

Rebecca Zane Wolf

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EDUCATION

HARVARD UNIVERSITY | PH.D. STUDENT, DEPARTMENT OF Organismic and Evolutionary Biology
August 2016 - Present | Cambridge, Massachusetts
Research Adviser: Dr. George Lauder

GEORGIA INSTITUTE OF TECHNOLOGY | B.Sc. APPLIED PHYSICS & BIOLOGY
August 2011 - May 2016 | Summa Cum Laude | Atlanta, Georgia

UNIVERSITY OF QUEENSLAND | UNDERGRADUATE EXCHANGE PROGRAM
July - November 2012 | Brisbane, Queensland, Australia

GORDON STATE COLLEGE | DUAL ENROLLMENT PROGRAM, HIGH SCHOOL
August 2009 - May 2011 | Barnesville, Georgia

RESEARCH EXPERIENCE

BIOMECHANICS: FISH LOCOMOTION

DR. GEORGE LAUDER

August 2016-Present | Cambridge, MA

Developing and modifying a soft-robotic fish model, coined the pneufish, to explore and understand parameters involved in fish locomotion.

BIOMECHANICS: COCKROACH LOCOMOTION

DR. DANIEL GOLDMAN AND SETH KIMBRELL

August 2015-Present | Atlanta, GA

Investigated and compared hind-leg extensor muscle activity over horizontal and vertical terrains using smart phones in place of traditional EMG technology.

ASTROPHYSICS: ACCRETING NEUTRON STAR SUPERBURSTS SIMULATIONS

DR. DAVID BALLANTYNE AND DR. LAURENS KEEK

August 2014 - May 2016 | Atlanta, GA

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.

PROTEIN BIOLOGY: EVOLUTIONARY MRFP DEVELOPMENT

DR. ERIC GAUCHER AND RYAN RANDALL

April 2015-August 2015 | Atlanta, GA

Developed a protocol for qualitatively assessing the phenotypes of protein strains and analyzed results in combination with quantitative assessments.

ASTROPHYSICS: CHERENKOV TELESCOPE ARRAY ELECTRONICS

DR. NEPOMUK OTTE AND STERLING PEET

January 2015 - May 2015 | Atlanta, GA

Programmed a prototype motherboard and electronics (T7 TARGET chip developed by Stanford collaborators) and analyzed potential signal noise contributions from cables and Peltier plates.

BEHAVIORAL BIOLOGY: GT COPEPOD LAB

DR. JEANNETTE YEN AND LARISA PENDER-HEALY

June 2013 - June 2014 | Atlanta, GA & Palmer Station, Antarctica

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.
- 2016 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.

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."

PRESENTATIONS

- 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."

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"

HONORS & AWARDS

- 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

TEACHING EXPERIENCE

HARVARD TEACHING FELLOW | OEB 130: BIOLOGY OF FISHES
Jan 2018 - May 2018 | Cambridge, MA

L^AT_EX WORKSHOP INSTRUCTOR | SOCIETY OF PHYSICS STUDENTS, EXCELLENT ADVENTURES
Aug 2015 & Aug 2016 | Atlanta, GA

TEAM LEADER | GT 1000, PHYSICS FRESHMAN SEMINAR
Aug 2015- Dec 2015 | Atlanta, GA

INVOLVEMENT

SHORT-FORM BLOG EDITOR | SCIENCE IN THE NEWS

Nov 2017 - Present | Cambridge, MA

COHORT STUDENT REPRESENTATIVE | OEB GRADUATE STUDENT COUNCIL

Oct 2017 - Present | Cambridge, MA

SEMINAR COORDINATOR | OEB G2-COHORT STUDENT SEMINAR

Sep 2017 - Present | Cambridge, MA

SHORT-FORM BLOG CONTRIBUTOR | SCIENCE IN THE NEWS

Oct 2016 - Present | Cambridge, MA

EXCELLENT ADVENTURES COORDINATOR | GT SOCIETY OF PHYSICS STUDENTS

Aug 2014 - May 2016 | Atlanta, GA

MEMBER | GT SOCIETY OF PHYSICS STUDENTS

Aug 2012 - May 2016 | Atlanta, GA

GT PHYSICS STUDENT REPRESENTATIVE | MORROW HIGH SCHOOL "SCIENCE DAY"

April 2015 | Atlanta, GA

EVENT SPONSORSHIP COORDINATOR | TECHTALKS EVENT COMMITTEE

Jan - Mar 2015 | Atlanta, GA

WORK EXPERIENCE

STUDENT AMBASSADOR | GEORGIA TECH

Aug 2015 - May 2016 | Atlanta, GA

INTERN | ZOO ATLANTA, BIRD DEPARTMENT

Aug 2013 - Dec 2013 | Atlanta, GA

MATHEMATICS TUTOR | CARDINAL SCHOLARS

Aug 2013-April 2014 | Atlanta, GA

MATHEMATICS TUTOR | GORDON STATE COLLEGE, STUDENT SUCCESS CENTER

Jan 2010-May 2011 | Barnesville, GA

MEDIA COVERAGE

2016 Boltz, P. Outstanding Alumni: Zane Wolf. Gordon State College President's Report. Cover.