

Hannah Rachel Nelson

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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

Edmunds PJ, **Nelson HR**, Bramanti L. 2018. Density-dependence mediates coral community structure. *Ecology* (in press).

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*, doi: 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.

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

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

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 octocoral 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.*°

Nelson HR, Edmunds PJ. 2015. Allometry and integration constrain Caribbean octocoral 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

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 Liason (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

RevBayes Workshop, Center for Population Biology, University of California, Davis	2018
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Teaching

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

Diversity

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 facilitator, STEM Stars, Shirley Rominger Intermediate School, Winters, CA 2018
Coordinator/Co-founder, STEM Squad, Winters Middle School, Winters, CA 2017-present
<https://estemestemsquad.weebly.com/>
Coordinator/Co-founder, Girls in Science & Technology Club, Portola Middle School, Tarzana, CA 2016
<https://gistclub.weebly.com/>
Volunteer facilitator, 7th grade field trip to Lake Solano, Winters Middle School, Winters, CA 2018
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

Skills

Programming: R (*advanced*), Python (*basic*), Java (*basic*)

Software: RevBayes, JMP, CPCe, ImageJ, GIS, Adobe Photoshop, Microsoft Office

Scuba Diving: AAUS Scientific Diver (>500 *scientific dives*), PADI Rescue Diver, CPR, O2, First Aid

Boating: Washington State Boater Education Card, small motorboat operation