Sydney E. McDermott

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EDUCATION

M.S Marine Science August 2020 – Present, Current GPA 3.682
   Moss Landing Marine Laboratories (MLML), San Jose State University, San Jose, CA, USA

B.S. Marine Science May 2020, GPA 3.742
   University of Maine, Orono, ME, USA

PROFESSIONAL APPOINTMENTS

- Jan 2022 – Present: Research Technician: Barry Lab (Monterey Bay Aquarium Research Institute)
- August 2020 – Present: Research Technician: Kahn Invertebrate Ecology Lab (San Jose State University/MLML)
- October 2020 – Present: Research Technician: Geller Molecular Ecology Lab (San Jose State University/MLML)
- 2018 – 2020: Undergraduate Research Technician: Brawley Phycology Lab (University of Maine)
- 2018 – 2019: SoundToxins Intern: SoundToxins Tulalip Bay (Washington Sea Grant)

PRESENTATIONS

(*indicates presenter other than self, † indicates interruptions by events surrounding the COVID-19 pandemic)

2022:

*World Sponge Conference - Leiden the Netherlands, Upcoming, October 10-14 (oral presentation): P. Heller, A. Kahn, **S. McDermott,** S. Domala. Spiculometer: A machine-learning approach to spicule classification

*Joint Aquatic Sciences Meeting – Grand Rapids, Michigan, May 14-20 (virtual oral presentation): H.G. Morrison, V.E. Frazier, M. Aydlett, **S. McDermott**, K.A. Capistrant-Fossa, A.H. Engelen, Serrão A. Ester, S.H. Brawley - Analysis of Bacteria Cultivated from the Microbiomes of the Brown Alga *Fucus vesiculosus* and the Red Alga *Porphyra umbilicalis*

2020:
† University of Maine School of Marine Sciences Capstone Symposium - Orono, ME, May (poster): **S. McDermott**, M. Aydlett, S.H. Brawley. Bacteria Associated with Embryos of *Fucus vesiculosus* (Phaeophyceae): Isolation, Identification, and Competitive Interactions

PUBLICATIONS

R. Starr, J. Caselle, A.S. Kahn, A. Lauermann, J. Lindholm, B. Tissot, S. Ziegler, C. Bretz, P. Carlson, K. Cieri, J. Hoeke, C. Jainese, G. Martel, **S. McDermott**, J. Mohay, and P. Salinas-Ruiz (2022). Monitoring and evaluation of mid-depth rock ecosystems in the California MLPA Marine Protected Area network. Report to the Ocean Protection Council, Project R/MPA-48. January 2022. 145 pp.

Publications In Prep:

H.G. Morrison, V.E. Frazier, M. Aydlett, **S. McDermott**, K.A. Capistrant-Fossa, A.H. Engelen, Serrão A. Ester, S.H. Brawley. Analysis of Bacteria Cultivated from the Microbiomes of the Brown Alga *Fucus vesiculosus* and the Red Alga *Porphyra umbilicalis* – Target: Applied and Environmental Microbiology by December 2022

S. McDermott, A. DeVogelaere, J. Barry, A. Kahn, Impacts from and ecological succession on a lost shipping container in the deep sea– Target: National Marine Sanctuary Conservation Series by December 2022

AWARDS

Moss Landing Marine Laboratories Wave Award – 2022 recipient

SERVICE AND OUTREACH

Moss Landing Marine Laboratories Open House Co-Chair – 2021-2022

RESEARCH

Graduate Research
Graduate thesis analyzing ROV images and video of lost shipping container and experimental artificial substrates deployed by the Monterey Bay Aquarium Research Institute (MBARI) and the Monterey Bay National Marine Sanctuary (MBNMS). Taxonomic identification of deep-sea organisms over different time periods with the goal of comparing trends in colonization and succession across substrate types. Behavioral trials on mobile organisms found on or near the

experimental substrates. Advised by Dr. Amanda Kahn (MLML), in collaboration with Dr. Jim Barry (MBARI), Dr. Andrew DeVogelaere (MBNMS), and Dr. Maxime Grand (MLML).

Undergraduate Research

Undergraduate capstone analyzing the microbiome of embryonic *Fucus vesiculosus*, how different bacteria altered the growth of *F. vesiculosus*, and performing bacterial inhibition trials to determine the interactions present within the typical microbiome of the embryonic stage of the alga in the Brawley Lab (under Dr. Susan Brawley).

Other Research

Research analyzing trends in sponge spicules over geologic time through sediment core samples (sample preparation and preservation, Flowcam, Planktoscope, image and particle analysis in VisualSpreadsheet, microscopy, spicule identification), and preparation of training sets for machine learning in the Kahn Lab (under Dr. Amanda Kahn and Dr. Philip Heller).

Research utilizing molecular techniques to identify invasive species and species of interest from various sample types collected along the California coastline (DNA extraction from eDNA samples, vouchers, plate scrapes, and plankton samples, PCR, etc.) in the Geller Lab (under Dr. Jonathan Geller).

OTHER SKILLS AND EXPERIENCE

Scuba and Ship Time

AAUS Scientific Diver (NAUI Master Scuba Diver, PADI Rescue Diver)
4 research cruises on board *R/V Rachel Carson* (MBARI) including ROV dives using *ROV Ventana* (MBARI)

Marine Invertebrate Care and Husbandry

Feeding and care of more than 40 species of invertebrates ranging from shallow subtidal to deep sea

Collection, Culturing, and Preservation

Intertidal sample collection of various phyla
Preservation and archiving (digital and traditional) of macroalgal samples for herbarium
Isolation, culturing, sequencing, and preservation of more than 50 species of bacteria of interest

Harmful Algal Bloom Monitoring

Water and plankton sample collection, identification, and preservation
Water quality analysis
Database curation