

ALYSSA LAUREN LIGUORI

Postdoctoral Scientist

Josephine Bay Paul Center for Comparative Molecular Biology and Evolution

Marine Biological Laboratory

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EDUCATION

- 2020 **Doctor of Philosophy**, Ecology and Evolution
Stony Brook University, NY
Dissertation: "Population dynamics in the rocky intertidal zone: Acclimation and adaptation to extreme abiotic conditions in the copepod *Tigriopus californicus*"
Advisor: Robert Thacker
- 2014 **Bachelor of Science**, Biology & Environmental Sciences (*summa cum laude*)
Dowling College, Oakdale, NY

TEACHING EXPERIENCE

Teaching Assistant 2/2022 - Present
Marine Biological Laboratory, High School Science Discovery Program, Woods Hole, MA

- Wrote and delivered lectures and guided students through hands-on lab and field activities for an "*Adaptation and Evolution in Response to Environmental Challenges*" course, an intensive, week-long research experience (two iterations taught thus far).

Instructor of Record 8/2020 - 1/2021
Stony Brook University, Undergraduate Biology Department, NY
Ecology Laboratory (*BIO 352*)

- Redesigned an upper-level field course for online instruction during pandemic lockdown.

Laboratory Instructor and Teaching Assistant 8/2014 - 8/2020
Stony Brook University, Undergraduate Biology Department, NY

- Taught 6 undergraduate courses, including: Chordate & Invertebrate Zoology (*BIO 344, BIO 343*), General & Marine Ecology (*BIO 351, BIO 353*), and lab and lecture sections of Introductory Biology (*BIO 201, BIO 204*).
- Communicated concepts to small laboratory sections and large lecture halls via lectures, demonstrations, hands-on activities, and group discussions.
- Presenter at the New York State Department of Education: Scientists and Teachers Engaging in Professional Development with University Personnel (STEPD-UP) Workshop for the training of middle school teachers on new science standards for NY, held at Stony Brook University (Fall 2018).

General Science Tutor 1/2011 - 5/2014
Dowling College Learning Center, Oakdale, NY

- Tutored undergraduate students for all science courses offered at Dowling College (biology, chemistry, physics), including courses geared for both science and non-science majors.
- Volunteered for the Center's "Peer-to-Peer" tutoring program to assist students with introductory writing and math courses.

FELLOWSHIPS & AWARDS

- 2016-2019 National Science Foundation, Graduate Research Fellowship
2019 Conchologists of America, Academic Grants to Malacology
(declined award due to a change in dissertation research plans)
- 2018-19 Stony Brook Graduate Student Organization Professional Development Fund
2018 National Science Foundation, Graduate Research Internship Program
2018 American Museum of Natural History, Lerner-Gray Memorial Fund
2018 Friday Harbor Laboratories, Research Fellowship Endowment
2017 Women in Science and Engineering, Mentor Professional Development Fund
2017 Sigma Xi, The Scientific Research Society, Grant-In-Aid of Research
2017 American Microscopical Society Student Research Fellowship
2017 Friday Harbor Laboratories, Beatrice Crosby Booth Endowed Scholarship
2017-18 Friday Harbor Laboratories, Patricia L. Dudley Endowment Award
2017 Stony Brook Ecology & Evolution Graduate Student Excellence Award
2017-18, 2020 Stony Brook Graduate Student Organization Travel Grant
2017-18, 2020 Society for Integrative & Comparative Biology Charlotte Mangum Award
2016 The Crustacean Society, Physiology and Reproductive Biology Scholarship
2016 Friday Harbor Laboratories, Alan J. Kohn Endowed Fellowship
2016, 2020 Stony Brook University, GSEU Professional Development Award
2015 Friday Harbor Laboratories, Brooks and Suzanne Ragen Scholarship
2015, 2017 Friday Harbor Laboratories, Adopt-A-Student Program Award
2015-16 Friday Harbor Laboratories, Marine Science Fund
2015-19 Stony Brook University, Lawrence B. Slobodkin Graduate Research Award
2014 Stony Brook University Recruitment Fellowship
2012 Dowling College, Distinguished Professor Grant for Earth & Marine Studies

PEER-REVIEWED PUBLICATIONS

- Liguori A.** 2022. Limited evidence for local adaptation to salinity and temperature variability in San Juan Island populations of the copepod *Tigriopus californicus* (Baker). *Journal of Experimental Marine Biology and Ecology*. 554: 151752.
- Liguori A.** 2022. Multigenerational life history responses to pH in distinct populations of the copepod *Tigriopus californicus*. *The Biological Bulletin*. 242(2): 97-117.
- Padilla D. K., D. Charifson, **A. Liguori**, M. McCarty-Glenn, M. Rosa, and A. Rugila. 2018. Factors affecting gastropod larval development and performance: a systematic review. *Journal of Shellfish Research*. 37(4): 851-867.
- Boyko C. B. and **A. Liguori**. 2015. Grapsoid and Gall Crabs (Crustacea: Brachyura: Grapsoidea and Cryptochiroidea) of Easter Island. *Pacific Science*. 69(4): 509-523.
- Boyko C. B. and **A. Liguori**. 2014. Swimming Crabs (Crustacea: Brachyura: Portunoidea) of Easter Island. *Pacific Science*. 68(4): 563-575.

MANUSCRIPTS IN PROGRESS

Liguori A., S. Korm, A. Profetto, E. Richters, and K. E. Gribble. Intraspecific variability in maternal age effects on offspring lifespan and fecundity. *In prep for submission to Proceedings of the Royal Society B. Draft available upon request.*

Liguori A. Environmental and genetic influences on the morphology of *Tigriopus californicus*. *In prep for submission to Invertebrate Biology. Draft available upon request.*

Padilla D. K., L. Milke, M. Akin-Fajiye, M. Rosa, D. Redman, **A. Liguori**, A. Rugila, D. Veilleux, M. Dixon, D. Charifson, and S. L. Meseck. Can population geography outweigh the effects of ocean acidification? *In review.*

SELECTED PRESENTATIONS

Liguori A, S. Korm, and K. E. Gribble. 2022. "Exploring the epigenetic mechanisms of maternal age effects on offspring lifespan and fecundity." Epigenetics in Marine Biology Conference (EPIMAR), Woods Hole, MA. Contributed talk.

Liguori A, S. Korm, A. Profetto, E. Richters, and K. E. Gribble. 2022. "Intraspecific variability in maternal age effects on offspring lifespan and fecundity in *Brachionus* rotifers." 10th Aquatic Models for Human Diseases Conference, Woods Hole, MA. Poster presentation.

Liguori A. 2022. "Understanding population resilience: Exploring mechanisms of phenotypic plasticity in a changing world." USDA ARS National Cold Water Marine Aquaculture Center, Kingston, RI. **Invited virtual seminar.**

Liguori A., S. Korm, A. Profetto, E. Richters, and K. E. Gribble. 2022. "Intraspecific variability in maternal age effects on offspring lifespan and fecundity." The Society for Integrative & Comparative Biology Annual Meeting (SICB+). Virtual contributed talk.

Liguori A. 2020. "Exploring local adaptation to salinity and temperature variability in the copepod *Tigriopus californicus*." The Society for Integrative & Comparative Biology Annual Meeting, Austin, TX. Contributed talk. ****Received the Mary Rice Award: Runner-up for the Best Oral Presentation for the Division of Invertebrate Zoology***

Liguori A. 2019. "Exploring local adaptation in tidepools: Will copepods be resilient to rapid global change?" Graduate Women in Science and Engineering, Women's Research in STEM Showcase, Stony Brook University, NY. Poster presentation.

Liguori A. 2019. "Exploring local adaptation to salinity and temperature variability in the copepod *Tigriopus californicus*." Stony Brook University, Department of Ecology and Evolution Retreat, Port Jefferson, NY. Contributed talk. ****Received Cedar Brook Award for best talk***

Liguori A. 2018. "Multigenerational responses to pH in different populations of the copepod *Tigriopus californicus*." Hofstra University, Department of Biology Seminar Series, Hempstead, NY. **Invited seminar.**

Liguori A. 2018. "Multigenerational responses to pH in different populations of the copepod *Tigriopus californicus*." Stony Brook University, Department of Ecology and Evolution Retreat, Port Jefferson, NY. Contributed talk. ****Received Cedar Brook Award for best talk***

Liguori A. 2018. "Population level differences in life history responses to long-term pH stress in *Tigriopus californicus*." The Society for Integrative & Comparative Biology Annual Meeting, San Francisco, CA. Contributed talk.

Liguori A. 2017. "Multigenerational responses to lowered pH in the copepod *Tigriopus californicus*." The Society for Integrative & Comparative Biology Annual Meeting, New Orleans, LA. ****Awarded Best Poster Presentation by the Crustacean Society***

Liguori A., V. Shah, T. Green. 2013. "Radiation resistant bacteria from the soil of the Gamma Forest." Brookhaven National Laboratory, U.S. Department of Energy SULI Program, Upton, NY. Poster presentation.

RESEARCH & PROFESSIONAL APPOINTMENTS

Postdoctoral Scientist 2/2021 - Present

Josephine Bay Paul Center for Comparative Molecular Biology and Evolution
Marine Biological Laboratory, Woods Hole, MA, Mentor: Kristin Gribble

National Science Foundation Graduate Research Fellow 9/2016 - 9/2019

Department of Ecology and Evolution, Stony Brook University, NY
Friday Harbor Laboratories, University of Washington, WA

Graduate Research Assistant 9/2016 - 4/2019

Department of Ecology and Evolution, Stony Brook University, NY
Milford Laboratory, NOAA Northeast Fisheries Science Center, CT

- New York Sea Grant funded, collaborative research investigating the capacity of blue mussel populations to acclimate and/or adapt to coastal acidification. Assessed the resilience of populations from across a water quality gradient in the Long Island Sound.

National Science Foundation Graduate Research Intern 4/2018 - 7/2018

NOAA Northwest Fisheries Science Center, Seattle, WA, Mentor: Krista Nichols

Graduate Research Assistant 5/2015 - 7/2015

Department of Ecology and Evolution, Stony Brook University, NY

- Mentored students from Brentwood High School as they conducted research on ribbed mussels and salt marshes in the Connetquot River Estuary.
- Identified field sites for the study, introduced students to the habitat, and worked with them to survey mussels and saltmarsh cordgrass, deploy larval collectors, and classify larvae.
- Students achieved semifinalist status in the national Siemens Science Competition for their project entitled, "*Mussel Power.*"

Research Assistant 1/2013 - 5/2014

Dowling College, Biodiversity and Ecology Laboratory, Oakdale, NY

Department of Energy Science Undergraduate Laboratory Intern 6/2013 - 8/2013

Brookhaven National Laboratory, Upton, NY

Research Assistant 1/2011 - 12/2011

Center for Estuarine, Environmental & Coastal Oceans Monitoring, Dowling College, Blue Point, NY

PROFESSIONAL AFFILIATIONS

2017-Present Sigma Xi, The Scientific Research Society, *Associate Membership*

2016-Present American Microscopical Society

2014-Present Society for Integrative and Comparative Biology

Divisional affiliations: Ecology and Evolution, Invertebrate Zoology

SERVICE

2022 Grant Reviewer: National Science Foundation, Biological Oceanography Program

2018-19 Co-reviewer for: *Marine Ecology Progress Series, Helgoland Marine Research*

2018-Present American Microscopical Society, Graduate Student/Postdoc Representative

- Served on the Executive Committee & led social media outreach efforts

Fall 2018 Participant in the Flax Pond Marine Laboratory Strategic Planning Workshop

- Met with academics, government employees, educators, and local environmental groups to discuss how to maximize the utility of the Flax Pond Marine Lab and Shellfish Hatchery to meet the needs of multiple stakeholders (Stony Brook, NY)

- 2017-2020 Graduate Women in Science and Engineering, Stony Brook University
Secretary (2017-18), Vice President (2018-19)
- Led a team to plan & execute events to advance the professional development of women in STEM, both within Stony Brook and across institutions, including Cold Spring Harbor Lab and Brookhaven National Lab
 - Received the Outstanding Organization Award at the Jerrold L. Stein Student Life Awards (2019)
- 2017-2020 Women in Science & Engineering Mentorship Program, Stony Brook University
2017-2020 Department of Ecology & Evolution Mentoring Program, Stony Brook University
2016-17 Natural History Club, Stony Brook University, Vice President and founding member
- Organized lectures, off-campus excursions, and environmental outreach efforts
- 2015-2018 Darwin Day Event, Stony Brook University, Department of Ecology and Evolution
- Participated in outreach on campus to promote evolution education
- Fall 2016 Stony Brook University, NSF GRFP Workshop Panelist
2015-17 Ecology and Evolution Club, Stony Brook University, Treasurer
- Secured funds and maintained budgets for Student-Invited Speaker Events

ADDITIONAL EXPERIENCE AND TRAINING

- Fall 2020 Open Standards for the Practice of Conservation Course
Center for Wildlife Studies, Professional Certification Program
- Summer 2019 Methods in Ecological Genomic Analysis Workshops
MOTE's Elizabeth Moore International Center for Coral Reef Research & Restoration
Topics: Population genomics using low coverage/RAD data & Functional genomics and gene network analysis with TagSeq
- Fall 2018 Communicating Science: Using Digital Media
Alan Alda Center for Communicating Science, Stony Brook University
- Spring 2018 Women in Science and Engineering Graduate Leadership Workshop Series
Stony Brook University Career Center, Alan Alda Center for Communicating Science
Topics: Scientific communication, negotiation, work-life balance
- 2018-19 Software Carpentry Workshops
Institute for Advanced Computational Science, Stony Brook University
Topics: Unix shell, Python programming, and version control with Git
- Summer 2017 Summer Institute in Statistical Genetics
University of Washington, Department of Biostatistics
Quantitative Genetics & Integrative Genomics Modules
- Spring 2017 Functional Ecological Genomics Workshop, Lacawac Biological Field Station
- Summer 2015 Ocean Acidification Graduate Summer Course
University of Washington, Friday Harbor Laboratories
Learned best practices for conducting ocean acidification research
Research Project: "The embryonic development of an autotroph-associated gastropod under varying pH"
- Summer 2015 The New York Master Naturalist Program, Cornell University
Learned conservation management and education strategies
- Fall 2014 Alan Alda Center for Communicating Science, Improvisational Workshops
Developed skills for effective scientific communication with diverse audiences