

# Rebecca Zane Wolf

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## EDUCATION

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- 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

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- 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

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- 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

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- 2018 **OEB 130: Biology of Fishes** | Teaching Fellow | Harvard University  
Professor George Lauder
- 2016 **L<sup>A</sup>T<sub>E</sub>X Workshop** | Instructor | Georgia Tech  
SPS Excellent Adventures Seminar Series
- 2015 **GT 1000: Physics Freshmen Seminar** | Team Leader | Georgia Tech  
Professor Ed Greco
- 2015 **L<sup>A</sup>T<sub>E</sub>X Workshop** | Instructor | Georgia Tech  
SPS Excellent Adventures Seminar Series

## HONORS & AWARDS

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- 2017 **Robert A. Chapman Memorial Scholarship** | Harvard University  
Fellowship supporting student research in vertebrate locomotion
- 2016 **Theodore H. Ashford Graduate Fellowship in the Sciences** | Harvard University  
Fellowship awarded to incoming PhD students in the natural sciences
- 2016 **James Miller Pierce Fellowship** | Harvard University  
Fellowship awarded to incoming PhD students in the natural sciences, mathematics, and engineering
- 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

## PRESENTATIONS

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- 2018 **Society of Integrative and Comparative Biology** | Bioinspiration: Cats' Paws and Catapults | San Francisco, CA.  
"Creating and exploring an active-swimming soft-robotic apparatus for studying fish locomotion "
- 2017 **Society of Integrative and Comparative Biology** | BioRobotics | New Orleans, LA.  
"Integration of soft robotic actuators to investigate body-caudal-fin swimming in fishes."

## INVITED TALKS

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- 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

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- 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"

## INVOLVEMENT

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- 2018 - Present **Correspondent** | Skype A Scientist Outreach Program
- 2017 - Present **Assistant Editor** | Science in the News | Short-form Blog.
- 2016 - Present **Blog Contributor** | Science in the News | Short-form Blog.
  - Fall 2017 **Coordinator** | OEB G2 Cohort Student Seminar
- 2014 - 2016 **Coordinator** | Excellent Adventures Seminar Series | GT Society of Physics Students
- 2012 - 2016 **Member** | GT Society of Physics Students
  - 2015 **Event Sponsorship Coordinator** | GT TechTalks Event Committee

## WORK EXPERIENCE

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- 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/Belayer** | Stone Summit Climbing Gym
- 2010 - 2011 **Mathematics Tutor** | Student Success Center | Gordon State College.