

# Hannah Rachel Nelson

Center for Population Biology · University of California, Davis  
2320 Storer Hall, Davis, CA 95616

✉ [hrnelson@ucdavis.edu](mailto:hrnelson@ucdavis.edu) 🔗 [hrnelson](#) 🌐 [hrnelson.com](http://hrnelson.com)

## Education

*University of California, Davis*, Ph.D. student, Population Biology 2017-present  
*California State University, Northridge*, M.S. Biology with distinction 2016  
*Brown University*, B.S. Marine Biology with honors, *magna cum laude* 2014  
*Northeastern University*, Three Seas Program 2012-2103

## Publications

**Nelson HR**, Altieri AH. 2019. Oxygen: the universal currency on coral reefs. *Coral Reefs* 38(2):177-198. <https://doi.org/10.1007/s00338-019-01765-0>

Edmunds PJ, **Nelson HR**, Bramanti L. 2018. Density-dependence mediates coral community structure. *Ecology* 99(11):2605-2613. <https://doi.org/10.1002/ecy.2511>

Guest JR, Edmunds PJ, Gates RD, Kuffner IB, Andersson AJ, Barnes BB, Chollett I, Courtney TA, Elahi R, Gross K, Lenz EA, Mitarai S, Mumby PJ, **Nelson HR**, Parker BA, Putnam HM, Rogers CS, Toth LT. A framework for identifying and characterising coral-reef “oases” against a backdrop of degradation. *Journal of Applied Ecology* 55(6):2865-2875. <https://doi.org/10.1111/1365-2664.13179>

**Nelson HR**, Kuempel CD, Altieri AH. 2016. The resilience of reef invertebrate biodiversity to coral mortality. *Ecosphere* 7(7):e01399. <https://doi.org/10.1002/ecs2.1399>

## Research Experience

*Research Assistant, University of California, Davis, Bodega Marine Laboratory* 2017-present  
Construction and deployment of seagrass field experiments, tank cleaning and maintenance, rocky shore algal and invertebrate surveys, and various other projects.

*Intern, Smithsonian Tropical Research Institute, Panama City, Panama* 2017  
Compiled and wrote literature review on the role of oxygen in the structure and dynamics of coral reefs.

*Research Assistant, California State University, Northridge, USA* 2014-2016  
Assisted with the St. John Long-Term Coral Reef Dynamics (NSF-LTREB) and Moorea Coral Reef Long-Term Ecological Research (NSF-LTER) projects through field support, mesocosm measurements and maintenance, and analysis of time series photographs.

*Intern, Smithsonian Tropical Research Institute, Bocas del Toro, Panama* 2013-2014  
Designed experiments and field surveys to examine resilience of invertebrate communities to coral reef hypoxia event. Also assisted with other reef, mangrove, and seagrass projects.

*NSF REU Program, Whitney Laboratory for Marine Bioscience, St. Augustine, FL, USA* 2012  
Examined the effects of multiple predators and prey-size preferences on Atlantic oyster populations through field surveys, laboratory feeding trials, and a mesocosm experiment.

Research Assistant, Leslie Lab, Brown University, Providence, RI, USA, 2012 2012  
Assisted Brown-MBL PhD student Sarah Corman process salt marsh core samples for her project entitled "Salt Marsh Responses to Climate Change Impacts."

## Funding

Center for Population Biology Research Award, University of California, Davis (\$700)	2019
XSEDE Startup Grant, National Science Foundation (\$909.50)	2019
Graduate Student Association (GSA) Travel Award, University of California, Davis (\$500)	2018
Student Travel & Academic Research (STAR), California State University, Northridge (\$400)	2016
Student Travel Award, Council on Ocean Affairs, Science, & Technology (COAST) (\$1000)	2016
Graduate Studies Travel Award, California State University, Northridge (\$400)	2016
Thesis Support Award, California State University, Northridge (\$1000)	2014
Brown International Scholars Program Award, Brown University (\$5000)	2013
Undergraduate Teaching and Research Award, Brown University (\$1500)	2011

## Academic Honors & Awards

Golden Key International Honour Society, University of California, Davis	2018
Julie Gorchynski, M.D. Center for Cancer & Developmental Biology Graduate Research Award	2017
Honorable Mention, Best Student Presentation in Population & Organismal Biology, WSN Meeting	2015
Honorable Mention, NSF Graduate Research Fellowship Program	2015
2nd Place, Best Graduate Student Poster, CSUN Student Research & Creative Works Symposium	2015
Sigma Xi Honor Society, Brown University	2014
Phi Beta Kappa Honor Society, Brown University	2014
Finalist, Raymond B. Huey (DEE) Best Student Poster Presentation, SICB Meeting	2013
Dean's List, Spring 2013 Semester, Northeastern University	2013
Dean's List, Fall 2012 Semester, Northeastern University	2012
Best Poster Presentation, REU Program, UF Whitney Laboratory for Marine Bioscience	2012

## Presentations

\* oral presentation, † poster presentation, ° co-presenter, ◇ invited speaker

**Nelson HR.** 2019. STEM Outreach: Middle School. *Science Outreach: How to Increase the Impact of Your Work Workshop*, University of California, Davis. Davis, CA\*◇

**Nelson HR.** 2018. The evolution of coloniality in ascidians. *Population Biology Graduate Group Annual Student Symposium*, University of California, Davis. Davis, CA\*

**Nelson HR, Altieri AH.** 2017. Coral reefs: Extreme oxygen environments? *Coastal & Estuarine Research Federation 24th Biennial Conference*. Providence, RI\*

**Nelson HR, Edmunds PJ.** 2016. The role of density-associated processes and shading in the structure and distribution of octocoral communities. *97th Annual Western Society of Naturalists Meeting*. Monterey, CA\*

**Nelson HR**, Edmunds PJ. 2016. Allometry and integration constrain Caribbean ocotocoral morphology. *13th International Coral Reef Symposium*. Honolulu, HI\*

Sternberg DR, **Nelson HR**, Edmunds PJ. 2015. Asexual budding and aggregated spatial distribution of fungiid corals from disturbed reefs in Moorea, French Polynesia. *Moorea Coral Reef Long Term Ecological Research Site 11th Annual All Investigators Meeting*. Santa Barbara, CA\*<sup>o</sup>

**Nelson HR**, Edmunds PJ. 2015. Allometry and integration constrain Caribbean ocotocoral morphology. *96th Western Society of Naturalists Meeting*. Sacramento, CA\*

**Nelson HR**, Altieri AH, Kuempel CD. 2015. Effects of coral mortality on reef invertebrate communities. *California State University, Northridge 19th Annual Student Research and Creative Works Symposium*. Northridge, CA†

**Nelson HR**, Sternberg DR, and Edmunds PJ. 2015. Asexual budding and aggregated spatial distribution of fungiid corals from disturbed reefs in Moorea, French Polynesia. *9th Long Term Ecological Research All Scientists Meeting*. Estes Park, CO†

**Nelson HR**, Altieri AH, Kuempel CD. 2014. Effects of coral mortality on reef invertebrate communities. *95th Annual Western Society of Naturalists Meeting*. Tacoma, WA†

**Nelson HR**, Griffin J, McCoy M, Silliman B. 2013. Despite resource partition, multiple predators reduce mortality risk for foundation species. *Society for Integrative & Comparative Biology Annual Meeting*. San Francisco, CA†

## Teaching Experience

Teaching Assistant, Marine Ecology, University of California, Davis	Winter 2019
Teaching Assistant, Principles of Ecology and Evolution, University of California, Davis	Fall 2018
Graduate Assistant, Biometry, California State University, Northridge	Fall 2015, Fall 2016
Peer Learning Facilitator, Evolutionary Biology, California State University, Northridge	Fall 2016
Peer Learning Facilitator, Biological Principles, California State University, Northridge	Fall 2015

## Professional Service

### *Academic Organizations*

Equity in Science, Technology, Engineering, Math, and Entrepreneurship, University of California, Davis

*Vice President of Outreach (2018-present), STEM Squad Coordinator (2017-present)*

Biology Alumni Association Board, California State University, Northridge

*Student Liaison (2016)*

Women in Science Club, California State University, Northridge

*President (2015-2016), Vice President (2014-2015)*

Marine Biology Graduate Student Association, California State University, Northridge

*Vice President (2014-2015)*

### ***Professional Membership***

Ecology Society of America  
International Society for Reef Studies  
Western Society of Naturalists  
Society for Integrative and Comparative Biology

### ***Working Groups***

Participant. 2016. Local-scale ecosystem resilience amid global-scale ocean change: the coral reef example. USGS Powell Center for Analysis and Synthesis. Fort Collins, CO.

## **Professional Development**

### ***Research***

Ensembl Browser Workshop, Bioinformatics Core, University of California, Davis	2019
Comparative Genomics Course, Physalia Courses, Berlin, Germany	2018
RevBayes Workshop, Center for Population Biology, University of California, Davis	2018

### ***Teaching***

Fall Foundations in Teaching Workshop Series, UC Davis Center for Educational Effectiveness	2017
California STEM Symposium Attendee, Anaheim, CA	2015

### ***Diversity & Inclusion***

Mental Health Gatekeeper Training, UC Davis	2018
Diversity 102 Workshop, GradPathways, UC Davis Graduate Studies	2018
Foundations in LGBTQIA Allyship Training, UC Davis LGBTQIA Resource Center	2018
UndocuAlly Program for Educators, UC Davis AB540 and Undocumented Center	2017
Graduate Diversity Orientation Program Extension Workshops, UC Davis	2017-2018

## **Outreach & Community Service**

Volunteer station leader, Picnic Day, Evolution & Ecology Department, UC Davis	2019
Volunteer ambassador, Team Graduate School, UC Davis	2019
Coordinator/co-founder, STEM Squad, Winters Middle School, Winters, CA <a href="https://estemestemsquad.weebly.com/">https://estemestemsquad.weebly.com/</a>	2018-present
Volunteer station leader, STEM Stars, Shirley Rominger Intermediate School, Winters, CA	2018-2019
Volunteer teaching assistant, Visualizing and Mapping Bioassessment Data in R, 25th Annual Meeting of California Aquatic Bioassessment Workgroup, UC Davis	2018
Volunteer facilitator, Creek Science Investigations, Putah Creek Council, Winters, CA	2018
Volunteer scientist, Family STEAM Night, John Barrett Middle School, Carmichael, CA	2017-2018
Coordinator/co-founder, Girls in Science & Technology Club, Portola Middle School, Tarzana, CA	2016

<https://gistclub.weebly.com/>

Volunteer presenter, Multnomah Elementary School Career Day, Los Angeles, CA	2016
Volunteer judge, Portola Middle School Highly Gifted Magnet Science Fair, Tarzana, CA	2016
Volunteer alumni interviewer, Brown University	2016
Guest lecturer, Viewpoint School, Calabasas, CA	2015-2016
Guest lecturer, Virgin Islands Environmental Resource Station, St. John, USVI	2014-2016
Mentor, Calabasas High School Marine Biology Club, Calabasas, CA	2014-2015