



ALYSON F BROKAW, PhD

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EDUCATION

2021	Ph.D.	Texas A&M University	Ecology and Evolutionary Biology
2015	M.Sc.	Cal Poly Humboldt	Biology
2011	B.Sc.	Cornell University	Biological Sciences

PROFESSIONAL APPOINTMENTS

Postdoctoral Research Fellow, Odor2Action Network 2022 - present
Department of Biology, Lehigh University
Primary Investigator: Nathan N. Urban

GRANTS AND FELLOWSHIPS

2024 **Odor2Action Network Trainee Exchange**, John B Pierce Laboratory
2019 **Ernst Mayr Short-Term Fellowship**, Smithsonian Tropical Research Institute
2016 **Theodore Roosevelt Memorial Grant**, American Museum of Natural History
2016 **Grant-in-Aid of Research**, American Society of Mammalogists
2014 **Student Research Scholarship**, Bat Conservation International
2014 **Student Research Grant**, California North Coast Chapter of The Wildlife Society
2014 **Master's Student Grant**, Humboldt State University
2014 **Grant-in-Aid of Research**, American Society of Mammalogists
2013 **Master's Student Grant**, Humboldt State University
2009 **Howard Hughes Research Program**, Cornell University

PEER REVIEWED PUBLICATIONS

Clerc, J, E Rogers, N Fuller, K Jonasson, L Dempsey, **AF Brokaw**, TJ Weller. *In press*. Adding Ecological Context to the Olfaction Hypothesis of Bat/Wind Turbine Interactions. *Journal of North American Bat Research*.

Jonasson, KA, AA Adams, **AF Brokaw**, MD Whitby, MT O'Mara, WF Frick. 2024. A multisensory approach to understanding bat responses to wind energy development. *Mammal Review*. 54 (3): 229 – 242. doi: 10.1111/mam.12340 **Editor's Choice*

Hinde K, CEG Amorim, CN Anderson, M. Beasley, **AF Brokaw**, *et al.* 2023. Compendium of the 10th Annual March Mammal Madness Tournament 2022. *Proceedings of the Noble Zoological Society Series C Performance Sciences*.1: 1 – 87.

Brokaw, AF, E Davis, RA Page, M Smotherman. 2021. Flying bats use serial sampling to locate odor sources. *Biology Letters* 17(10). <https://doi.org/10.1098/rsbl.2021.0430> *Featured in:* Jaramillo, J. M. (2022). Jamaican bats can smell food and drive themselves bananas. *Journal of Experimental Biology*, 225(3), JEB243479.

Brokaw, AF, M Smotherman. 2021. Olfactory tracking strategies in a Neotropical fruit bat. *Journal of Experimental Biology*, 224(4). <https://doi.org/10.1242/jeb.231829>

Hinde K, CEG Amorim, **AF Brokaw**, N Burt, M Casillas, A Chen, T Chestnut, PK Connors, M Dasari, CF Ditelberg, *et al.* 2021. Education and Outreach: March Mammal Madness and the power of narrative in science outreach. *eLife* 10: e65066. <https://elifesciences.org/articles/65066.pdf>

Brokaw, AF, M Smotherman. 2020. Role of ecology in shaping external nasal morphology in bats and implications for olfactory tracking. *PLoS ONE* 15(1): e0226689. <https://doi.org/10.1371/journal.pone.0226689>

Brokaw, AF, JC Clerc, TJ Weller. 2016. Another Account of Interspecific Aggression Involving a Hoary Bat (*Lasiurus cinereus*). *Northwestern Naturalist*. 97(2): 13-134. <https://www.jstor.org/stable/26382488>

BOOKS

Brokaw, AF. “The Weird and Wonderful World of Bats”. Book. Timber Press Inc, February 11, 2025.

INVITED PRESENTATIONS

Brokaw, A.F. 2022. Does the Nose Know? Olfactory Foraging Strategies in Mammals. Odor2Action Network Meeting, *virtual presentation*.

Brokaw, A.F. 2021. Does the Nose Know? Olfactory Tracking Strategies in Bats. Associated Colleges of Chicago Area Ecology and Evolution Seminar Series. *virtual presentation*.

Brokaw, A.F. 2020. Olfactory Tracking Strategies in Bats. Bat Conservation International Brown Bat Lunch series. *virtual presentation*.

Brokaw, A.F. 2020. Finding Fruit: Olfactory Foraging in Neotropical Fruit Bats. Ecology and Evolutionary Biology Seminar, Texas A&M University, College Station, TX.

Brokaw, A.F. 2019. Olfactory Foraging in Bats: Integrating Morphology and Behavior. Smithsonian Tropical Research Institute Bambi Seminar. Barro Colorado Island, Panama.

Brokaw, A.F. 2019. Tweeting Like a Bat: Using Social Media as a SciComm Tool. Bat Outreach Techniques Workshop, 49th NASBR, Kalamazoo, MI.

CONFERENCE PRESENTATIONS

Brokaw, A.F., N.N. Urban. 2024. Ecology and Plasticity in the Olfactory Search Behaviors of Mammals. International Symposium on Olfaction and Taste, Reykjavik, Iceland.

Brokaw, A.F., N.N. Urban. 2023. Recovery of Olfactory Tracking Behavior Following Olfactory Sensory Neuron Ablation. HHMI Janelia: Navigational Algorithms and Circuit Computations Direction Olfactory Search Across Species. Ashburn, VA. (poster)

- Brokaw, A.F.,** R.A. Page, M. Smotherman. 2022. Tracking Down Fruit: The Sensory Ecology of Frugivorous Bats. International Bat Research Conference, Austin, TX.
- Brokaw, A.F.,** R.A. Page, M. Smotherman. 2021. Finding Fruit: Olfactory Search Strategies in Neotropical Bats. Society for Integrative and Comparative Biology, *video presentation*.
- Brokaw, A.F.** and M. Smotherman. 2019. Finding Fruit: Olfactory Tracking Strategies of Foraging Bats. 18th International Bat Research Conference. Phuket, Thailand.
- Brokaw, A.F.** and M. Smotherman. 2018. Behavioral Strategies for Olfactory Tracking in Bats. 48th North American Symposium on Bat Research (NASBR), Puerto Vallarta, Mexico.
- Brokaw, A.F.** and M. Smotherman. 2017. Does the Nose Know? The Link Between Nose Morphology and Olfactory Tracking Capabilities in Bats. 47th NASBR, Knoxville, TN.
- Brokaw, A.F.** and M. Smotherman. 2017. Bats are not rats: new method for testing olfactory discrimination in bats. American Society of Mammalogists, Moscow, ID.
- Brokaw, A.F.** and M. Smotherman. 2016. Roosting habits, home range, and echolocation call characteristics of *Sturnira parvidens*. 46th NASBR, San Antonio, TX (poster).
- Brokaw, A.F.** and M. Smotherman. 2016. Breathing rate as a measure of emotional response to social calls in Brazilian free-tailed bats (*Tadarida brasiliensis*). 17th Annual Ecological Integration Symposium, College Station, TX (poster) *1st place, Graduate Poster Presentation
- Brokaw, A.F.** and J.M. Szewczak. 2015. Yuma myotis social calls attract bats to artificial roosts. 45th NASBR, Monterey, CA.
- Brokaw, A.F.** and J.M. Szewczak. 2015. Social calls in Yuma myotis (*Myotis yumanensis*). 2nd Annual Wildlife and Fisheries Symposium, Arcata, CA.
- Brokaw, A.F.** and J.M. Szewczak. 2014. Assessing the use of social calls to attract bats to artificial roost sites. Society for Northwestern Vertebrate Biology, Pasco, WA.
- Brokaw, A.F.** and J.M. Szewczak. 2014. Assessing the use of social calls to attract bats to artificial roost sites. The Wildlife Society – Western Section, Reno, NV.

TEACHING EXPERIENCE

Ecology and Field Biology Adjunct Faculty (lecture/lab)	2025 The College of New Jersey
Evolution Guest Lecturer (5 lectures)	2022, 2023 Lehigh University
Human Anatomy and Physiology 1 Laboratory Instructor	2020, 2017, 2016 Texas A&M University
Introductory Biology Laboratory Instructor	2015 Texas A&M University

Introductory Zoology Laboratory Instructor	2015, 2014, 2013 Humboldt State University
Principles of Ecology Laboratory Instructor	2013 Humboldt State University
Principles of Biology Laboratory Instructor	2013, 2012 Humboldt State University

TEACHING & MENTORSHIP TRAINING

Inclusive Excellence in Teaching, Student Success and Belonging Workshop, Lehigh University	2025
Teacher Development Series Center for Innovation in Teaching & Learning, Lehigh University	2024
Research Mentor Training: Promoting Professional Development Center for Improvement of Mentored Experiences in Research, Lehigh University	2023
Graduate Mentor Aggie Graduate and Professional Community Club Mentorship Program, Texas A&M University	2016
Method of Teaching: Biology Laboratory Department of Biology, Texas A&M University	2015

ACADEMIC MENTORING

Olivia Millevoi, Undergraduate Researcher, Lehigh University, 2022 - 2024
 Jillian Jerwick, Undergraduate Researcher, Lehigh University 2022 - 2023
 Evynn Davis, Research Intern, Smithsonian Tropical Research Institute/Butler University, 2019
 Shaina Burns, Undergraduate Researcher, Texas A&M University, 2017 - 2018
 Roja Manojar, Undergraduate Researcher, Texas A&M University, 2016 - 2017
 Amber Patricio, Undergraduate Researcher, Texas A&M University, 2016 - 2017
 Marie Kasbaum, Undergraduate Researcher, Texas A&M University, 2016
 Emma Jarlbaek, Copenhagen International School/Operation Wallacea, 2015
 Katelyn Southall, Undergraduate Student, Humboldt State University, 2014 – 2015

NON-ACADEMIC MENTORING

Coach, 2016 – 2018. Texas A&M University Women’s Ultimate Frisbee Team. Coached college athletes and advocated for women’s equity in sports at the university level.

SCIENCE WRITING

2024	Blog Contributor, Bat Conservation International “Bats that Run” , January 3, 2025 “Resilient Roosts: Bat Conservation in Coastal Kenya” , December 19, 2024
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[“Connecting Bats, Land & Community in Fiji”](#), December 12, 2024
[“Collaborative Spirit: Protecting Bats in Jamaica”](#), November 21, 2024
[“Glow in the Dark Bats”](#), October 24, 2024
[“A Bat By Any Name”](#), October 10, 2024
[“Bats in Your Backyard”](#), September 11, 2024
[“The 2024 Bat Olympics”](#), July 24, 2024.
[“Blind as a Bat? No Such Thing”](#), June 14, 2024.
[“What is Your Bat Sign?”](#), May 28, 2024.
[“Hearing Like a Bat”](#), May 7, 2024.
[“The Scoop on Bat Poop”](#), April 24, 2024.
[“The Real-Life Bats of Pokémon”](#), January 9, 2024.

2020 “Going to Bat for Bats”. Natural History Magazine, cover story, September 2020

SCIENCE OUTREACH

2020 – present Scientist-Narrator, March Mammal Madness. Annual science storytelling event in which simulated animal combatants compete in a bracket-style tournament narrated in real-time on Twitter.

2018 – present Skype-A-Scientist presenter, video outreach presentations about sensory biology, animal behavior and bats to elementary and middle school classrooms.

2018 – 2021 Bat Content Specialist, Bat Conservation International. Review and develop bat-related content for conservation and information campaigns.

2019 Presenter, Gamboa Bat Nights, outreach event hosted by the Page lab at the Smithsonian Tropical Research Institute on the first Sunday of each month, September – December 2019.

2015 – 2018 Workshop Leader, “Batty for Science”, Expanding Your Horizons, Texas A&M University annual event

2016 – 2019 Volunteer, Biology Outreach Committee, lead biology-based science activities at school science nights, “BioBlitz” and community fairs.

2011 Naturalist Outreach Speakers Bureau, outreach training program, Cornell University

MEDIA APPEARANCES

Head on Fire, featured podcast guest, February 2023 (Episode 146, Are bats as scary as they seem?).
<https://www.youtube.com/watch?v=1zR4MFWDR4g>

Science Stories, featured podcast guest, August 2022 (Episode 13, Bats).
<https://podcasts.apple.com/us/podcast/dr-brokaw-bats-are-awesome>

The Women in Ecology and Evolution, podcast guest, February 2022 (March Mammal Madness Special).
<https://podcasts.apple.com/us/podcast/march-mammal-madness-special>

VIDEO OUTREACH PRESENTATIONS

2022 Bat Advent Calendar – Day 7, video synopsis of bat research paper, highlighting contributions by scientists from ‘Global South’ countries, December 2022.
<https://www.youtube.com/watch?v=FWVpvSPRWFQ>

Exploring by the Seat of Your Pants, video livestream, Going Batty with Dr. Alyson Brokaw, April 2022.
<https://www.youtube.com/watch?v=x8LgbneTXAQ>

Exploring by the Seat of Your Pants, video livestream, March Mammal Madness Celebrates: Animal Behavior, February 2022. https://www.youtube.com/watch?v=tTWCfcC1Jg_k

Skype-A-Scientist LIVE, video livestream, BATS! With Alyson Brokaw, January 2019.

Naturalist Outreach Speakers Bureau, video presentation on bat ecology, May 2011,
https://www.youtube.com/watch?v=xvQV_AuORo&t=7s

SCIENCE COMMUNICATION TRAINING

2023 Participant, Building Trust in Science Through Effective Communication, Alan Alda Center for Communicating Science. Two-day workshop on developing and delivering science messages to different audiences.

2020 Participant, ComSciCon, a conference on science communication led by and for graduate students. Three days of virtual panels, peer feedback and improvisation workshops.

RESEARCH AND FIELD EXPERIENCE

Odor2Action: Sensorimotor Circuits in Olfactory Tracking 2022 – present
Postdoctoral Research Bethlehem, Pennsylvania
Project Lead: Nathan Urban (Lehigh University)

Project Fat Bat 2021
Field Research Specialist Keeweenaw Peninsula, Michigan
Project Lead: Winifred Frick (Bat Conservation International)

Olfactory Tracking Behaviors in Flying Bats 2019
Dissertation Research Gamboa, Panama
Faculty Advisors: Rachel A. Page (Smithsonian Tropical Research Institute), Michael Smotherman (Texas A&M University)

Olfactory Tracking Behaviors in Crawling Bats 2018, 2019
Dissertation Research Lamanai, Belize
Faculty Advisor: Michael Smotherman (Texas A&M University)

Olfactory Ecology of the Northern Yellow-shouldered bat (*Sturnira parvidens*) 2016, 2018
Dissertation Research La Mancha, Mexico
Faculty Advisor: Michael Smotherman (Texas A&M University), Antonio Guillen-Servent (Instituto de Ecología, A.C., Mexico)

Bat Biodiversity of Calakmul Biosphere Reserve 2015
Bat Scientist Calakmul, Mexico
Project Lead: Kathy Slater (Operation Wallacea)

Socials Calls and Artificial Roosts in Yuma myotis (*Myotis yumanensis*) 2013 - 2015
Thesis Research Arcata, California
Faculty Advisor: Joseph M. Szewczak (Humboldt State University)

Migratory Behavior and Physiology of Hoary Bats (*Lasiurus cinereus*) 2012 - 2015
Research Assistant Arcata, California
Primary Investigator: Theodore Weller (US Forest Service)

Coyote and Kit Fox Interactions in Utah 2012
Field Technician Dugway, UT
Primary Investigator: Bryan Kluever (Utah State University)

Breeding Biology of Yellow-billed Cuckoos (*Coccyzus americanus*) 2011
Field Technician Lake Havasu City, Arizona
Project Lead: Diane Tracey (Southern Sierra Research Station)

Ontogeny of Thermoregulation in Nestling Tree Swallows (*Tachycineta bicolor*) 2009 - 2011
Undergraduate Honors Thesis Research Ithaca, NY
Faculty Advisor: David Winkler (Cornell University)

Vegetative Structure and Bird Diversity in the Greater Serengeti Ecosystem 2010
Independent Research, School for International Training Enashiva Nature Reserve, Tanzania

Golondrinas de las Americas 2009
Field Technician Santa Fe, Argentina
Primary Investigator: David Winkler (Cornell University)

SERVICE – WORKING GROUPS

2023 – 2024 Odor2Action Education and Outreach subgroup, collaborated with the Genetic Science Learning Center at the University of Utah to develop online module on olfactory neuroscience and navigation.

2022 – present GBatNet SciComm Working Group: Science Communication to Public Audiences, member.

SERVICE – COMMITTEES

2017 – 2021 Diversity, Equity, and Inclusion Committee, North American Symposium for Bat Research

2017 – 2019	North American Symposium for Bat Research, Student Representative to Board of Directors, elected
2018	Organizing Committee, 19 th Annual Ecological Integration Symposium, Texas A&M University, April 5-6, 2018
2017 – 2018	Member, Social Media Committee for Ecology and Evolutionary Biology program, Texas A&M University
2016 – 2019	Student Representative, Ecology and Evolutionary Biology Executive Committee, Texas A&M University
2016 – 2019	President, Ecology and Evolutionary Biology Interdisciplinary Student Organization (EEBISO), elected
2015 – 2016	Journal Club Coordinator, Ecology and Evolutionary Biology Interdisciplinary Student Organization (EEBISO)

MANUSCRIPT REVIEWER

Scientific Reports, Journal of Anatomy, Southeastern Naturalist, Biotropica, Ecology and Evolution, Ecological Applications, American Midland Naturalist

PROFESSIONAL AFFILIATIONS

Association for Chemoreception Sciences, Society for Integrative and Comparative Biology, North American Society for Bat Research, American Society of Mammalogists, National Association of Science Writers

REFERENCES

Dr. Nathan Urban (Postdoc Advisor)
Provost, Lehigh University
nnu220@lehigh.edu

Theodore Weller
Ecologist, US. Forest Service
theodore.weller@usda.gov

Dr. Amber Rice,
Associate Professor, Lehigh University
amr511@lehigh.edu

Dr. Michael Smotherman (PhD Advisor)
Professor, Texas A&M University
smotherman@tamu.edu

Dr. Amanda Adams
Director of Research Coordination, Bat
Conservation International
aadams@batcon.org