

Nicole Katherine Johnston, PhD
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Education

PhD Biological Sciences

2020

Georgia Institute of Technology; Research Advisor: Dr. Mark Hay

Thesis: *The effects of climate change on coral physiology and ecological interactions*

B.S. Biology, Minor: Business, Suma Cum Laude

2014

Georgia Institute of Technology

Teaching Experience

Spelman College – Atlanta GA

January 2022-May

2022

Lecturer

- Collaborated with other instructors to prepare course material for Organismal Biology (BIO 115) that utilized a combination of learning strategies
- Led the preparation of course material for the unit on Immunology Responses to include active learning activities and incorporate material related to real world issues (such as COVID-19)
- Responsible for teaching 2 sections of Organismal Biology and assisting with a third section

Oglethorpe University – Atlanta, GA

August 2020-August

2021

Visiting Assistant Professor

- Redesigned intro biology course & lab to an online format, which featured asynchronous instruction, tailored multimedia resources, and multiple feedback channels to keep freshmen motivated, engaged (90% student satisfaction, 17% higher than department average), and on-track (sustained course averages vs. previous semester) in challenging environment
- Developed Marine Ecology & Global Climate Change course (400 level) offered in Spring 2020. Due to high student demand, increased course capacity and added a second section for a total of 60 students across two sections
- Worked with division research committee to increase number of students participating in research programs with a focus on 1) increasing applications to National Science Foundation Research Experience for Undergraduate Programs and 2) finding outside research opportunities available to DACA recipients and assisting with application process

Georgia Institute of Technology – Atlanta, GA

Graduate Assistant, Pacific Study Abroad Program
2018

Spring

- Co-led study abroad program across New Zealand, Australia, and Fiji
- Taught an introductory organismal biology (BIO 1510) lab course geared toward non-majors
- Other responsibilities included coordinating the transfer of 70+ people through multiple location transfers across the three countries, serving as a liaison between host institutions and the program, dealing with emergencies (medical, coordination, etc.) as they arose

Teaching Assistant, Ecology Lecture & Lab
2015

Fall 2014 - Fall

- Ran weekly ecological laboratories, led students in the development of effective experiments, and instructed students on relevant concepts
- Modified existing lab design and developed novel experiments to create a course that fell in line with incoming instructor's designated learning outcomes
- As Head TA (Fall 2015) also responsible for ensuring labs are prepped and prepared prior to lab each week and monitoring progress of 3 other Ecology lab TA.
- Attended lectures, designed effective review sessions and course activities, held office hours, and worked with professor to grade assignments, exams, and papers
- Course size ranged from 12 (lab courses) to 70 (lecture courses) students

Research Experience

Graduate Research Assistant, Georgia Institute of Technology
2020

2014-

Advisors: Dr. Mark Hay (2015-present), Dr. Danielle Dixson (2014-2015)

- Developed projects evaluating effects of ocean acidification/warming on coral physiology & reef interactions in French Polynesia, North Carolina, & Southeast Florida
- Collaborated on underwater field experiments & organism collections focused on corals, algae, and marine animals (vertebrates & invertebrates)
- Mentored 9 undergraduate students and 3 graduate students over 6 years
- Consistently & successfully ran 2-3 experiments simultaneously each involving up to 20 tanks (35 L each) that independently manipulated temperature and pH
- Challenged the validity of some proposed acclimation strategies to climate change (e.g. poleward migration due to heat stress)

Undergraduate Research Assistant, Georgia Institute of Technology
2014

January 2012-May

Advisor: Dr. Lin Jiang

- Studied the impact of biotic and abiotic factors on community diversity, focusing on the role of predator prey interactions and species traits in shaping community composition

Publications

6. **Johnston NK**, Burns, AS, Hay ME (2022) Depth and temperate coral resistance to ocean warming. Submitted: Journal of Experimental Marine Biology
5. **Johnston NK**, Burns, AS, Paul, VJ, Hay ME (2022) Effects of climate change on coral physiology: a temperate- tropical contrast. In prep.
4. **Johnston NK**, Campbell JE, Paul VJ, Hay ME (2020) Effects of climate change on coral-coral competition. PLOS One. 15(8):e0235465
3. **Johnston NK** & DL Dixson. (2017) Anemonefish rely on visual and chemical cues to correctly identify conspecifics. Coral Reefs. (doi:10.1007/s00338-017-1582-9)
2. Ashur, M, **Johnston, NK**, & DL Dixson. (2017) Impacts of ocean acidification on sensory function in marine organisms. Integrative & Comparative Biology. (doi: <https://doi.org/10.1093/icb/icx010>).
1. **Johnston NK**, Pu Z, Jiang L. (2016) Predator identity influences metacommunity assembly. Journal of Animal Ecology. 85(5):1161-1170. (doi:10.1111/1365-2656.12551)

Professional Presentations

6. **Johnston NK**, Hay ME (2019, April) Effects of climate change on coral physiology: a temperate-tropical contrast. OceanVisions
5. **Johnston NK**, Campbell JE, Paul VJ, Hay ME (2019, March) Effects of climate change on coral-coral competition. Georgia Tech Graduate Student Research Symposium.
4. **Johnston NK**, Hay, ME (2019, January) Effects of future climate on coral health and survival: a temperate/tropical contrast. University System of Georgia Annual Dive Conference. Athens, Georgia. Talk.
3. **Johnston NK**, Hay, ME (2018, April). Effects of future climate on seaweed-coral interactions: a temperature/tropical contrast. Georgia Tech School of Biological Sciences 2018 Graduate Student and Postdoc Symposium. Atlanta, Georgia. Talk.
2. **Johnston NK**, Campbell JE, Paul VJ, Hay ME. (2017, November). Climate change and its effect on fundamental coral reef interactions. Smithsonian/Link Foundation Fellow Presentations. Fort Pierce, Florida. Talk.
1. **Johnston NK**, Campbell JE, Paul VJ, Hay ME. (2017, April). "Proximity matters: the effects of ocean acidification and warming on coral-algal interactions." Benthic Ecology Meeting. Myrtle Beach, South Carolina.

Awards, Fellowships, & Honors

Graduate Assistance in Areas of National Need (GAANN) Fellowship 2015-2018
Link Foundation/Smithsonian Institution Graduate Research Fellowship 2016
CETL/BP Outstanding Graduate Teaching Assistant Finalist 2016
Georgia Tech Graduate Leadership Fellowship 2015

Training, Certifications, & Skills

Software: R, Python (basic), ImageJ

Languages: Spanish (conversational)

Other Positions

Freelance Scientific Editor and Writer July 2021-Present

- Proofread, and edit scientific literature, including research articles, conference abstracts, and blog posts, prior to their submission
- Compose science-related articles (blog posts, etc.) targeted at a general audience

Georgia Tech Dive Safety Officer Summer 2017-December 2019

- Member of the University System of Georgia Dive Safety Board
- Responsible for maintaining list of active Georgia Tech scientific divers and running certification and check out dives of new scientific divers

Public Service

Undergraduate Research Judge 2017-2020

- “PURA” Undergraduate Research Proposal Reviewer each semester
- Undergraduate Research Symposium Judge each semester

K-5 “Day in the Life of a Marine Biologist” Presentation 2016-2020

- Presented regularly at four local area elementary schools