
KATHERINE T. NESBIT, PhD.

Curriculum Vitae, July 2023

CONTACT INFORMATION:

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RESEARCH INTERESTS: My research explores the role of bacteria in development, using the marine invertebrate larvae of the tube worm, *Hydroides elegans*, and sea urchin *Lytechinus pictus* as models. My research prioritizes functional understanding of the animal machinery for sensing and responding to diverse microbial products throughout ontogeny, as well as characterizing microbially-derived products that mediate interactions between bacteria and the developing animal, especially for important life-history transitions like metamorphosis.

CURRENT APPOINTMENT

March 2022 **Postdoctoral Scholar**, San Diego State University. Nick Shikuma lab.
Studying how bacteria promote development using the marine tube worm model system *Hydroides elegans*. Focus on the diversity of molecular machinery of bacteria, and how these diverse strategies yield similar developmental outcomes.

EDUCATION

- 2022** **Ph.D., Marine Biology:** University of California San Diego, Scripps Institution of Oceanography.
Doctoral dissertation title: *Development of the painted white urchin, Lytechinus pictus, as a genetically-enabled model to address impacts of chemical exposure on the larval immune response.*
Advisor: Dr. Amro Hamdoun.
- 2016** **M.Sc., Marine Biology:** University of North Carolina Wilmington, Wilmington, NC
Master's thesis title: *Silicification of the medial tooth in the blue crab, Callinectes sapidus.*
Advisor: Dr. Robert Roer.
- 2014** **B.Sc. with High Honors, Marine Biology,** University of Hawai'i at Mānoa, Honolulu, HI
Honors Thesis title: *Identification of the molecular components of a circadian signaling system in the marine copepod, Tigriopus californicus.*
Advisor: Dr. Andrew E. Christie.

PUBLICATIONS: Peer Reviewed Articles and Book Chapters

1. **Nesbit KT** & Shikuma NJ (2023). Future research directions of the model marine tubeworm *Hydroides elegans* and synthesis of developmental staging of the complete life cycle. *Developmental Dynamics*. DOI: 10.1002/dvdy.628
2. Vyas H., Schrankel CS, Espinoza JA, Mitchell KL, **Nesbit KT**, Lee Y, Jackson EW, Chang N, Warner JF, Reitzel AM, Lyons DC, and Hamdoun A. (2022). Generation of a homozygous mutant drug transporter (ABCB1) knockout line in the sea urchin, *Lytechinus pictus*. *Development*. 149(11), dev200644.
3. Warner JF, Lord J, Schreiter SA, **Nesbit KT**, Hamdoun A, Lyons DC. (2021). Chromosomal-level genome assembly of the painted sea urchin *Lytechinus pictus*: a genetically enabled model system for cell biology and embryonic development. *Genome Biology and Evolution*. 13(4), evab061.
4. **Nesbit KT**, Wolfe WH, Mullane KK, Chamberlain EJ, Saberski E, Rasina BA, Jones-Cervantes SA. (2021). SCOPE: A volunteer-led STEM outreach program connecting communities to research. *Connected Science Learning*. 3(6).
5. **Nesbit KT** and Hamdoun A. (2020) Embryo, larval, and juvenile staging of *Lytechinus pictus* from fertilization through sexual maturation. *Developmental Dynamics*. 249(11): 1334-1346.
6. **Nesbit KT**, Fleming, T, Batzel G, Pouv A, Rosenblatt H, Pace D, Hamdoun A, Lyons D. (2019). The painted sea urchin, *Lytechinus pictus*, as a genetically-enabled developmental model. In, K. Folts and Hamdoun A (Eds.) *Echinoderms: Experimental Approaches Methods in Cell Biology*: Academic Press: Elsevier v150.
7. Hamdoun A, Schrankel CS, **Nesbit KT**, Espinoza JE. Sea urchins as Lab Animals for Reproductive and Developmental Biology. (2018). In: MK Skinner (Ed.), *Encyclopedia of Reproduction*, vol. VI, pp. 696-703. Academic Press: Elsevier.
8. **Nesbit KT**, and Roer RD (2016). Silicification of the medial tooth in the blue crab *Callinectes sapidus*. *Journal of Morphology*. 277(12): 1648-1660.
9. **Nesbit, KT** and Christie, AE (2014). Identification of the molecular components of a *Tigriopus californicus* (Crustacea, Copepoda) circadian clock. *Comp. Biochem. Physiol. Part D Genomics Proteomics*. 12: 16-44.
10. Christie, AE, Fontanilla, TM, **Nesbit, KT**, Lenz, PH (2013). Prediction of the protein components of a putative *Calanus finmarchicus* (Crustacea, Copepoda) circadian signaling system using *de novo* assembled transcriptome. *Comp. Biochem. Physiol. Part D Genomics Proteomics*. 8(3): 165-193

RESEARCH FELLOWSHIPS

June 2023 **Academic Fellowship:** National Science Foundation Postdoctoral Research Fellowship in Biology (PRFB). Not funded, but rated Highly Meritorious with strong encouragement from reviewers to resubmit.

- Aug. 2019** **Academic Fellowship:** National Institutes of Health (NIH) Diversity Supplement. National award for students from backgrounds traditionally underrepresented in STEM fields. This award funds doctoral students' research as a supplement to a parent grant.
- Aug. 2017** **Academic Fellowship:** H. William Menard Memorial Fund. Scripps Institution of Oceanography, University of California San Diego. Funds cover tuition and fees to help support graduate student researchers. (08/2017)
- Jan 2017** **Academic Fellowship:** Scripps Fellowship. Scripps Institution of Oceanography, University of California San Diego. Departmental predoctoral support award. (01/2017 - 06/2017)
- Aug. 2016** **Academic Fellowship:** Cody Fellowship. Scripps Institution of Oceanography, University of California San Diego. Departmental predoctoral support award. (08/2016-12/2016)
- May 2013** **Summer Research Fellowship:** Undergraduate Research Opportunities Program (UROP). Department of Biology, University of Hawai'i at Mānoa. Proposal awarded for undergraduate research fellowship to conduct honors thesis work. (06/2013-08/2013)

TRAVEL AWARDS AND MERIT-BASED SCHOLARSHIPS

- May 2023** **Travel Award:** American Society for Microbiology award for Postdoctoral Women in Microbiology in support of attendance at the 2023 Gordon Research Seminar and Gordon Research Conference on Animal Microbe Symbioses (06/17-23/2023)
- April 2022** **Scholarship Award:** Regeneron Scholars. Award in support of attendance to the 2022 Cold Spring Harbor Laboratories Advanced Bacterial Genetics Course (06/07/2022-06/27/2022).
- April 2020** **Scholarship Award:** Association for Women in Science (AWIS) – San Diego Chapter 2020 Scholarship Award for Doctoral Students.
- Feb. 2020** **Conference Travel Award:** Graduate Student Excellence Travel Award. Scripps Institution of Oceanography, University of California San Diego. Funds cover travel expenses to present at the Developmental Biology of the Sea Urchin and other Marine Invertebrates XXVI meeting to be held at the Marine Biological Laboratory at Woods Hole.
- July 2018** **Scholarship:** Hispanic Scholarship Fund (HSF). National competitive award for students with Hispanic heritage to obtain college and graduate degrees, with emphasis on STEM programs.
- March 2018** **Scholarship:** Offer of MBL Support. Marine Biological Laboratory at Woods Hole, University of Chicago. Funds covered the full cost of attendance to the Summer 2018 "Embryology: Concepts and Techniques in Modern Developmental Biology" course at MBL Woods Hole. (06/2018-07/2018)
- April 2017** **Conference Travel Award:** Graduate Student Funds. Scripps Institution of Oceanography, University of California San Diego. Departmental travel funds to attend the 24th Developmental Biology of the Sea Urchin Meeting. Woods Hole, MA (04/2017)

- Jan. 2016** **Conference Travel Award:** Graduate Student Travel Award. Department of Biology, University of North Carolina Wilmington. Travel funds to attend SICB Annual Meeting, Portland, OR. (01/2016)
- Jan. 2016** **Conference Travel Award:** SICB Broadening Participation Travel Scholarship. Society for Integrative and Comparative Biology Annual Meeting, Portland, OR. Travel award for diversity students. (1/2016)
- Aug. 2015** **Scholarship:** Owen Graham Kenan Scholarship. Department of Biology, University of North Carolina Wilmington. Graduate student merit-based award. (08/2015-06/2016)
- Jan. 2015** **Scholarship:** Francis Peter Fensel Memorial Scholarship. Department of Biology, University of North Carolina Wilmington. Graduate student merit-based award. (01/2015-08/2015)
- Aug. 2014** **Scholarship:** Jane Logan Lackey Scholarship. Department of Biology, University of North Carolina Wilmington. Graduate student merit-based award. (08/2014-12/2014)
- Aug. 2010** **Scholarship:** Centennial Scholarship. Department of Biology, University of Hawai'i at Mānoa. Undergraduate merit-based support. (08/2010-06/2014)
- Aug. 2010** **Scholarship:** Chancellors Scholarship. Department of Biology, University of Hawai'i at Mānoa. Undergraduate merit-based support. (08/2010-06/2014)

CONFERENCE PARTICIPATION: Selected oral and poster presentations

- June 2023** **(Talk)** A heat-tolerant product from *Roseobacter* bacteria stimulates tube worm metamorphosis. Gordon Research Conference 2023 Animal-Microbe Symbioses.
- July 2020** **(Poster)** Evolution of the small molecule transport system in animal development Society for Developmental Biology (SDB) 79th Annual Meeting ONLINE.
- May 2019** **(Poster)** Effects of polybrominated diphenyl ether (PBDE) exposure on immune responses in the sea urchin *Lytechinus pictus*
Southern California Regional Chapter of the Society of Environmental Toxicology and Chemistry (SETAC) 2019. San Diego, CA.
- Dec. 2018** **(Poster)** Effects of polybrominated diphenyl ethers (PBDEs) on the developing sea urchin immune system.
American Society for Cell Biology (ASCB) 2018 Annual Meeting. San Diego, CA.
- Oct. 2017** **(Talk)** The sea urchin, *Lytechinus pictus* as a model for genomic manipulation.
4th International Meredith Gould Conference. Universidad Autónoma de Baja California, Ensenada, Baja California, México.
- April 2017** **(Poster)** The role of cAMP in gastrulation of the sea urchin, *Strongylocentrotus purpuratus*.
24th Meeting of the Developmental Biology of the Sea Urchin. Woods Hole, MA.

- Jan. 2016** (Poster) Silicification of the medial tooth in the blue crab, *Callinectes sapidus*.
Society for Integrative and Comparative Biology Annual Meeting. Portland, OR.
- Feb. 2014** (Poster) Identification of the molecular components of a circadian signaling system in the marine copepod, *Tigriopus californicus*.
Ocean Sciences Biennial Meeting. Honolulu, HI.

INVITED RESEARCH, EDUCATION, AND OUTREACH PRESENTATIONS

- March 2022** Fellowship Presenter. Scripps Institution of Oceanography Student Fellowship Brunch (03/06/2022) San Diego, CA
Presentation entitled: “Do sea urchins get stressed? An echinoderm model of environmental stressor interactions” provided a summary of my doctoral work on the immune response in the larval sea urchin *Lytechinus pictus* for a general audience.
- Oct. 2021** Seminar – University of Vermont, Biology Department.
Invited lecturer for the departmental seminar series for Fall 2021 semester. Presentation entitled: “Impacts of drug exposure on immune cell biology in the sea urchin larva”.
- Oct. 2020** Lightning Talk – SoCal SETAC Monthly Meeting.
(10/16/2020) San Diego, CA – Virtual
Presentation entitled: “Impacts of environmental chemicals on the developing sea urchin immune system” provided a brief synopsis on immunotoxic chemical exposure and the utility of marine model systems to address underlying molecular mechanisms of toxicity.
- March 2018** Fellowship Presenter. Scripps Institution of Oceanography Student Fellowship Brunch (03/11/2017) San Diego, CA.
Presentation entitled “Development and disease: embryonic defenses in the sea urchin” provided a brief overview of ABC transporters in toxicology and immune cell function for a general audience.
- Nov. 2017** Guest Speaker. Sea Urchin Biology and Environmental Toxicology
(11/07/2017) Point Loma Optimists Club. San Diego, CA.
Presented on my educational background and start in science, sea urchin biology, genetic modification of the sea urchin using CRISPR-Cas9, and ABC transporters in environmental toxicology.
- July 2017** Guest Speaker. Careers in Marine Biology.
(07/11/2017) Edison Elementary School Career Fair. San Diego, CA.
Presented to grades K-5 on biology of marine organisms and steps to take towards career paths in scientific research.
- June 2017** Guest Speaker. Tidepool Ecosystems Biology.
(06/05/2017) Bird Rock Elementary School. San Diego, CA.

Presented to 4th grade students on biology of tidepool invertebrates and sea urchin development, as well as what a typical “day in the life of a grad student” involves for scientific research.

May 2017 Guest Speaker. Oceans Week: All One Ocean.

(05/30/2017) Solana Santa Fe Elementary School. San Diego, CA.

Presented to grades K-5 on innovation in science technology and nature, steps to take towards sustainability and reducing your impact on global climate, and broad topics in climate change and marine biology.

Mar. 2017 Keynote Speaker. Science Night.

(03/23/2017) Casa de Oro La Mesa Springs Elementary School. San Diego, CA.

Delivered a 15-minute keynote address to 1st-3rd graders and their families on science education, innovation in science technology and nature, and pathways to pursuing science as a career.

SPECIALIZED ACADEMIC TRAINING AND RESEARCH

June 2022 **Advanced Bacterial Genetics**

Cold Spring Harbor Laboratory, Laurel Hollow, NY.

Month-long course presenting the logic and methods used in the genetic dissection of complex biological processes in diverse bacteria (using model microbial systems *E. coli*, *S. aureus*, and *V. cholerae*). Lab methods include classical and cutting-edge mutagenesis via transposons, allelic exchange, recombineering, and CRISPR/Cas; sequence assembly and mutation mapping with genetic and physical techniques; and generation and analysis of gene perturbations via reporter constructs.

Summer 2018 Embryology: Concepts and Techniques in Modern Developmental Biology

University of Chicago’s Marine Biological Laboratory, Woods Hole, MA.

Summer course of integrated lectures and laboratories that comprehensively cover paradigms, problems, and technologies of modern developmental biology cast (hydra, sea urchin and sea star, molluscs, planarians, nematodes, acoel, tunicate, zebrafish, chick, mouse, frog, fruit fly) within a comparative framework of metazoan evolution.

May 2015 **Graduate Research Volunteer**

University of North Carolina Wilmington, Wilmington, NC.

Summer-long volunteer position monitoring loggerhead sea turtle nests on Figure Eight Island, NC. Aims to advise on protection and management of loggerhead sea turtles in critical habitats along the NC shoreline.

Supervised by: Dr. David Webster, UNCW.

LEADERSHIP AND TEACHING EXPERIENCE

2022 **Invited Guest Lecturer**

(Sept. 1, 2023 and October 20, 2023) San Diego State University, Department of Biology BIOL576: Developmental Biology. Instructor of Record: Ricardo Zayas

- Led one class session as a primary literature discussion, focusing on developmental staging and early embryogenesis in the sea urchin (Nesbit and Hamdoun 2020).
- Led one class session on mechanisms governing early development in deuterostome invertebrates, including sea urchin and tunicate models.

2022

Expert Scientist for Biocom Teacher Training Professional Development

(03/2022) Biocom Institute of California. San Diego and Los Angeles CA.

- Developed and reviewed curriculum for underserved high school students (a sea urchin fertilization lab and dogfish dissection lab), and middle/elementary school students (squid dissection lab, and principles of ocean layering and mixing lab).
- Led a hands-on, 2-day intensive professional development training program for 30 teachers so that the designed labs could be implemented in their classrooms throughout the Southern LA area (School District 10).

2021

Co-chair of the Scripps Student Symposium (S³) Organizing Committee

(09/2021) University of California – San Diego, Scripps Institution of Oceanography, La Jolla CA.

- Planned program for, and coordinated the execution of the annual student-led research symposium including moderating oral and poster sessions. This was the first time ever that the symposium took place virtually.

2019

Teaching Assistant

(01/2019 – 06/2019) University of California – San Diego, Scripps Institution of Oceanography, La Jolla, CA.

- Led review sections and assisted students with scientific writing exercises, laboratory exercises using R, and research presentation skills in the undergraduate course SIO 139 entitled “Current Research in Marine Biology”

2017

Teaching Assistant

(08/2018 – 12/2017) University of California – San Diego, Scripps Institution of Oceanography, La Jolla, CA.

- Led discussion and review sections for the undergraduate SIO189 course on Pollution, Environment, and Health. Graded exams and assignments, corresponded with students on course material.

2017

Coordinator, Scripps Community Outreach for Public Education (SCOPE)

(08/2017-present) Scripps Institution of Oceanography, La Jolla, CA.

- Plan logistics for educational activities for community groups through SCOPE. Activities include on campus visits, such as tours of research facilities, and off campus activities, such as guest speaker requests. Audiences originate from the local San Diego area, to international groups visiting from China.
- Organize and lead volunteer activities including volunteer appreciation events, and volunteer tour-training sessions.

- Design guides and other outreach materials for volunteers and other STEM outreach activity materials to supplement classroom education for visiting educators.

2016 Volunteer, Scripps Community Outreach for Public Education (SCOPE)

(08/2016-present) Scripps Institution of Oceanography, La Jolla, CA.

- Lead educational tours of the Ellen Browning Scripps Memorial Pier and the Hubbs Hall Research Aquarium for community groups ranging from kindergarten aged to senior citizens from within CA and the United States, as well as international groups.

2016 Mentor, Undergraduate Student Researcher

(01/2016-06/2016) University of North Carolina Wilmington, Wilmington, NC.

- Mentored female minority undergraduate in her senior thesis project. She applied to and was accepted into her top choice for dental school

2015-2016 Representative, Biology Department Graduate Student Association

(08/2015 – 06/2016) Department of Biology, University of North Carolina Wilmington

- Attended monthly meetings and polled membership for key discussion topics at meetings.
- Served as liaison to improve student resources within departmental constraints for meeting student needs

2015 Teaching Assistant

(01/2015 – 06/2016) University of North Carolina Wilmington, Wilmington, NC.

- Led laboratory sections for the undergraduate course BIO345 on Animal Physiology. Wrote and administered quizzes, graded lab reports, corresponded with students on course material and provided hands-on instruction on operation of laboratory equipment and performance of experiments.

2014 Teaching Assistant

(08/2014 – 12/2014) University of North Carolina Wilmington, Wilmington, NC.

- Led laboratory sections and review sessions for the undergraduate course BIO240 on Human Anatomy and Physiology. Wrote and administered quizzes, graded exams, set up laboratory specimens and led dissections (fetal pig, sheep eye and brain) and composed lecture materials on human biology including skeletal systems, cell morphologies, brain anatomy, and nervous systems.

2013- 2014 President

Biology Club at the University of Hawai'i

(08/2013-06/2014) University of Hawai'i at Mānoa, Honolulu, HI.

- Student-led organization that promotes the open discussion of topics in biology, environmental stewardship, and academia.
- Directed club meetings and executive board meetings.

- Recruited guest speakers for meetings and polled membership for topics of interest for future meeting speakers.

2011- 2013 Web Master

Biology Club at the University of Hawai'i

(08/2011-07/2013) University of Hawai'i at Mānoa, Honolulu, HI.

- Attended and aided in club decision making at executive board meetings.
- Managed web content for the club including the club website and social media pages. Content included planned event details, membership reminders and club email account, and coordinating electronic event sign ups

ADDITIONAL OUTREACH INVOLVEMENT

- April 2016** Guest speaker and Volunteer. North Carolina Science Festival STEM Expo.
(04/08/2016) University of North Carolina Wilmington. Wilmington, NC.
Presented to students grade 5-10 on plankton biodiversity and monitoring, composition of sands of the world, and the history of microscopy. Also led tour groups of the UNCW electron microscope facilities.
- Jan. 2016** Volunteer. TreeFest Wilmington.
(01/23/2016) Independence Mall. Wilmington, NC.
Presented to community members on the role of healthy plants in maintaining global climate. Distributed free trees to participants to plant in their gardens.
- April 2015** Volunteer. Project TECHNOcean.
(04/10/2015) Ocean Exploration Nation North Carolina Science Festival, University of North Carolina Wilmington, Center for Marine Science. Wilmington, NC.
Guide for elementary, middle, and high school students through program stations on ocean monitoring and CORMP buoys, the census for marine life and marine biodiversity, shellfish hatcheries and aquaculture in fisheries sustainability, phytoplankton monitoring, ocean exploration and the use of remote operated vehicles (ROV's).
- Dec. 2014** Volunteer. Ocean's Rock Community Outreach Event.
(12/18/2014) University of North Carolina Wilmington. Wilmington, NC.
Assisted in the production of educational stations led by NC elementary school students on environmental change, ocean-atmosphere interactions, plastics in the ocean, and scientific education and communication.
- Jan. 2014** Volunteer. Kualoa Ranch Stream Restoration Project.
(01/2014) Kualoa Ranch. Honolulu, HI.
Planted native species and removed invasive species as part of an effort to rehabilitate natural stream habitats on O'ahu.
- Jan. 2014** Volunteer. Kualoa Ranch Stream Restoration Project.
(01/2014) Kualoa Ranch. Honolulu, HI.

Planted native species and removed invasive species as part of an effort to rehabilitate natural stream habitats on O’ahu.

Aug. 2010 Volunteer. Malama Maunaloa Invasive Algae Collection
(08/2010 – 06/2014) Honolulu, HI.

Removed invasive algal species from Paiko Lagoon on O’ahu. Learned about traditional Native Hawaiian culture and connection to the land and ocean and assisted in education of the public on those traditions.

Aug. 2010 Volunteer. SurfRider Foundation
(08/2010 – 06/2014) Honolulu, HI.

Helped to recruit volunteers, organized and participated in beach clean-ups around the island of O’ahu.

WEB-BASED PUBLICATIONS AND MEDIA

- Visitor of the Week – Current Exchange. A blog run by Cold Spring Harbor Laboratory (CSHL) Meetings and Courses highlighting researchers that are visiting campus to attend conferences and courses hosted at CSHL. (06/24/2022). <https://currentexchange.cshl.edu/blog/2022/6/visitor-of-the-week-227>
- UC San Diego News Center – Genetic Breakthrough in sea urchins to aid in biomedical research. Article highlighting work from the Hamdoun Lab that showcases the knock-out sea urchins developed during my tenure at UCSD SIO, and highlighted in the *Development* publication (see publications listed above). (06/06/2022). <https://ucsdnews.ucsd.edu/pressrelease/genetics-breakthrough-in-sea-urchins-to-aid-in-biomedical-research>
- Student Spotlight – Scripps Institution of Oceanography: UC San Diego initiative to highlight the important contributions to research and education made by graduate and professional students (05/14/2021)
<https://grad.ucsd.edu/student-life/student-spotlights/sio/katherine-nesbit.html>
- Womengineered: Science communication social media account (Instagram) highlight featuring women in science, and discussing equity, diversity, and inclusion in STEM with a focus on women’s issues (11/18/2020)
<https://www.instagram.com/p/CHvmzD9DWdV/>
- SeatheScience: Science communication social media account (Instagram) submission post featuring early career scientists and other earth and ocean science topics (10/3/2020)
<https://www.instagram.com/p/CF21hoUhvMd/>
- Echinobase: Composed “About” page information and images for *Lytechinus pictus* that are hosted on the community resource for echinoderm biologists (10/2/2020).
<http://legacy.echinobase.org/Echinobase/LpAbout>
- Latinx and Hispanic Excellence at Scripps: News feature composed in recognition of Latinx Heritage Month featuring members of the Scripps community with Latinx/Hispanic backgrounds (10/1/2020).
<https://scripps.ucsd.edu/news/recognizing-latinx-and-hispanic-excellence-scripps>

- Photo Contest Winner – Category: Underwater Wonders. Annual photo contest with submissions from artists around the globe. Contest winners have their images featured in the annual, the proceeds of which go towards ocean conservation. *Ocean Conservancy* (7/31/2018)
<https://beautifulnow.is/discover/impact/award-winning-photos-from-ocean-conservancy-photo-contest-will-move-you-to-take-action>
- Innovate 8: Students explore oceanography and climatology. *CBS San Diego* (1/6/2018).
<http://www.cbs8.com/story/37207883/innovate-8-students-explore-oceanography-and-climatology>
- Photo of the week: A star of the sea. Baby urchin cultured by grad student. *Scripps News* (10/05/2016). <https://scripps.ucsd.edu/news/photo-week-star-sea>

UNDERGRADUATE RESEARCH EXPERIENCE

- 2013-2014** **Thesis Student, Undergraduate Honors Program**
Bekesy Laboratory for Neurobiology, Pacific Biosciences Research Center, University of Hawai'i at Mānoa, Honolulu, HI
Thesis Title: Identification of the molecular components of a circadian signaling system in the marine copepod *Tigriopus californicus*
- Used *in silico* bioinformatics methodologies to identify putative proteins involved in circadian rhythms in crustacean model organisms.
- 2013** **Undergraduate Scholar - Field Problems in Marine Biology**
Hawai'i Institute for Marine Biology, University of Hawai'i at Mānoa, Honolulu, HI
- Learned ecological field methods to study the distribution of the inarticulated brachiopod, *Lingula revii* in Kane'ohe Bay, HI throughout the duration of the course.
 - Obtained boating license to operate small motorized vessels
- 2012** **Undergraduate Research Scholar**
Bekesy Laboratory for Neurobiology, Pacific Biosciences Research Center, University of Hawai'i at Mānoa, Honolulu, HI
Advisor: Elaine Seaver
- Learned marine animal husbandry and assisted with experimental manipulation of animals.
 - Used laser ablation of cells in the larvae of the marine polychaete, *Capitella teleta* and amputation of juvenile worms to assist graduate students with research projects examining development of nervous systems and wound-healing, respectively.

SOCIETY MEMBERSHIP

- 2022 – present** American Society for Microbiology (ASM)
2019 – present Society for Environmental Toxicology and Chemistry (SETAC)
2018 – present American Society for Cell Biology (ASCB)
2016 – present Society of Developmental Biology (SDB)
2016 – present The American Association for the Advancement of Science (AAAS)

2015 – 2016

Society for Integrative and Comparative Biology (SICB)

PROFESSIONAL REFERENCES

1. Nicholas J. Shikuma (Current Postdoctoral Advisor)

Associate Professor

Department of Biology

San Diego State University

Email: nshikuma@sdsu.edu**2. Amro Hamdoun** (Ph.D. Advisor)

Associate Professor

Scripps Institution of Oceanography

University of California San Diego

Email: ahamdoun@ucsd.edu**3. Deirdre Lyons** (Ph.D. Committee Member)

Assistant Professor

Scripps Institution of Oceanography

University of California San Diego

Email: d1lyons@ucsd.edu