

Rebecca Zane Wolf

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EDUCATION

- 2016 - Present **PhD Candidate** | Organismic and Evolutionary Biology | Harvard University
Research Advisor: George Lauder
Cambridge, MA
- 2011 - 2016 **B.Sc. Applied Physics & Biology** | *Summa Cum Laude* | Georgia Institute of Technology
Atlanta, GA
- Fall 2012 **Undergraduate Exchange Program** | University of Queensland
Brisbane, Queensland, AUS
- 2009 - 2011 **Dual-Enrollment Program** | Gordon State College
Barnesville, GA

RESEARCH EXPERIENCE

- 2016 - Present **Fish Axial Biomechanics** | Harvard University | Dr. George Lauder
Developing and modifying a soft-robotic fish model, coined the pneufish, to explore and understand parameters involved in fish locomotion.
- 2015 - 2016 **Cockroach Lomotion Across Inclined Planes** | Georgia Tech | Dr. Dan Goldman and Seth Kimbrell
Investigated and compared hind-leg extensor muscle activity over horizontal and vertical terrains using smart phones in place of traditional EMG technology.
- 2014 - 2016 **Accreting Neutron Star Superbursts Simulations** | Georgia Tech | Dr. David Ballantyne and Dr. Laurens Keek
Created and developed Python scripts utilizing Xspec and satellite specifications to model and assessed how three novel satellite will visualize superburst events. Modified fortran code to utilize Suleimanov models and spectra, as well as analyzed the resultant data.
- Summer 2015 **Phylogenetic Algorithm Comparisons** | Georgia Tech | Dr. Eric Gaucher and Ryan Randall
Developed a protocol for qualitatively assessing the phenotypes of mRFP protein strains reconstructed using various phylogenetic algorithms and analyzed the results in combination with quantitative assessments.
- Spring 2015 **Cherenkov Telescope Array Electronics Analysis** | Georgia Tech | Dr. Nepomuk Otte and Sterling Peet
Programmed a prototype motherboard and electronics (T7 TARGET chip developed by Stanford collaborators) and analyzed potential signal noise contributions from cables and Peltier plates.
- 2013 - 2014 **GT Copepod Lab** | Georgia Tech | Dr. Jeannette Yen and Larisa Pender-Healy
Contributed to and organized the lab by maintaining healthy copepod and phytoplankton cultures and analyzed experimental results. Assisted Dr. Yen on her expedition to study pteropod locomotion using tomographic PIV at Palmer Station.

PUBLICATIONS

- 2016 L. Keek, **Z. Wolf**, and D.R. Ballantyne. Accretion disk signatures in Type I X-ray Bursts: prospects for future missions. *The Astrophysical Journal*, 826(1):79-92.
- 2015 L. Keek, A. Cumming, **Z. Wolf**, D. Ballantyne, *et al.* The imprint of carbon combustion on a superburst from the accreting neutron star 4U 1636-536. *MNRAS*, 454:3559-3566.

TEACHING EXPERIENCE

- 2018 **OEB 58: How to Build an Animal** | Teaching Fellow | Harvard University
Professors Stephanie Pierce and Mansi Srivastava
- 2018 **OEB 130: Biology of Fishes** | Teaching Fellow | Harvard University
Professor George Lauder
- 2015 **GT 1000: Physics Freshmen Seminar** | Team Leader | Georgia Tech
Professor Ed Greco

PRESENTATIONS

- 2019 **Society of Integrative and Comparative Biology** | Tampa, FL.
"The Pneufish: A Multi-Segmented Soft Robotic Model to Study Fish Swimming"
- 2018 **APS Division of Fluid Dynamics** | Atlanta, GA.
"Fish locomotion studied using an active-swimming soft-robotic model"
- 2018 **Society of Integrative and Comparative Biology** | San Francisco, CA.
"Creating and exploring an active-swimming soft-robotic apparatus for studying fish locomotion "
- 2017 **Society of Integrative and Comparative Biology** | New Orleans, LA.
"Integration of soft robotic actuators to investigate body-caudal-fin swimming in fishes."

GRANTS & FELLOWSHIPS

- 2018 **Robert A. Chapman Memorial Scholarship** | Harvard University
Fellowship supporting student research in vertebrate locomotion
- 2018 **Travel Subsidy Grant** | American Physical Society Division of Fluid Dynamics
- 2017 **Robert A. Chapman Memorial Scholarship** | Harvard University
Fellowship supporting student research in vertebrate locomotion
- 2016 **Theodore H. Ashford Graduate Fellowship** | Harvard University
Fellowship awarded to incoming PhD students
- 2016 **James Miller Pierce Fellowship** | Harvard University
Fellowship awarded to incoming PhD students in the natural sciences, mathematics, and engineering

HONORS & AWARDS

- 2018 **Q Award** | OEB 130 | Harvard University
Certificate for distinction in teaching
- 2016 **H. Fukuyo Outstanding Physics Undergraduate Award** | School of Physics | Georgia Tech
Award given to a graduating senior whose achievements and character reflect honor upon Dr. Fukuyo
- 2016 **Outstanding Undergraduate Research Award** | School of Physics | Georgia Tech
Award given on the basis of involvement in long-term research projects, published research papers, etc.
- 2016 **NSF Graduate Research Fellowship Program (GRFP) Honorable Mention**
- 2014 **Wartell & Brossette Scholastic Scholarship** | School of Biology | Georgia Tech
Scholarship awarded to a student conducting research at the intersection of Physics & Biology or Math & Biology

INVITED TALKS

- 2017 **Brandeis University** | Justice Brandeis Semester (JBS) Program, Bio-Inspired Design | Waltham, MA.
"Pneufish and Old Fish: The life and work of a graduate student."

POSTERS

- 2015 **College of Sciences Senior Research Symposium** | Atlanta, GA
“The Accuracy of Ancestral Sequence Reconstruction in Protein Evolution”
- 2015 **EXPLORE Poster Symposium** | Atlanta, GA
“Superbursts on Neutron Stars: Shining a Light on Accretion Disks”

SCICOMM & INVOLVEMENT

- 2018 - Present **Editor-In-Chief** | Science in the News | Short-form Blog
 - 2017 - 2018 | Assistant Editor
 - 2016 - 2018 | Short-form Blog Contributor
- 2018 - Present **Correspondent** | Skype A Scientist Outreach Program
 - Fall 2017 **Coordinator** | OEB G2 Cohort Student Seminar
- 2014 - 2016 **Coordinator** | Excellent Adventures Seminar Series | GT Society of Physics Students
 - 2017 | “Replaying the Tape of Life” | Seminar
 - 2016 | “The Power of Artificial Selection” | Seminar
 - 2014 & 2015 | Intro to \LaTeX | Workshop
- 2012 - 2016 **Member** | GT Society of Physics Students
 - 2015 **Event Sponsorship Coordinator** | GT TechTalks Event Committee

WORK EXPERIENCE

- 2018 - Present **Climbing Instructor** | Brooklyn Boulders Somerville
- 2015 - 2016 **Student Ambassador** | “It’s All About Science and Math” Program | Georgia Tech
- 2013 - 2014 **Mathematics Tutor** | Cardinal Scholars
 - Fall 2013 **Intern** | Bird Department | Zoo Atlanta
- 2012 - 2014 **Junior Front Desk/Belay** | Stone Summit Climbing Gym
- 2010 - 2011 **Mathematics Tutor** | Student Success Center | Gordon State College.