Samuel N. Bogan, MSc

UCSB Marine Science Institute, Santa Barbara, CA 93106
snbogan@ucsb.edu • 914-844-9578

Education

2018 – present	**University of California, Santa Barbara**, Santa Barbara, CA PhD Student Department of Ecology, Evolution, and Marine Biology Advisor: Dr. Gretchen Hofmann
2016 – 2018	**Sonoma State University**, Rohnert Park, CA Master of Science Department of Biology Advisor: Dr. Sean Place
2012 – 2016	**Dickinson College,** Carlisle, PA Bachelor of Science, *cum laude* Thesis Advisor: Dr. Anthony Pires, Department of Biology GPA: 3.7/4.0

Academic Honors & Awards

2019	**Nejat B. Ezal Memorial Scholarship** UC Santa Barbara
2018 – 2019	**Ecology, Evolution, and Marine Biology Graduate Fellowship** UC Santa Barbara
2016	**Spencer Fullerton Baird Prize in Biology** Dickinson College (Distinction awarded to a graduating biology major)
2016	**Departmental Honors in Biology** Dickinson College Department of Biology
2016	**Outstanding First Year Mentor Award** Dickinson College Campus Life
2015 – 2016	**Dean's List** Dickinson College
2014	**Outstanding Presentation Award** All Science Symposium, Dickinson College

Research & Travel Grants

2019	**Mathias Graduate Student Research Grant**, University of California Natural Reserve System	$1,400
2018	**NSF Student Travel Grant**	$1,800
2018	**CSU COAST Student Travel Grant**	$1,000
2017	**CSU COAST Graduate Student Research Award**	$3,000
2016	**Jack Arnold Research Grant**, Sonoma State University	$500
2016	**Kenderdine Student Travel Grant**, Dickinson College	$1,000

Publications

Bogan SN, Johnson, KM, and Hofmann GE. 2020. Changes in Genome-wide Methylation and Gene Expression in Response to Future pCO_2 Extremes in the Antarctic Pteropod *Limacina helicina antarctica*. *Frontiers in Marine Science* 6: 788.

Bogan SN and Place SP. 2019. Accelerated Evolution at Chaperone Promoters among Antarctic Notothenioid Fishes. *BMC Evolutionary Biology* 19: 205.

Bogan SN, McMahon JB, Pechenik JA, Pires A. 2019. Legacy of Multiple Stressors: Ocean Acidification and Nutrition in Larvae and Juveniles of a Marine Gastropod. *Biological Bulletin* 236(3): 159–173.

Laboratory & Field Experience

2018 – pres. UCSB, Department of Ecology, Evolution and Marine Biology, CA

- Conducted larval culture experiments, propagation of multiple generations, and field work focusing on ecological physiology and functional genomics of marine invertebrates.
- Performed assays and bioinformatic analyses of DNA methylation in marine invertebrates and its response to environmental stress.

2017 NSF, Office of Polar Programs, McMurdo Station, Antarctica

- Performed field work on the sea ice of the McMurdo Sound.
- Maintained and conducted temperature stress experiments in species of Antarctic fish that included cell isolation, cell culture, and assays for protein synthesis and turnover.

2016 – 2018 SSU, Department of Biology, CA

- Conducted bioinformatic analyses, cloning, and ChIP-seq in non-model Antarctic fishes while integrating an evolutionary framework.

2016 KAUST, Red Sea Research Center, Saudi Arabia

- Performed a suite of transcriptomic analyses for a study of divergent molecular responses to temperature stress in populations of a coral reef fish as a paid technician.

2015 University of Washington, Friday Harbor Labs, WA

- Maintained and conducted larval culture experiments that included seawater pCO_2 manipulation, rearing of multiple, contiguous life history stages, and assays for growth and performance.

Invited Talks & Presentations

2020	Bogan SN, Johnson KJ and Hofmann GE. Changes in Genome-wide Methylation in Response to Ocean Acidification in the Pteropod *Limacina helicina antarctica* and Evolutionary Differences in DNA Methylation Across Pteropoda. **AGU Ocean Sciences Meeting**, San Diego, CA (poster).
2019	Bogan SN, Kozal LC, Meneses MJ, Albrecht A.M., and Hofmann GE. Eco-evolutionary and Molecular Underpinnings of Plasticity in Thermal Tolerance Among Natural Populations of *Tigriopus californicus*. **Western Society of Naturalists**, Ensenada, Mexico (poster).
2018	Bogan SN, Ingraham M, and Place SP. New Turns and 'U-Turns' in *Cis-Trans*-regulation of Molecular Chaperones Among Antarctic Fishes. **UC Davis Graduate Group in Population Biology**, Davis, CA (invited talk).
2018	Bogan SN, Ingraham M, and Place SP. Regulation of a Lost Inducible Heat Shock Response in Antarctic Fishes. **POLAR2018**, Davos, Switzerland (poster).
2018	Bogan SN, McMahon JB, Pechenik JA, and Pires A. Latent and Interactive Effects of Ocean Acidification and Nutrition Across the Larva to Juvenile Transition in an Intertidal Gastropod. **Society of Integrative and Comparative Biology Annual Meeting**, San Francisco, CA (talk).
2018	Bogan SN, M Ingraham, and SP Place. Regulatory Origins of a Lost Inducible Heat Shock Response in Antarctic Fishes. **Society of Integrative and Comparative Biology Annual Meeting**, San Francisco, CA (poster).
2016	Bogan SN, Pechenik JA, Burns R, and Mei M. Influence of reduced pH on growth and development of the marine gastropod *Crepidula fornicata*. **Society of Integrative and Comparative Biology Annual Meeting**, Portland, OR (poster).
2016	Bogan SN. A Library of Life: Industrial Applications of Marine Invertebrate Zoology. **The Idea Fund at Dickinson College,** Carlisle, PA (talk).
2015	Bogan SN and Foreman K. The fate of wastewater nitrogen in food webs of coastal ponds receiving different N-loads. **Dickinson College All Science Symposium,** Carlisle, PA (talk).
2014	Bogan SN and Foreman K. The fate of wastewater nitrogen in food webs of coastal ponds receiving different N-loads. **Marine Biological Laboratory Semester in Environmental Science Symposium**, Woods Hole, MA (talk).
2014	Fields J, Schultz E, Bogan S, Niedermeyer M, and Boback S. Environmental and Genetic Contributions to Body Size in *Boa constrictor*. **Dickinson College All Science Symposium**, Carlisle, PA (poster).

Teaching Experience

2019 **Teaching Assistant**, Global Change Biology, UC Santa Barbara, Department of Ecology, Evolution and Marine Biology

- Led discussion groups for upper division undergraduates that focused on comprehension and evaluation of scientific literature representing recent advances in the field of global change biology.
- Mentored students throughout independent research projects focused on synthesizing research on single issues. These projects culminated in a final series of undergraduate poster presentations.

2019 **Teaching Assistant**, Introductory Biology: The Diversity of Life, UC Santa Barbara, Department of Ecology, Evolution and Marine Biology

- Led laboratory activities relating to taxonomic and experimental investigations of microbial, protozoan, invertebrate, and vertebrate biodiversity at the undergraduate level.

2018 **Teaching Assistant**, Physiological Marine Molecular Ecology, Northeastern University, Three Seas MS in Marine Biology

- Led lectures and laboratory activities relating to physiology and environmental stress responses in marine metazoans for a two-week graduate level field course at university of Washington's Friday Harbor Labs, WA.
- Optimized western blot and PCR protocols and developed an experimental design for testing organismal responses by sea urchin larval cultures to a griadient of developmental and acute temperature treatments.

2016 – 2018 **Teaching Associate**, Department of Biology, Sonoma State University

- Led two undergraduate, introductory lab sections per semester in molecular and cellular biology or ecology and evolution and was responsible for generating short lectures and contributing to lesson plans.

2017 **Instructor**, EXCEL for Youth Summer Learning Program

- Developed and taught a curriculum in experimental marine biology for ages 9 – 12. Classes focused on making the scientific process interactive, accessible, and memorable for younger ages as well as socioeconomic and ethnic groups that have been disenfranchised in science.

Outreach & Professional Service

2019 – 2020 **Peer Review**
- Journals include: *Molecular Ecology Resources*

2019 – 2020 **Department Representative**, UCSB Graduate Student Association
- I serve as a representative to the university-wide graduate student association on behalf of graduate students within the Department Ecology, Evolution, and Marine Biology at UCSB.

2019 – 2020 **Graduate Mentor**, UCSB Gorman Scholars Program
- I mentor undergraduate researchers to aid in their professional development and independent research through a competitive scholarship that aims to increase representation of minority students in the sciences.

2019 – 2020 **Treasurer**, UCSB Graduate Student Association
- I oversee financial transactions for all functions organized by graduate students within the UCB Department of Ecology, Evolution and Marine Biology.

2018 – pres. **Volunteer**, Family Ultimate Science Experience, UC Santa Barbara
- Twice a month I lead experiential learning activities for students and their families at public middle schools in Santa Bara County that cover topics in biology, chemistry, engineering, and physics.

2019 – pres. **Volunteer**, World Oceans Day, Sea Center, Santa Barbara
- I annually volunteer as a scientific educator for a World Oceans day event hosted by the Santa Barbara Natural History Museum's Sea Center where I engage the public on issues facing the world's oceans and share my experience as a scientist.

2019 **Student Representative**, Faculty Search Committee
- I served as the student representative in the Department of for a faculty hiring committee aiming to recruit a tenure-track faculty member specializing in functional genomics and epigenetics.

2017 **Initiate**, Science at the Extremes, Seeker: Group Nine Media
- I reached out to and collaborated with Seeker, a science education network, to develop an episode for the series "Science at the Extremes" focusing on my research group's fieldwork at McMurdo Station, Antarctica, resulting in over 780,000 online views.

2015 – 2016 **Student Representative** (elected), Dickinson College, Dept. of Biology
- Planned and organized events for the Dickinson College Department of Biology, including symposia, seminars, and dinners. I also played an active role in recruitment and tenure selection for biology faculty.

Professional Memberships

Society of Integrative and Comparative Biology (SICB)

Western Society of Naturalists (WSN)

Research Coordinated Network for Evolution in Changing Seas (RCN-ECS)

Association for the Sciences of Limnology and Oceanography (ASLO)

References

Dr. Gretchen E. Hofmann
Professor of Ecology, Evolution and Marine Biology
UC Santa Barbara
Tel: 805-893-6175
Email: hofmann@ucsb.edu

Dr. Sean P. Place
Associate Professor of Biology
Sonoma State University
Tel: 707-664-3054
Email: places@sonoma.edu

Dr. Anthony Pires
Professor of Biology
Dickinson College
Tel: 717-245-1632
Email: pires@dickinson.edu