

Amy Fox

amyfox@colostate.edu • (281) 435-9719

Education

Colorado State University, Fort Collins, CO Fall 2017 - Present

PhD in Microbiology, Immunology, Pathology

GPA: 4.0/4.0

Rice University, Houston, TX Fall 2013 - Spring 2017

Bachelor of Science in Bioengineering

GPA: 3.3/4.0

Projects

Rice University, Department of Bioengineering, Houston, TX

Smart Compression Sock

Fall 2016 - Present

- Elected as team leader for a group of 5 students tasked with developing a smart compression sock to treat chronic venous disorders
- Developing design ideas, proposals, and presentations to sponsors and faculty advisors
- Submitted a patent for the lace-tension control design

Rice University, Department of Anthropology, Houston, TX

An Experimental Evaluation of Gar Scale Arrow Points

Fall 2015

- Performed a literature search on gar scales at archaeological sites in the United States
- Modified 10 gar scales with abrasive techniques and shot them at a target using a calibrated cross bow
- Assessed the damage of the gar scales and determined that alligator gar scales can be easily modified and utilized as tips for projectile weaponry

Experience

Mycobacteria Research Laboratories, Colorado State University

Fall 2017 – Present

PhD Student

- Characterize cellular immune response to candidate *Mycobacterium tuberculosis* vaccines through flow cytometry
- Develop R-based data analysis pipeline for flow cytometry data

Testmasters, Houston, TX

Fall 2016 – Fall 2017

Instructor

- Instructed classes of 30 students in 3-hour SAT and ACT math and science courses
- Tutored individual students on mathematical skills and testing strategies to help improve their scores on standardized tests

Baylor College of Medicine, Texas Children's Hospital

Research Advisor: Dr. Job Lopez

Fall 2015 – Spring 2017

Project Intern

- Assessed murine exposure to *Borrellia turicatae* via western blots
- Optimized ELISAs for use in prevalence study of murine exposure to *Borrelia* in Panama and in determining if pigs develop antibodies against tick saliva
- Extracted DNA from ticks and perform PCR to determine if ticks are infected with *Borrelia*
- Trained to work with mice and dissect ticks for salivary gland extracts

Bioscience Research Collaborative, Rice University

Spring 2014 - Spring 2015

Administrative Assistant

- Compiled information from literature searches to update faculty research highlights
- Managed book orders for 26 graduate students

Publications

1. Bermúdez S, Gottdenker N, Krishnvajhala A, **Fox A**, Wilder H, Gonzalez K, Smith D, Lopez M, Perea M, Rigg C, Montilla, S, Calzada J, Saldaña A, Caballero C, Lopez J. Synanthropic mammals as potential hosts of tick-borne pathogens in Panama. *Plos One*. 2017; 12(1).
2. Costa A, **Fox A**. An Experimental Evaluation of Gar Scale Arrow Points. *Journal of Houston Archeological Society*. 2016;136: 23-31.

Posters, Awards, Patents

- 2016 Eighth Annual Elevator Pitch Competition: **1st Place**
- 2016 Eighth Annual Elevator Pitch Competition: **People's Choice Award**
- 2017 Brown School of Engineering Design Showcase and Post Competition: **Poster Presentation**
- 2017 Brown School of Engineering Design Showcase and Poster Competition: **People's Choice Award**
- 2017 Rice University Bay Area Showcase: **Poster Presentation**
- 2017 Rice University Bay Area Showcase: **Most Investable Design Award**
- 2017 Adjustable Compression Sock: **Patent Pending**
- 2019 Colorado State University Microbiology, Immunology, and Pathology: **Travel Grant**
- 2019 Keystone Symposia: Tuberculosis: Mechanisms, Pathogenesis and Treatment: **Poster Presentation**
- 2019 20th Annual CVMBS Research Day: **Poster Presentation**
- 2019 CMB, MCIN, BMB, TOX Research Symposium: **Poster Presentation**
- 2019 Cytek Group User Meeting: **Travel Award**
- 2019 Cytek Group User Meeting: **Oral Presentation**
- 2019 Cyto 2019: **Poster Presentation**
- 2019 Cyto 2019: **Outstanding Poster Award**

Extracurricular Activities

MIP Graduate Student Organization Fall 2017 – Present
President

- Apply for internal Colorado State University grants for exploring alternative careers and mentoring
- Invite speakers from the government, local biotechnology start-up companies, and universities to share their research

Graduate Women in Science Fall 2017 – Present
Co-Chair

- Partner with local girl scout troop to help 20 students receive STEM-related badges
- Develop curriculum to teach science classes at a local middle school

Science Olympiad at Preston Middle School Fall 2017

- Instructed students in two topics: Crime Busters and Potions & Poisons
- Co-coached two nationally competitive teams

Rice Club Sailing Team Fall 2013 – Spring 2017
President

- Coordinated and scheduled weekend practices and regattas with coaches, Lakewood Yacht Club, and members
- Orchestrated Rice's first regatta with schools from across the nation

Rice Women's Waterpolo Fall 2013 - Spring 2017
Treasurer

- Managed collection of yearly dues and reimbursement of money for travel
- Recorded expenditures throughout the year

Volunteers Around the World Fall 2015 - Fall 2016

- Fundraised \$2,000 for medications and supplies to distribute in Peru

- Performed triage, measured vital statistics, and managed a pharmacy in plazas throughout Cusco providing free medical care for 200 people per day
- Taught a class on nutrition and exercise at an orphanage