Aaron M. Grade, Ph.D.

AAAS Science and Technology Policy Fellow
U.S. Department of Energy, Office of Science
Office of Biological and Environmental Research
Earth and Environmental Systems Sciences Division
SC-33.1 / Germantown Building

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RESEARCH INTERESTS

Avian ecology, behavioral ecology, bioacoustics and animal communication, community ecology, conservation biology, landscape ecology, soundscape ecology, urban ecology

APPOINTMENTS

2021 – American Association for the Advancement of Science
Present Science and Technology Policy Fellow (AAAS STPF)
United States Department of Energy, Office of Science
Office of Biological and Environmental Research
Earth and Environmental Systems Sciences Division
Washington, D.C.

2020 – Postdoctoral Researcher

2021 George Perkins Marsh Institute, Graduate School of Geography

Clark University, Worcester, MA

Principal Investigator: Rinku Roy Chowdhury, Ph.D.

EDUCATION

2020 Ph.D. Organismic and Evolutionary Biology. University of Massachusetts,

Amherst, MA

Advisors: Paige S. Warren, Ph.D., Susannah B. Lerman, Ph.D.

Dissertation: Fear, parental behavior, and community structure in residential lands

2015 M.S. Interdisciplinary Ecology. University of Florida, Gainesville, FL

Concentration: Wildlife Ecology and Conservation

Advisor: Kathryn E. Sieving, Ph.D.

Thesis: Consequences of highway noise on avian distribution and communication

2010 B.S. Ecology and Evolutionary Biology. University of Connecticut, Storrs, CT

FELLOWSHIPS AND GRANTS (n = 17, Total Funding: \$243,368)

Fellowships

| 2021 | American Association for the Advancement of Science | \$93,358 | |
|--------|---|-----------|--|
| 2013 | Science and Technology Policy Fellowship National Science Foundation Graduate Research Fellowship | \$138,000 | |
| 2013 | National Science Foundation Graduate Research Fenowship | \$136,000 | |
| Grants | | | |
| 2019 | UMass Interdisciplinary Graduate Programs, Conference Travel Grant | \$800 | |
| 2019 | American Ornithological Society, Conference Travel Grant | \$510 | |
| 2018 | UMass Interdisciplinary Graduate Programs, Conference Travel Grant | \$800 | |
| 2018 | Society for Conservation Biology North America, Conference Travel Grant | \$200 | |
| 2018 | Blodget Fund for Ornithological Studies, Research Grant | \$1,000 | |
| 2018 | UMass Program in Organismic and Evolutionary Biology, Research Grant | \$1,000 | |
| 2017 | UMass Graduate School, Dissertation Research Grant | \$1,000 | |
| 2017 | American Ornithological Society, Werner and Hildegard Hesse Research Award | \$2,500 | |
| 2017 | Animal Behavior Society, Research Grant | \$1,000 | |
| 2017 | Manomet Center for Conservation Sciences, Kathleen S. Anderson Award for | \$500 | |
| | Promising Biologists | | |
| 2016 | UMass Program in Organismic and Evolutionary Biology, Research Grant | \$1,000 | |
| 2016 | UMass Program in Organismic and Evolutionary Biology, Research Travel Gran | t \$700 | |
| 2015 | UF Graduate School, Conference Travel Grant | \$400 | |
| 2015 | UF School for Natural Resources and Environment Graduate Student Council | \$350 | |
| | Conference Travel Grant | | |
| 2015 | UF School for Natural Resources and Environment, Travel Grant | \$250 | |

PUBLICATIONS

Peer-reviewed Journal Publications

*denotes undergraduate co-author, total citations = 44

- 6. **Grade, A.M.**, N. Chan, P. Gajbhiye, D.J. Perkins, and P.S. Warren. *In review*. Racial and income disparities associated with biased sampling in a large-scale community science project. *Landscape and Urban Planning*.
- 5. **Grade, A.M.**, S.B. Lerman, and P.S. Warren. *In revision*. Avian provisioning and brooding are influenced by fear of predators across an urban gradient. Target Journal: *Animal Behavior*.
- 4. **Grade, A.M.**, P.S. Warren, and S.B. Lerman. *In review*. Managing yards for mammals: mammal species richness peaks in the suburbs. *Landscape and Urban Planning*.
- 3. **Grade, A.M.**, S.B. Lerman, and P.S. Warren. 2021. Perilous choices: landscapes of fear for adult birds reduces nestling condition across an urban gradient. *Ecosphere* 12(7): e03665.
- 2. Kerstens, M.*, **A.M. Grade**, and P.S. Warren. 2019. Is "pishing" tantamount to mobbing? Black-capped Chickadees respond similarly to human pishing and conspecific mobbing calls in rural and suburban forests. *Northeastern Naturalist* 26(3): 580-592.
- 1. **Grade, A.M.**, and K.E. Sieving. 2016. When the birds go unheard: Highway noise disrupts information transfer between bird species. *Biology Letters* 12: 20160113.

Book Chapters

1. Lerman, S.B., D.L. Narango, R. Andrade, P.S. Warren, **A.M. Grade**, and K.M. Straley. 2020. Wildlife in the city: human drivers and human consequences Pages 37-66 in P. Barbosa, editor. Urban ecology: its nature and challenges. CABI, Boston, Massachusetts, USA.

Peer-reviewed Manuscripts in Preparation

Manuscripts available upon request

- 2. Grade, A.M., R. Roy Chowdhury, C. Dobler-Morales, D. Locke, P.M. Groffman, M.L. Avolio, N.D. Bettez, J. Cavender-Bares, J.M. Grove, S.J. Hall, J.B. Heffernan, S.E. Hobbie, K.L. Larson, S.B. Lerman, J.L. Morse, D.L. Narango, C. Neill, K. Nelson, J. O'Neil-Dunne, L.A. Ogden, J. Padullés Cubino, D.E. Pataki, W.D. Pearse, C. Polsky, T.L. Trammell, and M.M. Wheeler. *In prep*. Cross-scale social drivers of yard vegetative outcomes in the American residential macrosystem. Target Journal: *Ecology*.
- Roy Chowdhury, R., D.H. Locke, J.M. Grove, C. Dobler-Morales, S. Watson, A.M. Grade,
 H. Dutta, J.P.M. O'Neil-Dunne, P.M. Groffman, N. Bettez, J. Cavender-Bares, S. Hall, J.
 Heffernan, S. Hobbie, K.L. Larson, J. Morse, C. Neill, K. Nelson, L.A. Ogden, D. Pataki,
 C. Polsky, and M. Steele. *In prep*. Homogenization or environmental injustice in urban
 landscapes? A comparative analysis of land cover across six diverse cities. Target
 Journal: *Landscape Ecology*.

PRESENTATIONS

Invited Talks (1 total)

Grade, A.M. 2021. Fear, parental behavior, and community structure of wildlife in residential lands. Graduate School of Geography Colloquium Speaker Series, Clark University, Worcester, MA.

Contributed Presentations (28 total)

* denotes undergraduate student presenter, ** denotes pre-college (high school) student presenter

- Grade, A.M., R. Roy Chowdhury, C. Dobler-Morales, D. Locke, P.M. Groffman, M.L. Avolio, N.D. Bettez, J. Cavender-Bares, J.M. Grove, S.J. Hall, J.B. Heffernan, S.E. Hobbie, K.L. Larson, S.B. Lerman, J.L. Morse, D.L. Narango, C. Neill, K. Nelson, J. O'Neil-Dunne, L.A. Ogden, J. Padullés Cubino, D.E. Pataki, W.D. Pearse, C. Polsky, T.L. Trammell, and M.M. Wheeler. 2021. 2021. Cross-scale social drivers of yard vegetative outcomes in the American residential macrosystem. Annual Meeting of the Ecological Society of America, Virtual. Oral Presentation.
- Riand, F.*, **A.M. Grade**, S. Moreno, S.B. Lerman, and P.S. Warren. 2021. Correlations between free-ranging domestic cat activity and land cover type across an urban gradient in western Massachusetts. Annual Meeting of the Ecological Society of America, Virtual. Poster Presentation.
- Grade, A.M., R. Roy Chowdhury, C. Dobler-Morales, D. Locke, P.M. Groffman, M.L. Avolio, N.D. Bettez, J. Cavender-Bares, J.M. Grove, S.J. Hall, J.B. Heffernan, S.E. Hobbie, K.L. Larson, S.B. Lerman, J.L. Morse, D.L. Narango, C. Neill, K. Nelson, J. O'Neil-Dunne,

- L.A. Ogden, J. Padullés Cubino, D.E. Pataki, W.D. Pearse, C. Polsky, T.L. Trammell, and M.M. Wheeler. 2021. Institutional and individual drivers of yard vegetative structure and composition in the American residential macrosystem. American Association of Geographers Annual Meeting, Virtual. Poster Presentation.
- **Grade, A.M.,** N.W. Chan, P. Gajbhiye, and P.S. Warren. 2021. Where we eBird Matters: Sample Selection Bias in eBird Checklist Locations by Race and Income in the Boston Metropolitan Area. Northeast Natural History Conference, Virtual. Oral Presentation. **Session Organizer, Urban Ecology and Environmental Justice**.
- Riand, F. *, **A.M. Grade**, S. Moreno, S.B. Lerman, and P.S. Warren. 2021. Correlations between free-ranging domestic cat activity and land cover type across an urban gradient in western Massachusetts. Northeast Natural History Conference, Virtual. Poster Presentation. **Undergraduate Student Poster Competition Award, First Place**.
- Warren, P.S., N. Chan, P. Gajbhiye, and **A.M. Grade**. 2020. Racial and income disparities associated with biased sampling in a large-scale community science project. University of Massachusetts Institute of Diversity Sciences: Climate Change, Diversities, and Disparities Research Group Online Seminar.
- **Grade, A.M.**, P.S. Warren, and S.B. Lerman. Cancelled. Feeding into fear: songbird nestling provisioning is influenced by predators and urbanization. 2020 Northeast Natural History Conference. Stamford, CT. Oral Presentation. **Session Organizer, Urban Ecology**.
- Grade, A.M., S.B. Lerman, and P.S. Warren. 2020. Mammalian species richness and community composition varies in residential backyards across an urban gradient.
 Department of Environmental Conservation Graduate Student Symposium. Amherst, MA. Oral Presentation. Student Presentation Award, First Place, Traditional Talk.
- **Grade, A.M.**, P.S. Warren, and S.B. Lerman. 2019. Fear of predators influences nestling condition across a suburbanization gradient. 3rd Annual Meeting of the American Ornithological Society. Anchorage, AK. Oral Presentation. **Student Presentation Award Finalist.**
- **Grade, A.M.**, S.B. Lerman, and P.S. Warren. 2019. Patterns of mammal diversity and abundance across a suburban gradient. 2019 Northeast Natural History Conference. Springfield, MA. Oral Presentation.
- Dookrum, B.*, **A.M. Grade**, and P.S. Warren. 2019. Documenting a poorly understood alarm call in the Northern House Wren. 2019 Northeast Natural History Conference. Springfield, MA. Poster Presentation.
- **Grade, A.M.,** S.B. Lerman, and P.S. Warren. 2019. Do anthropogenic resources buffer avian species against environmental stressors in residential landscapes? Department of Environmental Conservation Student Symposium. Amherst, MA. Poster Presentation.
- **Grade, A.M.**, S.B. Lerman, and P.S. Warren. 2019. Do anthropogenic resources buffer avian species against environmental stressors in residential landscapes? 21st Central Arizona-Phoenix Long-Term Ecological Research (CAP LTER) All Scientists Meeting and Poster Symposium. Scottsdale, AZ. Poster Presentation.
- **Grade, A.M.**, S.B. Lerman, and P.S. Warren. 2018. Non-lethal effects of predation: House Wren nesting across an urban gradient. 55th Annual Conference of the Animal Behavior Society. Milwaukee, WI. Oral Presentation.
- Grade, A.M., P.S. Warren, and S.B. Lerman. 2018. Non-lethal effects of predation: an

- experimental test of backyard-nesting House Wrens across an urban-to-rural gradient in western Massachusetts. North American Congress for Conservation Biology. Toronto, Ontario, CA. Oral Presentation, **Student Presentation Award Finalist.**
- Vilensky, J.*, **A.M. Grade**, P.S. Warren, and S.B. Lerman. 2018. Impacts of habitat on the success and use of nest boxes by House Wrens. Café Summer Scholars Program Poster Session, University of Massachusetts Amherst. Amherst, MA. Poster Session.
- Zhang, Y.**, **A.M. Grade**, P.S. Warren, and S.B. Lerman. 2018. Predation risk affects house wren parent visits. **Summer Pre-College Research Intensive Program** Poster Session, University of Massachusetts Amherst. Amherst, MA. Poster Presentation.
- Seymour, C.A.*, K.M. Straley, **A.M. Grade**, S.B. Lerman, and P.S. Warren. 2018. Parasites and plastic waste: the effects of anthropogenic nesting materials and ectoparasite loads on House Wren (*Troglodytes aedon*) nestlings. Massachusetts Undergraduate Research Conference. University of Massachusetts Amherst. Amherst, MA. Poster Presentation.
- **Grade, A.M.**, P.S. Warren, and S.B. Lerman. 2018. Non-lethal effects of predation: an experimental test of backyard-nesting House Wrens across an urban-to-rural gradient. Northeast Natural History Conference. Burlington, VT. Oral Presentation.
- **Grade, A.M.**, S.B. Lerman, and P.S. Warren. 2018. Non-lethal effects of predation pressure on backyard-nesting House Wrens in western Massachusetts. Pioneer Valley Ecological Research and Management Symposium. Arcadia Wildlife Sanctuary, Easthampton, MA. Oral Presentation.
- **Grade, A.M.**, P.S. Warren, and S.B. Lerman. 2018. Non-lethal effects of predation pressure: an experimental test of backyard-nesting House Wrens across an urban-to-rural gradient in Western Massachusetts. Massachusetts Association of Conservation Commissions Annual Environmental Conference. Worcester, MA. Poster Presentation.
- **Grade, A.M.**, P.S. Warren P.S., and S.B. Lerman. 2018. Non-lethal effects of predation: an experimental test of House Wren nesting across an urban-to-rural gradient. Department of Environmental Conservation Graduate Student Symposium. Amherst, MA. Oral Presentation.
- **Grade, A.M.**, and K.E. Sieving. 2015. When a bird goes unheard: highway noise disrupts information transfer between bird species. Session co-organizer, Acoustic Landscapes. Northeast Natural History Conference. Springfield, MA. Oral Presentation.
- **Grade, A.M.** and K.E. Sieving. 2015. When a bird goes unheard: highway noise disrupts information transfer between bird species. 9th International Association for Landscape Ecology World Congress. Portland, OR. Poster Presentation.
- **Grade, A.M.** and K.E. Sieving. 2015. When a bird goes unheard: highway noise disrupts information transfer between bird species. 52nd Annual Conference of the Animal Behavior Society. Anchorage, AK. Oral Presentation.
- **Grade, A.M.** and K.E. Sieving K.E. 2015. When a bird goes unheard: highway noise disrupts information transfer between bird species. Department of Wildlife Ecology and Conservation Master's Symposium, University of Florida. Gainesville, FL. Oral Presentation.
- **Grade, A.M.** and K.E. Sieving. 2015. When a bird goes unheard: highway noise disrupts information transfer between bird species. School of Natural Resources and Environment Seminar, University of Florida. Gainesville, FL. Oral Presentation.
- Grade, A.M. and K.E. Sieving. 2015. When a bird goes unheard: highway noise disrupts

information transfer between bird species. Florida Ornithological Society Fall Meeting. Neptune Beach, FL. Oral Presentation.

Invited Public Presentations (6 total)

- **Grade, A.M.** 2021. Birds: Hobby or Science? Brookline Bird Club. Virtual Panel. February 18, 2021.
- **Grade**, **A.M.** 2018. Birds in Your Backyard: Parenting, Predators, and Urbanization. Allen Bird Club Meeting, Springfield Museum of Science, Springfield, MA. November 5, 2018.
- **Grade, A.M.** 2018. When birds go unheard: Highway noise disrupts information transfer between bird species. Allen Bird Club Meeting, Springfield Museum of Science, Springfield, MA. May 7, 2018.
- **Grade, A.M**. 2018. Landscapes of fear: Birds navigate parenting in a frightening world. University of Massachusetts **Three Minute Thesis Competition Semifinals.** Amherst, MA. Oral Presentation.
- **Grade, A.M.** 2018. Engineering Our Environment, High School Science Series. Boston Museum of Science, Boston, MA. **Keynote Panelist**. April 6, 2018.
- **Grade, A.M.** 2016. Urban Ecology: Nature in and of the City, Applewood Retirement Community, Amherst, MA. October 4, 2016.

TEACHING AND MENTORSHIP

Teaching Appointments

University of Massachusetts, Amherst, MA

- 2017 2019 **Teaching Assistant**, Wildlife Habitat Management (NRC 564). Fall semesters. Team based learning course. Assisted in development of course materials, field and lab-based activities, grading quizzes, worksheets, presentations, and projects. Coordinated camera trapping effort across two courses.
- 2018 **Instructor**, Ornithology Lab (BIO 544L). Sole laboratory instructor, designed and implemented course materials, syllabus, lectures, study guides, quizzes, practical exams, field trips, research projects, and grading. Lab covered research design, taxonomy, ecology, morphology, anatomy, and field methods.

University of Florida, Gainesville, FL

2014 – 2015 **Teaching Assistant**, Avian Field Research (WIS 4547C). Assisted in activities during field course, assisted students in development of research projects.

Undergraduate Internships and Independent Study

- 2015 2019 University of Massachusetts, Amherst, MA
 - Supervised 23 undergraduate laboratory technicians, course credit.
 - Mentored 15 undergraduate and pre-college field technicians, including 2
 Louis Stokes Alliance for Minority Participation Program students, 1 Café

Summer Scholar, 1 Department of Environmental Conservation Internship student, and 1 Summer Pre-College Research Intensive Program student

2013 – 2015 University of Florida, Gainesville, FL

• Mentored 2 undergraduate field technicians

Undergraduate Mentorship for Independent Research

*Resulting in undergraduate peer-reviewed publication

- 2018 Benjamin Dookrum, Department of Environmental Conservation Internship Student, Undergraduate Summer Project: Angry birds: What influences aggression in House Wrens?
- 2018 Jessica Vilensky, Café Summer Scholars Poster Session. Impacts of habitat on the success and use of nest boxes by House Wrens. Café Summer Scholars Program Poster Session.
- 2017 Kaleigh Keohane, Undergraduate Visual Media Project. "Warren lab field research at UMass Amherst."
- 2017 Christina Seymour, Undergraduate Honors Thesis: Parasites and plastic waste: The effects of anthropogenic nesting materials and ectoparasite loads on House Wren (*Troglodytes aedon*) nestlings
- 2016 Maggie Upham, Undergraduate Independent Study. Owl mobbing in urban versus rural forest patches.
- 2015 Sean Terrill, Undergraduate Independent Study, Advanced GIS Independent Study. Land cover and House Wren nesting across an urban gradient.
- 2015 Mark Kerstens*, Undergraduate Honors Thesis: Are humans harassing birds? A first look at the impact of urbanization and birding activity on mobbing behavior of passerines in the pioneer valley.

Guest Lectures

Clark University, Worcester, MA

2020 Water and the City (GEOG 106). Presentation: Managing yards for mammals.

University of Massachusetts, Amherst, MA

- 2017 Experimental Methods in Ecology (BIO 422H). Presentation: Using playback methods in research.
- 2016 Exploring Sound in the Animal Kingdom (NATSCI 191). Presentation: Soundscape ecology and animal communication.

University of Tennessee, Knoxville, TN

Animal Communication (EEB 454). Presentation: Soundscape ecology and avian behavior (*via* Skype).

University of Florida, Gainesville, FL

- 2015 Conservation Biology (WIS 4554). Presentation: Soundscape ecology and conservation.
- 2014 Forest Ecology (FOR 3153C). Presentation: Soundscape ecology and avian behavior.

Core Teaching Areas

Animal Communication, Animal Behavior, Community Ecology, Conservation Biology, Ecology, Landscape Ecology, Ornithology, Research Design in Ecology, Urban Ecology, Wildlife Habitat Management

RESEARCH EXPERIENCE

- 2020 2021 **Postdoctoral Researcher**, George Perkins Marsh Institute, Clark University. National Science Foundation American Residential Macrosystems Project. Continental-scale data analysis and synthesis on large datasets from six cities. Tasked with integrating social, land cover, and ecological data, and acting as a liaison between ecology and social science working groups.
- 2018 2020 **Research Assistant**, Central Arizona-Phoenix Long Term Ecological Research Program, University of Massachusetts Amherst. Adapting to city life core area, spatial-temporal data analysis and research for publication.
- 2017 2020 **Research Assistant**, Amherst Mammal Camera Study, University of Massachusetts Amherst. Develop protocols and training materials, supervise undergraduate research assistant and data processing.
- 2015 2020 **Dissertation Research**, University of Massachusetts Amherst. Collaborative study with Springfield Neighborhood Nestwatch, Smithsonian Migratory Bird Center and USDA Forest Service.
- Biological Research Technician, University of Massachusetts Amherst. Nesting ecology of Wood Thrush (*Hylocichla mustelina*) in urban versus rural landscapes. Duties included avian nest searching, monitoring, nestling body conditioning, and videography.
- 2014 2015 **Research Assistant**, University of Florida. Florida project manager for Evolution of Parid Call Complexity study (NSF #1353327, Florida award: \$435,274). Assisted principal investigators to coordinate research efforts, design long term research plan, organize and manage research design and data collection for University of Florida research group, and to train and assist undergraduate and graduate students on protocols.
- Field Technician, Wildlife Conservation Society, North America Program, Greater Yellowstone Ecosystem. Avian Diversity in exurban landscapes. Duties included point counts, nest searching, vegetative analysis, camera traps, passive acoustic monitoring, human dimensions, and land-owner outreach.

- 2011 2013 **Bird Banding Technician**, Connecticut Coastal Audubon Center. Duties included bird mist net extraction, banding and body condition measurements, and identification of northeastern bird species.
- Field Technician, Montana Cooperative Wildlife Research Unit, Arizona Project, Coconino National Forest. Duties included: Nest searching and monitoring within long-term ecological research study site in a high elevation riparian ecosystem, and habitat surveys within elk exclusion plots.
- Resource Assistant, Connecticut Department of Environmental Protection, Inland Fisheries Division. Duties included research and management of anadromous fish stock (i.e., salmon, eel, alewife, lamprey, river herring), fish-way and fish ladder management, and collaborations with United States Fish and Wildlife Service, multiple state agencies, and non-governmental organizations.

SERVICE

University Service

University of Massachusetts Amherst

- 2018 2019 **President**, Program in Organismic and Evolutionary Biology Graduate Student Body
- 2016 2020 Communications Committee Chair, Peer Editor, and Writer Contributor (2016 2020), Vice President and Treasurer (2017 2018), That's Life Science Blog, thatslifesci.com
- 2016 2020 **Social Media Chair**, Science Café Outreach Seminars
- 2016 **Graduate Student Mentor Committee Member**, Program in Organismic and Evolutionary Biology

University of Florida

- 2015 **Competition Judge**, Professional Self Promotion Workshop, Department of Wildlife Ecology and Conservation
- 2014 2015 **Member**, Natural Resource Diversity Initiative (NRDI), Department of Wildlife Ecology and Conservation
- 2014 2015 Travel Grant Judge, School of Natural Resources and Environment

- 2014 2015 **President**, School of Natural Resources and Environment Graduate Student Council
- 2014 2015 **Member**, Department of Wildlife Ecology and Conservation Graduate Student Association
- 2014 **Panel Organizer**, Interdisciplinary Collaboration in the Natural Resource & Social Sciences, School of Natural Resources and Environment

Professional Service

Invited Peer Reviewer

Animal Behaviour (1), Avian Conservation and Ecology (1), Biological Conservation (1), Cities and the Environment (1), Handbook of Urban Biodiversity (Book Chapter Review; 1), Landscape and Urban Planning (1), Northeastern Naturalist (1), PLOS One (1), Urban Ecosystems (1), Urban Forestry & Urban Greening (1), Wilson Journal of Ornithology (1).

Professional Affiliations

American Association of Geographers, American Ornithological Society, Animal Behavior Society, Society for Conservation Biology (North America Section).

OUTREACH

| 2019 | Workshop Facilitator, Urban ecology: Birds, bears, and backyards. Chicopee |
|------|--|
| | High School, Chicopee, MA. |
| 2018 | Science Fair Judge, Up Academy Kennedy Middle School, Springfield, MA |
| 2018 | Workshop Facilitator, Careers in STEM. Up Academy Kennedy Middle School, |
| | Springfield, MA. |

2015 – 2018 **Workshop Facilitator**, "Noise in Nature" (Multiple locations)
Oral multimedia interactive presentation with worksheets and scientific equipment for show. Proposed in National Science Foundation Graduate Research

Fellowship Proposal.
Presented in the following locations:

- Summer Science Camp, The Children's Museum, West Hartford, CT. July 2018
- Up Academy Kennedy Middle School, Grade 8, Springfield, MA. April 2017
- Up Academy Kennedy Middle School, Grade 7, Springfield, MA. October 2016
- YOPP afterschool program, Gainesville, FL. February 2015.
- "Bird Brains" science summer camp, Florida Museum of Natural History, Gainesville, FL. June 2014.
- Workshop Facilitator, Birds and Nature. Up Academy Kennedy Middle School,

| | Springfield, MA. Collaboration with Neighborhood Nestwatch, Smithsonian Migratory Bird Center, and United States Department of Agriculture Forest |
|-------------|---|
| | Service. |
| 2016 | Workshop Facilitator, Birds and Wildlife Biology. STEM Middle Academy, |
| | Springfield, MA. |
| 2016 | Attendee, Alan Alda Center for Communicating Science Workshop, University |
| | of Massachusetts Amherst. |
| 2014 | Workshop Facilitator, Reptiles and Amphibians. YOPP Afterschool Program, |
| | Gainesville, FL. In collaboration with the University of Florida Department |
| | Wildlife Ecology and Conservation Natural Resource Diversity Initiative (NRDI). |
| 2013 - 2014 | Science Fair Judge, Gainesville Public Schools, Gainesville, FL. |

Media

Contributed Popular Media Articles

That's Life Science Blog, thatslifesci.com

- "The Power of Fear: Four Ways Being Scared Affects Wildlife"
 "It's a Trap! How Looks Can Be Deceiving in Habitat Selection"
 "Pleistocene Rewilding: A Controversial Idea in Conservation Biology"
 "Single Large or Several Small? The Ongoing Debate in Nature Preserve Design"
 "Life on the Edge 2 Investment Ways that Habitat Edges Affect Facets"
- "Life on the Edge: 3 Important Ways that Habitat Edges Affect Forests"
 "Is Milk Bad for Me? Finding Scientific Truths in the 'Post-Truth' Era"
 "Four Unexpected Ways that Living in Cities Affects Wildlife"
- 2016 "Tis the Season for Citizen Science" "A World Without Birdsong"

Research in the Press

"How landscapes of fear affect the songbirds in our backyards." 2021. University of Massachusetts Amherst News and Media. https://www.umass.edu/news/article/how-landscapes-fear-affect-songbirds-our-backyards.

"Highway Noise Deters Communication Between Birds." 2016. Newswise. https://www.newswise.com/articles/uf-ifas-study-highway-noise-deters-communication-between-birds. Source: University of Florida Institute of Food and Agricultural Science.