

Shaz Zamore, Ph.D.

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The ATLAS Institute
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Professional Preparation

2015 National Science Foundation Postdoctoral Fellow, Virginia Tech

2015 PhD., Neurobiology and Behavior, University of Washington

2007 B.S., Biological Sciences, Cornell University

Employment

2019-present STEM Outreach Coordinator & Instructor, ATLAS Institute, CU Boulder

2018-2020 Freelance writer for SciShow, Complexly, LLC

2015-2019 National Science Foundation Postdoctoral Fellow, Socha Lab, Virginia Tech

2009-2015 Pre-doctoral Research Assistant, Daniel & Fairhall Labs, University of Washington

2007-2009 Lab Manager, Research Assistant, Feldman Lab, University of California, Berkeley

2006-2007 Howard Hughes Scholar, Undergraduate Researcher, Winkler Lab, Cornell University

2004-2005 Mammal Collections Manager, Cornell Museum of Vertebrates

Teaching Experience (**bold** denotes original courses)

2021 **The State of Tech**, ATLS 4695, Spring semester.

2021 **Research Methods & Professional Development**, ATLS 5529, Joint appointment with Ellen Do, Annie Bruns, Spring semester.

2019+ **Computational Foundations I – Introduction to Creative Coding**, ATLS 1300, core course (Fall 2019, Spring 2020, Summer 2020, Fall 2020).

2018 **Neurobiology of Superpowers** – Systems Neuroscience and Dynamic Control Course, Virginia Tech, Original Course, Fall 2018)

2017 Guest Lecturer, Foundations of Engineering Course, Virginia Tech, November 30.

2010 Graduate Teaching Assistant Introduction to Neurobiology Lecture & Lab, University of Washington, Neurobiology and Behavior Program, Spring quarter.

2006 Undergraduate Teaching Assistant – Herpetology Lab and Lecture, Cornell University, Biological Sciences, Fall Semester.

Diversity, Equity & Inclusion Outreach Experience

2020 HackCU Judge, CU Boulder

2020 Skype A Scientist Virtual Classroom Visit, May 8th

2019 TEDx Mile High Exhibitor liaison and coordinator

2019 Denver School of Technology and Science, Noles - Classroom visit, grades 6 & 7

2016-2019 Assisted development of exhibit, Science Museum of Western VA

2018 Giles County Classroom Visit, kindergarten

2018 Giles County Classroom Visit, grades 6 and 7

2018 Virginia Science Fest, Virginia Tech

2018 National Biomechanics Day, Virginia Tech, Socha Lab

2017 Wondrous World, YouTube Series

- Neuronal models (single, population)
- Bayesian inference
- Gaussian models
- Agent-based modeling (OOP)
- Thermofluidic modeling

Tools: MATLAB, Python, R, SAS, Scikit learn, OpenCV, COMSOL

Aug 2007-Sep 2009

Project: Temporal encoding in the rat whisker system

Institute: University of California, Berkeley
PI: Dan Feldman

- Designed fully automated system to deliver temporal stimulus to the rat whiskers in trained rats with implanted electrodes
- Designed linear translation system to deliver impulses to rat whiskers without informative visual or auditory cues
- Designed, machined, and built physical chamber for experiments, which included:
 - IR detectors to record animal position in the chamber
 - Solenoid system which delivered water reward after stimuli
- Programmed full automation in the system, which included data collection and analysis:
 - Linear regression
 - T-test

Tools: IGOR, MATLAB

Research Mentorships: Undergraduates, High School Teachers

2020-present Discovery Learning Apprenticeship advisor for Chase Gordanier, CU Boulder undergraduate, c/o 2023

2019-present Undergraduate creative development mentor for Arva Syed, CU Boulder, c/o 2022

2018-2019 Undergraduate volunteer research mentor for Nicole Araujo, Virginia Tech

2017-2019 Undergraduate Student Mentor for Student African American Sisterhood, Black Graduate Student Organization, Virginia Tech

2017 Research Experience for Teachers (RET) mentor, Virginia Tech

2016-2017 Undergraduate volunteer research mentor, Virginia Tech

Invited Presentations & Guest Lectures

2020 Panelist, Out and Accomplished, oSTEM 2020 Conference, Nov 14

2020 “The Tale of the Snake: A Story of Human Curiosity” – Institute for Cognitive Sciences, CU Boulder, Boulder, CO, October 2

2020 Guest Lecturer, Building Intuition: Bioinspiration & foundations of design in biological systems, Cornell University, summer Pre-College Program, Mary Salcedo, June 22

2020 Guest Lecturer, Science Communication, Bates College, Andrew Mountcastle September 11

2020 Panelist, Science on Tap’s Celebrating Black Scientists, hosted by Virginia Tech Center for Communicating Science, July 30

2018 Science Girls Summer Camp Guest Speaker, Science Museum of Southwest Virginia, Roanoke, VA, July 23

2018 Black College Institute Pre-College Program Guest Speaker, June 27

2018 Interdisciplinary Research Honors Society, Speaker Spotlight Series, March 12

2017 Classroom visit, grades 6-8 – The role of questions in research. Blacksburg New School, Blacksburg VA, May 23.

2016 Classroom visit, grade 12 – Applications of mathematics in everyday life and research. Franklin Township High School, Somerset, NJ, March 11.

2015 “From mosquitoes to snakes: Modeling behaviors and mechanical control” Oakton Community College, STEM Speaker Series, December 1.

Professional & Service Activities

2019-2023 Public Affairs Committee Chair, Society for Integrative and Comparative Biology
2019-present National Association of the Deaf, member
2019-present Colorado Educators Association, member
2019-present Out in STEM (oSTEM), member
2016-present Friends of Joe’s Big Ideas - Joe Palca’s Outreach Community, NPR
2016-2019 Public Affairs Committee, Society for Integrative and Comparative Biology
2013-2018 Council Member - Mindshark, LLC, A Burning Man Collective
2016-2018 Biomedical Engineering and Mechanics Diversity Committee, Virginia Tech
2013-2015 Neurobiology and Behavior Outreach Team Board Member, U of Washington

Grants

2015 NSF Postdoctoral Fellowship for Biology – Virginia Tech
2010 NIH Training Grant in Neuroscience – University of Washington

Publications

in Press

Zamore S., Araujo N., Socha J.J. Visual acuity in the flying snake (*Chrysopelea paradisi*). *J of Integ. & Comp Biol.* Nov 2020.

in Prep (drafts available upon request)

Zamore S., Hernandez P., Socha J.J. The tongue stick: a novel tongue flicking behavior in flying snakes (*Chrysopelea*). *Bioletters*. 2019

Zamore S., Graham M.R., Socha J.J. Head wagging as a dynamic response across behavioral contexts in the Paradise Tree Snake (*Chrysopelea paradisi*)., *J of SICB*. 2019.

Conference Presentations

2020 Zamore S, Araujo N, Socha JJ, “Visual behavior in flying snakes: measurement and exploration with virtual reality.” Talk given at Society for Integrative and Comparative Biology Symposium S8- Long, Limbless Locomotors. Austin, TX.

2018 Zamore S., Socha JJ., “Head wagging and visual acuity in flying snakes (*Chrysopelea*).” Talk given at Society for Integrative and Comparative Biology, San Francisco, CA.

2017 Zamore S., Socha JJ., “How to assess visual control: Designing a virtual arena for flying snakes.” Talk given at Regional Society for Integrative and Comparative Biology, Blacksburg, VA.

2017 Zamore S., Bochicchio L., Socha JJ., “Visual acuity of flying snakes: Behavioral Responses to Optokinetic Stimuli” Talk given at Society for Integrative and Comparative Biology, Portland, OR.

2016 Zamore S., Bochicchio L., Socha JJ., “Characterization of Vision in Flying Snakes” Talk given at Regional Society for Integrative and Comparative Biology, Durham, NC.

2013 Zamore S., LaMarca E., Daniel T., “Thermonavigation using convective thermal cues in the mosquito *Aedes aegypti*. Talk given at Society for Integrative and Comparative Biology, San Francisco, CA.

2012 Zamore S., Daniel T., Fairhall A., “Modeling decision rules to optimize host localization in flying insects.” Poster presented at: The Pacific Northwest Computational Neuroscience Connection. Seattle, WA.

- 2012 Zamore S., Daniel T., Fairhall A., “Modeling decision rules to optimize host localization in flying insects.” Poster presented at: 10th International Congress of Neuroethology, College Park, MD.
- 2010 “Identifying flight stabilizing mechanosensors in the Eastern bumblebee (*Bombus impatiens*).” Poster presented at: 9th International Congress of Neuroethology, Salamanca, Spain

Social Media & Press

- 2020 Black in Nature, [Integrative and Comparative Biology Journal blog](#), July 9
- 2020 [My Fave Queer Chemist podcast](#) guest, July 2
- 2020 CU Boulder Today Spotlight: “[Scientist reflects on the joys and challenges of being a Black nature lover](#)” August

70,000+ views of video content on Twitter (@TheDoctaZ)

~1800 followers on Twitter (@TheDoctaZ)

~800 followers on Instagram (@TheDoctaZ)

Certifications & Accolades

- 2018 Outstanding Postdoctoral Fellow & Community Organizer, BGSO, Virginia Tech
- 2017 OSHA Certified Aerial Lift Operator
- 2012 AIARE I Certified