



Bradley C. Alf, PhD

POSTDOCTORAL SCHOLAR · SCIENCE COMMUNICATOR

North Carolina State University

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Education

Ph.D. in Fisheries, Wildlife & Conservation Biology

North Carolina State University (NCSU)

- Advisor: Caren B. Cooper
- Dissertation: Evaluating the citizen science experience: Motivation, participation and learning

2023

B.A. in Biology

University of North Carolina, Chapel Hill (UNC)

CREATIVE WRITING MINOR, HIGHEST HONORS

2015

- Advisor: David W. Pfennig
- Honors thesis: A phylogenetic approach to understanding the evolution of the rattlesnake rattle

Training

Postdoctoral Scholar in Applied Ecology

North Carolina State University (NCSU)

IN LAB OF ROBERT R. DUNN

2023 - current

Visiting Postdoctoral Researcher in Integrative Biology

Oregon State University (OSU)

IN LAB OF DAVID W. KIKUCHI

2023

Publications

Journal Articles

6. Futch, S.E., Larson, L.R., Cooper, C.B., Cutts, B.B., **Allf, B.C.**, Sharova, M.V., Cavalier, D., Davis, C. (2024). Exploring connections among projects across the citizen science landscape: a social network analysis. *Sage Open*, 14(4). DOI: 10.1177/21582440241298424
5. Taylor, B.W., **Allf, B.C.**, Hopkins, S.R., Irwin, R.E., Jewell, M., Omer, N., Nichols, L.M., Rodriguez Valeron, N., Evans, J.D., Sorensen, P.M., Dunn, R.R. (2023). Nature's chefs: Uniting the hidden diversity of food making and preparing species across the tree of life. *BioScience*, 73(6), 408-421. DOI: 10.1093/biosci/biad026
4. **Allf, B.C.**, Cooper, C. B., Larson, L. R., Dunn, R. R., Futch, S. E., Sharova, M.V., Cavalier, D. (2022). Citizen science as an ecosystem of engagement: Implications for learning and broadening participation. *BioScience*, 72(7), 651-663. DOI: 10.1093/biosci/biac035
3. **Allf, B.C.**, Sparkman, A. M., Pfennig, D. W. (2021). Microevolutionary change in mimicry? Potential erosion of rattling behaviour among nonvenomous snakes on islands lacking rattlesnakes. *Ethology Ecology & Evolution*, 33(2), 125-136. DOI: 10.1080/03949370.2020.1837962
2. Smith, H., **Allf, B.C.**, Larson, L.R., Futch, S.E., Lundgren, L., Pacifici, L., Cooper, C.B. (2021). Leveraging citizen science in a college classroom to build interest and efficacy for science and the environment. *Citizen Science: Theory and Practice*, 6(1). DOI: 10.5334/cstp.434
1. **Allf, B.C.**, Durst, P. A., Pfennig, D. W. (2016). Behavioral plasticity and the origins of novelty: the evolution of the rattlesnake rattle. *The American Naturalist*, 188(4), 475-483. DOI: 10.1086/688017

Book Chapters

1. **Allf, B.C.**, Bai, J., Perkins, D., Cooper, C.B. (2025). Participatory science in the field of ornithology. In *Perspectives in Ornithology* edited by Edwards, S.V. and Reed, M.J. Oxford University Press. [In print].

Articles in Review

2. **Allf, B.C.** and Larson, L.R. The Role of Intrinsic Motivation in Sustaining Citizen Science Participation among Diverse Participants in a Corporate Volunteer Program.
1. **Allf, B.C.**, Larson, L.R., Goodwin, J., Dunn, R.R., Cooper, C.B. Fun Surveys? Developing an Innovative Approach to Assessing Learning through Citizen Science.

Selected Other Publications (Not Peer-Reviewed)

Allf, B.C. (2023). Two by Two Degrees. In *Dear Human at the Edge of Time: Poems on Climate Change in the United States*, edited by Igloria, L.A., Cassinotto, A., Hoffman, J.S. Paloma Press. [Link](#).

Allf, B.C.. Citizen science volunteers are almost entirely white. *The Conversation*. June 22, 2022. [Link](#).

Allf, B.C.. Citizen science is changing people's lives – this project explores how it happens. *Discover Magazine Citizen Science Salon*. August 31, 2021. [Link](#).

Allf, B.C.. Texas Nature Trackers program taps amateur observers to help scientists catalogue wildlife. *Austin American-Statesman*. June 14, 2021. [Link](#).

Allf, B.C.. The future of wilderness. *NC State Applied Ecology News*. January 7, 2021. [Link](#).

Allf, B.C.. Don't trust scientists? Then help collect the data. *Scientific American Blog Network*. September 18, 2019. [Link](#).

Allf, B.C.. Sound justice: Citizen science, noise and the quest for equity. *Discover Magazine Citizen Science Salon*. May 6, 2019. [Link](#).

Allf, B.C.. Crowd the tap: Empowering communities to examine their lead exposure. *Discover Magazine Citizen Science Salon*. May 3, 2019. [Link](#).

Allf, B.C.. Take pictures of your (six-legged) roommates, for science. *Discover Magazine Citizen Science Salon*. February 22, 2019. [Link](#).

Allf, B.C.. Can the internet save snakes? *Sierra Magazine*. September 25, 2017. [Link](#).

Fellowships & Awards

FELLOWSHIPS AND GRANTS

| | | |
|------|---|---|
| 2023 | \$300 , Diversity, Equity and Inclusivity Spotlight Fellowship | NCSU |
| 2022 | \$500 , Namkoong Family Graduate Fellowship | NCSU |
| 2021 | \$7,000 , Mass Media Fellowship | AAAS |
| 2020 | \$138,000 , Graduate Research Fellowship | NSF |
| 2019 | \$1,000 , Conference Travel Grant | National Association of Science Writers |
| 2015 | \$3,500 , Suzanne Bolch Travel Writing Fellowship | UNC |

HONORS AND AWARDS

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| 2020 | Facilitator Award , STEM for All Video Showcase | NSF |
| 2018 | 1st Place , Research Video Contest | Society for Neuroscience |

Presentations

Invited Talks

15. **Allf, B.C.** Never home alone? An exploration of indoor ecology in North America. *University of Colorado at Boulder, Ecology & Evolutionary Biology Lunch and Learn Seminar*. December 11, 2024. Boulder, CO.
14. **Allf, B.C.** House ecology: a field guide to the great indoors. *University of Colorado at Boulder, Mountain Research Station Seminar*. June 19, 2024. Nederland, CO.
13. **Allf, B.C.**, Cassinetta, A., Pfeiffer, J. Dear human at the edge of time: poetry as a vessel for enriching the climate change dialogue. *University of Nebraska at Lincoln, Communicating Complexity Symposium*. November 16, 2023 [virtual].
12. **Allf, B.C.** Science writing and science communication. *Level the Playing Field Minority Development Program*. October 27, 2023 [Virtual].
11. **Allf, B.C.**, Bohon, W., Brown, M., Davis, D., Gladstone, M., Laungani, R., Prinster, S., Watkins, J. Communicating complexity. *University of Nebraska at Lincoln, Communicating Complexity Symposium*. August 18, 2022 [virtual panelist].
10. Schmehl, M., **Allf, B.C.**, Das, M., Hinkle, Duong, Y. Developing science communication during a Ph.D. *ComSciCon-Triangle*. February 12, 2022 [virtual panelist].
9. **Allf, B.C.** Science epistemology in the era of “fake” science. *Alpha Epsilon Honor Society Seminar, American Society of Agricultural and Biological Engineers*. September 7, 2021. Raleigh, NC.
8. **Allf, B.C.** How predatory academic journals endanger science. *TEDx NC State*. August 9, 2021. Raleigh, NC. [Link](#).
7. Goodwin, J., **Allf, B.C.** Public science and science communication for undergraduate science majors. *NC State Biotechnology Sequencing-Based Undergraduate Research Experience Seminar*. July 6, 2021 [virtual].
6. **Allf, B.C.** SciQuest: a citizen science project to track your contributions. *SciStarter.org: Making it Count Vlog Series*. March 29, 2021 [virtual].
5. **Allf, B.C.** Science sonnets: the poetry in good science communication. *Duke University Initiative for Science & Society*. April 15, 2021 [virtual]. [Link](#).
4. **Allf, B.C.** Scaly and slimy adventures from the tiny wild. *Reptile and Amphibian Day, North Carolina Museum of Natural Sciences*. March 9, 2021 [virtual]. [Link](#).
3. **Allf, B.C.** A citizen science primer. *Verizon Inc. Corporate Volunteer Training Program*. April 15, 2020 [virtual].
2. **Allf, B.C.**, Auerbach, E., Tony, J. The Science behind Jurassic Park and de-extinction. *Carbon Neutral, Episode 6*. March 23, 2017 [podcast].
1. **Allf, B.C.** A phylogenetic approach to understanding the evolution of the rattlesnake rattle. *North Carolina Herpetological Society, Spring Meeting*. March 22, 2016. Wilmington, NC.

Guest Lectures

3. **Allf, B.C.** Public engagement in science for graduate students. *Applied Ecology [AEC] 502: Introduction to Biological Research*. November 11, 2023. Raleigh, NC.
2. **Allf, B.C.** Creative writing for science communicators. *Applied Ecology [AEC] 495/630: Advanced Special Topics in Applied Ecology*. February 14, 2023. Raleigh, NC.
1. **Allf, B.C.**, Goodwin, J. Science communication. *English [ENG] 520: Science Writing for the Media*. October 5, 2020. Raleigh, NC.

Selected Conference Presentations (* Presenting Author)

11. ***Allf, B.C.**, Larson, L.R., Cooper, C.B. Corporate citizen scientists more diverse but participation limited by external motivation. *C*Sci 2023: The Citizen Science Association Conference*. May 22-26, 2023 [virtual].

10. ***Allf, B.C.**, Cooper, C.B., Larson, L.R., Dunn, R.R., Futch, S.E., Sharova, M.V., Cavalier D. New horizons for citizen science participation: Multiproject volunteers. *C*Sci 2022: The Citizen Science Association Conference*. May 23-26, 2022 [virtual].
9. ***Allf, B.C.**, Cooper, C.B., Larson, L.R., Dunn, R.R., Futch, S.E., Sharova, M.V., Cavalier, D. The new citizen scientist: Multi-project participation. *NC State College of Natural Resources Graduate Research Symposium*. Raleigh, NC. March 17, 2021 [virtual].
8. ***Allf, B.C.**, Sparkman, A., Pfennig, D.W. Island tails: Is tail vibration rattlesnake mimicry? *SEPARC 2021: Southeast Partners in Amphibian and Reptile Conservation*. February 22-27, 2021 [virtual].
7. ***Allf, B.C.**, Cooper, C.B., Larson, L.R., Futch, S.E., Sharova, M.V. SciStarter: The impact of a 3rd party platform on volunteer communities. *Citizen Science in Higher Education Research Symposium*. September 12, 2020 [virtual].
6. ***Allf, B.C.**, Cooper, C.B., Larson, L.R., Cavalier, D., Spiers, H., Futch, S.E., Sharova, M.V., Dayan, N., Gal, K. SciStarter: The impact of a 3rd party platform on volunteer communities. *ECSA 2020: European Citizen Science Association Conference*. September 6-11, 2020 [virtual].
5. ***Allf, B.C.**, Larson, L.R., Cooper, C.B. The New Citizen Scientist: Boundless Participation, Boundless Impact? *NC State College of Natural Resources Graduate Research Symposium*. February 26, 2020. Raleigh, NC.
4. *Eyman, G., *Beaulieu, M.S., ***Allf, B.C.**, *Dunn, R.R. Never home alone: Studying the life in schools and homes. *Bridging the Gap Conference*. October 22-23, 2019. Raleigh, NC [panelist].
3. ***Allf, B.C.**, Larson, L.R., Cooper, C.B. Where do they come from and where do they go? Understanding the citizen scientist more holistically. *NERR 2019: National Environment and Recreation Research Symposium*. April 7-9, 2019. Annapolis, MD.
2. ***Allf, B.C.**, Larson, L.R., Cooper, C.B. Towards a more holistic perspective on the citizen science volunteer. *CitSci 2019: Conference of the Citizen Science Association*. March 13-16, 2019. Raleigh, NC.
1. ***Allf, B.C.**, Larson, L.R., Cooper, C.B. The modern citizen science volunteer. *NC State College of Natural Resources Graduate Research Symposium*. February 8, 2019. Raleigh, NC.

Experience

Project Manager

- Citizen science project manager and lead analyst for a global biogeographic survey of 50,000 indoor organisms
- Coordinate the efforts of dozens of taxonomic reviewers, many of whom are non-professional scientists

[Never Home Alone](#)

2023 - current

Project Founder and Administrator

- Created a searchable web app using ReactJS and the iNaturalist API to visualize tens of thousands of observations of animal trophic interactions derived from citizen science photos
- Perform bug fixes and share project updates with participants

[Who Eats Whom](#)

2018 - current

Science Writer

- Contributing writer covering ecology, participatory science, conservation and other topics for *Sierra*, *Scientific American*, *Discover*, *Smithsonian*, *Undark*, and many other publications

[Freelance](#)

2017 - current

Neuroscience Technician

- Investigated the molecular mechanisms of synaptic plasticity in order to better understand sleep disorders and memory problems (PI: Graham Diering)
- Performed PCR, neuron culturing, Western blot and other wet lab techniques

[UNC](#)

2017 - 2018

Educational Events Specialist

- Designed and organized some of the largest annual science events in the country
- Partnered with university lab groups, community organizations, and public school teachers to design educational science exhibits

[NC Museum of Natural Sciences](#)

2015 - 2017

Field Technician

- Carried out ecotoxicology experiments to better understand the impact of agricultural pesticides on pollinators

[Smithers Viscent](#)

2015

Service

Science Writers Association of the Rocky Mountains

2024 - current

SECRETARY

- Work with the President and other members of the leadership team to coordinate events for our member community of professional science communicators and researchers

Science Communicators of North Carolina

2019 - 2023

BOARD MEMBER

- Coordinated the activities of this non-profit and regional science writing group alongside other board members, including by organizing workshops, speaker series and fundraising

ComSciCon

2020, 2021

CONFERENCE ORGANIZER

- Served multiple years on the national organizing committee of this science communication workshop

ComSciCon - Triangle

2020

CONFERENCE ORGANIZER

- Served on the organizing committee of this local affiliate of ComSciCon

Science Storytelling Society

2019 - 2022

CO-CHAIR

- Founded and co-chaired this NC State student group to foster community among graduate and undergraduate students interested in science communication
- Applied for and received funding from the NC State Public Science Cluster to provide honoraria for invited speakers

In Layman's Terms

2018 - 2020

ASSOCIATE EDITOR

- Reviewed and published creative writing for this science and nature-inspired literary magazine

Peer Review

- Referee for the following journals: *PLOS ONE*, *Global Ecology and Conservation*, *Citizen Science: Theory and Practice*, *Ocean and Coastal Management*, *International Journal of Environmental Research and Public Health*

Skills

R Tidyverse suite (*dplyr*, *ggplot2*, etc.; advanced), base R (advanced), R Markdown (intermediate)

Other Coding Python (novice), LaTeX (novice), ReactJS (novice)

Software Qualtrics (advanced), Adobe CC (intermediate), WordPress (intermediate)

Methods Spatial analysis, generalized linear modeling, qualitative analysis

Languages English (native), Spanish (CEFR level B1)

Certifications NCSU Reflective Educational Design Certificate: Universal Course Design (2024)

Mentorship

Lauren Rose Smith

2024 - current

- Primary mentor for an undergraduate student at Oregon State University conducting a systematic review of snake abundance data to better understand spatial bias in ecological citizen science

Ariana Lurie

2022

- Graduate student mentor for an NC State Junior enrolled in research credits to study the growth in ornithological citizen science over time

Environmental Studies Capstone Cohort

Spring 2020

- Mentored a group of NC State Seniors studying the diversity of citizen science projects (Kristin Biggs, Hailey Shoptaugh, Hailea Kennedy, Guimel Magallanes Hernandez) as part of their capstone

*Ringneck snake artwork by my friend [Lauren Blair](#).