oceanography 2019 Aquatic Sciences Meeting, San Juan PR
- MacVittie S\*, Horner B\*, Davis K\*, McGuire S, Ibanez A (2018) Differentiating Curriculums: Making Science Accessible for Elementary School Students. Oral Presentation at the Mid-Atlantic Marine Educators Annual Conference, Portsmouth VA
- MacVittie S\*, Krediet CJ (2018) Bacterial Community Stability and Heat stress response in Aiptasia. Poster Presentation at the Florida Branch for the American Society of Microbiology Conference, Orlando FL

- MacVittie S\*, McGuire S, Ibanez A (2018) Differentiating Curriculums: Making Science Accessible for Elementary School Students. Oral Presentation at the 2018 Science and Education Symposium, NOAA Headquarters, Silver Springs MD
- MacVittie S, Browne A, Barber B (2016) Eckerd College Hydroponics system: an Investigation into the Growth of Edible Plant Species. Poster Presentation at the 9<sup>th</sup> Annual Student Research Symposium, Eckerd College, St. Petersburg FL
- MacVittie S\*, McGreal M\*, Arroyave J (2015) Assessing Genetic Divergence of Populations of *Orthochromis stormsi* in the Congo River Basin. Poster Presentation at the American Museum of Natural History Annual Student Research Colloquium, New York NY

\*Represents Presenter