

Y Alyssa J. Sargent Y

PhD Candidate, Behavioral Ecophysics Lab, University of Washington

Email: sargena@uw.edu | Website: alyssajsargent.com

Education

- Ph.D., Biology (ongoing: candidate)**, Behavioral Ecophysics Lab, University of Washington 2020–
Topic: Characterization and modeling of movement behavior in hummingbirds (Advisor: Dr. Alejandro Rico-Guevara)
- B.Sc., Environmental Science**, Messiah University 2014–18
Independent research: Avian habitat associations and environmental impact assessment for Oakwood Hills (2017–18, Advisor: Dr. David Foster)
Departmental honors independent research: Noninvasive individual identification of the Panamanian golden frog (2016–17, Advisor: Dr. Erik Lindquist)

Publications & Manuscripts

- Sargent AJ**, Ward M, Fernandes AM, Talwekar Y, Muñoz-Amaya AM, Téllez-Colmenares N, Rico-Guevara A. Investigating the home ranges of hummingbirds in Colombia using two automated radio telemetry approaches. In prep for *Ornithology* (automated telemetry special issue). In prep
- Sargent AJ**, Fernandes AM, Clarkson A, Martinez SLG, Coenen A, Hansell L, Talwekar Y, Muñoz-Amaya AM, Téllez-Colmenares N, Elting R, Sun Y, Cartwright OA, Büttner N, Rico-Guevara A. Tiny radio-tag backpacks impact, but do not significantly affect, hummingbird time budgets in captivity. In review with *Movement Ecology*. Preprint: <https://doi.org/10.1101/2025.01.29.635563>. Preprint
- Rueda-Uribe C, **Sargent AJ**, Echeverry-Galvis MÁ, Camargo-Martínez PA, Capellini I, Lancaster LT, Rico-Guevara A, Travis JM. 2024. Tracking small animals in complex landscapes: a comparison of localisation workflows for automated radio telemetry systems. *Ecology and Evolution*. 14:10, p.e70405. <https://doi.org/10.1002/ece3.70405>. 2024
- Falk J, **Sargent AJ**. 2024. The glitter in the green: in search of hummingbirds. *The Condor: Ornithological Applications* (invited commentary: book review). duae026. <https://doi.org/10.1093/ornithapp/duae026>. 2024
- Van Dyke F, Harju S, Hindy M, Cannata N, Schmidt E, Hillman E, **Sargent AJ**, Keas B. 2023. Bird communities of jack pine and red pine stand types: implications of multi- versus single-species management. *The Wilson Journal of Ornithology*. 135:3, 311–326. <https://doi.org/10.1676/22-00062>. 2023
- Hewes A, Cuban D, Groom DJE, **Sargent AJ**, Beltrán DF, Rico-Guevara A. 2022. Comparative functional morphology of nectar-feeding birds. *Journal of Morphology*. <https://doi.org/10.1002/jmor.21513>. 2022
- Van Dyke F, Harju S, Hindy M, Cannata N, Schmidt E, Hillman E, **Sargent AJ**, Keas B. 2022. Comparative detection, density, and reproductive performance of the Kirtland's Warbler in jack and red pine habitats. *Journal of Wildlife Management*. e22233. <https://doi.org/10.1002/jwmg.22233>. 2022
- Cuban D, Hewes A, **Sargent AJ**, Groom DJE, Rico-Guevara A. 2022. On the feeding biomechanics of nectarivorous birds, *Journal of Experimental Biology*. 225:2, p.jeb243096. <https://doi.org/10.1242/jeb.243096>. 2022
- Sargent AJ**, Groom DJE, Rico-Guevara A. 2021. Locomotion and energetics of divergent foraging strategies in hummingbirds: a review. *Integrative and Comparative Biology*. 61:2, 736–748. <https://doi.org/10.1093/icb/icab124>. 2021
- Hereward H, Facey R, **Sargent AJ**, Roda S, Couldwell M, Renshaw E, Shaw K, Devlin J, Long S, Porter B, Henderson J, Emmett C, Astbury L, Maggs L, Rands S, Thomas R. 2021. Raspberry Pi nest cameras: an affordable tool for remote behavioral and conservation monitoring of bird nests. *Ecology and Evolution*. 00, 1–13. <https://doi.org/10.1002/ece3.8127>. 2021

Funding: Fellowships (>\$178,000)

- Graduate Research Fellowship**, National Science Foundation (NSF GRFP), \$152,000 2022–
- Graduate Student Excellence Fellowship**, Washington Research Foundation & Benjamin Hall, \$10,866 2022
- Barbara Eddy Outreach Fellowship**, Burke Museum of Natural History and Culture, \$15,982 2021

Funding: Research Grants (>\$25,000)

- Explorer Award for Inspirational & Scientific Trailblazing**, Scientific Exploration Society, £5,000 2024
- Student Research Grant**, American Ornithological Society, \$2,450 2024

Robert T. Paine Experimental & Field Ecology Award , University of Washington, \$6,600	2024
Richard C. Snyder Award , University of Washington, \$500	2024
Walter & Margaret Sargent Award , University of Washington, \$2,000	2023
Hoag Award , University of Washington, \$500	2023
Personal Fundraising , Private donors, \$300	2022–
Outreach Grant , Animal Behavior Society, \$1,000	2022
Orians Award for Tropical Studies , University of Washington, \$1,500 ('21), \$900 ('24)	2021, '24
Margo & Tom Wyckoff Award , University of Washington, \$3,500	2021

Funding: Scholarships and Awards (>\$87,000)

Charlotte Mangum Student Support , Society for Integrative and Comparative Biology, \$125	2024
Travel Award , American Ornithological Society, \$931	2023
Graduate School Conference Presentation Award , University of Washington, \$500	2023
Biology Department Graduate Student Travel Award , University of Washington, \$500	2023
Graduate Student Travel Grant , Animal Behavior Society, \$700	2023
Federal Work-Study , Messiah University, \$6,998	2015–18
Messiah University Grant , Messiah University, \$19,440	2014–18
Provost Scholarship , Messiah University Honors Program, \$58,000	2014–18

Awards & Honors

Founders Memorial Award for Outstanding Poster , Honorable Mention, Animal Behavior Society	2023
Certified Field Naturalist , Au Sable Institute	2018
Departmental Honors (Research) , Department of Biology, Messiah University	2016–18
Dean's List ; School of Science, Engineering, and Health; Messiah University	2014–18

Hummingbird Sugar Rush / Fiebre de Azúcar en Colibríes: Curriculum Development (2021–Present)

Development: Personally conceived & developed educational curriculum “Hummingbird Sugar Rush” (“Fiebre de Azúcar en Colibríes” in Spanish), with assistance from the Burke Museum’s Education Department and Colombian early-career colleagues

Curriculum components: [board game](#), life-sized field game, hands-on “deeper dive” activities (morphology & energy content vs. feeding efficiency trade-offs)

Playtested at: Aki Kurose Middle School (73 students, '23), Lake Washington Girls Middle School (29 students, '24), Escuela Rural de Bermejil in Colombia (32 Spanish-speaking students, '24), community outreach events/sessions (175 attendees, see below)

Science Communication: Community Education & Events

Girls in Science session leader, Burke Museum of Natural History Led middle school educational curriculum (HSR), shared research/career trajectory (10 student attendees)	2024
DIY Science Zone , GeekGirlCon Hosted booth to playtest board game on behavioral trade-offs faced by hummingbirds (45 booth attendees)	2023
Outreach Fair , Animal Behavior Society Hosted booth to playtest board game on behavioral trade-offs faced by hummingbirds (120 booth attendees)	2023
YouthForce (Boys & Girls Club) with Behavioral Ecophysics Lab Arranged & co-hosted career-oriented connection event (30 attendees)	2020
President of Sigma Zeta Science and Mathematics Honor Society, Messiah University	2016–18

Coordinated seminars, public scientific demonstrations, judging K-8 science fairs

Oakes Museum of Natural History Assistant Collections Manager, Messiah University 2015–18
Volunteer guide; curated, identified, and catalogued bird, egg, nest, mammal, insect specimens; gave ornithological talks to public, created displays, contributed to blog

Science Communication: Writing & Publications

Science Journalist, Integrative and Comparative Biology (blog articles) 2024
Disseminated novel research through interview-based articles (the [Luxury Effect](#), hummingbird [combat/coloration](#))

Editor for *Exploration Revealed*, Scientific Exploration Society 2023–
Guided, honed, & edited articles from contributing authors on their wildlife research expeditions (e.g., [mammals](#), [hummingbirds](#), [honeyeaters](#))

Exploration Revealed, Scientific Exploration Society (Feature article, Issue 3) 2023
[From backyards to beyond: the surprising odysseys of radio-tagged hummingbirds](#)

Science Journalism Fellowship, Puget Sound Institute & *Salish Sea Currents* (Feature article) 2022
[Bird populations improve after Elwha Dam removals](#)

TED-Ed collaboration for hummingbird-focused animation 2021
Created [supplementary learning materials](#) for animation (>1,028,000 views)

Current Conservation (Feature article, Vol. 14.4) 2021
[The secret world of owl migration](#)

Dispatches from the Field (Guest article) 2020
[Praia, paradise, & petrel poop](#)

Selected, additional publications on human-nature coexistence 2013–18
Artwork (*Peregrine Review*), personal essays (*Kelsey Review*, *Aspirations*), LEGO ([Beautiful LEGO: Wild!](#))

Science Communication: Talks, Interviews, & Panels (>3,600 citizens reached)

Invited guest speaker, Cayuga Bird Club 2024
[“Hitchhiking on hummingbirds with tiny tech”](#) (75 attendees)

Community Speaker Series (invited), Birds Connect Seattle 2024
“Hummingbird war and peace: field research informing science education” (70 attendees)

Invited guest speaker, Philanthropic Educational Organization 2024
“On-board devices & outreach: new perspectives for studying and sharing about hummingbirds” (19 attendees)

Scientific consultation on hummingbird behavior 2023–
Wildlife film consultation for WildStar Films (National Geographic, Disney+), BBC

Wildlife Webinar, Washington Chapter of The Wildlife Society 2023
“Fast & furious: tracking the movements of territorial hummingbirds” (20 attendees)

Young Birders Talk, Seattle Audubon 2022
Invited storytelling on career trajectory, fieldwork, & research (13 student attendees)

Selected interviews on hummingbirds 2021–
Birds Connect Seattle [blog](#) ('21), #itsawildlife [blog](#) and [podcast](#) ('22), Birds & Blooms [article](#) ('24), KUOW [article](#) ('24), UW News [article](#) ('24), KUOW/NPR [podcast](#) ('25)

Virtual Open Door, Burke Museum of Natural History and Culture 2021
Invited [Instagram Live Q&A](#) on research (>1,050 views)

Research Spotlight, Burke Museum of Natural History and Culture 2021
Presentation with museum donors on research (51 attendees)

Career Café with Girls in Science, Burke Museum of Natural History and Culture 2021
Invited livestream [career talk and iNaturalist activity](#) (>800 student attendees)

Skype a Scientist 2020–

34 hummingbird talks with all ages, class- and [school-wide](#) presentations (>1,500 student attendees)

Teaching Assistantships (* included curriculum development; 185 students instructed)

Scientific Writing in Marine Biology , University of Washington (48, 42 undergraduates)	2022–23
*Ornithology , University of Washington (32 undergraduates)	2021
Introductory Biology , University of Washington (51 undergraduates)	2020
Environmental Chemistry , Messiah University (12 undergraduates)	2018

Invited Academic Talks & Guest Lectures (100 students/peers instructed)

Functional Morphology Course , University of Washington (13 undergraduates) <i>Lecture:</i> Fight or flight . . . or both? Relating foraging strategies to hummingbird morphology	2024
Ornithology Course , University of Puerto Rico Mayaguez (14 undergraduates) <i>Talk:</i> Rápidos y furiosos: seguimiento de los movimientos de los colibríes territoriales	2023
Plastic Punk Animal Games Workshop , University of Washington (20 graduate engineers) <i>Talk:</i> Using games and bespoke field methodology to increase understanding of hummingbirds	2022
Graduate & Professional Life Course , University of Washington <i>Lecture:</i> “What is outreach, anyway?” Resources to communicate complex topics well (’23–’24: 23 graduates) <i>Lecture:</i> The mechanics of science communication: effectively engaging with diverse audiences (’22: 13 graduates) <i>Lecture:</i> Unpacking science communication and getting plugged in (’21: 17 graduates)	2021–

Academic Conference Presentations (* granted award)

Sargent AJ , Pen J, Stockham C, Canning K, Canaday R, Rockwood A, Clark A, Rico-Guevara A. Learning through games: a case-study in urban outreach. Society for Integrative and Comparative Biology, <i>Poster</i> .	2024
Sargent AJ , Fernandes AM, Elting R, Clarkson A, Martinez SL, Hansell L, Coenen A, Talwekar Y, Muñoz-Amaya M, Téllez-Colmenares N, Rico-Guevara A. Tiny backpacks: experimentally monitoring the behavior of radio-tagged hummingbirds in Colombia. Society for Integrative and Comparative Biology, <i>Talk</i> .	2024
Sargent AJ , Ward M, Fernandes AM, Talwekar Y, Muñoz-Amaya MA, Téllez-Colmenares N, Rico-Guevara A. Investigating the home ranges of hummingbirds in Colombia using two automated radio-telemetry approaches. American Ornithological Society, <i>Talk</i> (“Automating ornithology: Advances in avian ecology through automated radio telemetry” symposium).	2023
Sargent AJ , Pen J, Canaday R, Stockham C, Rockwood A, Clark A, Rico-Guevara A. Become the hummingbird: using games to engage with underrepresented groups in science. American Ornithological Society, <i>Poster</i> .	2023
*Sargent AJ , Canaday R, Pen J, Rockwood A, Clark A, Stockham C, Rico-Guevara A. Hummingbird Sugar Rush: teaching complex behavioral trade-offs through games. Animal Behavior Society, <i>Poster</i> .	2023
Sargent AJ , Rico-Guevara A. Where do they go? Mysterious hummingbird foraging. Animal Behavior Society, <i>Talk</i> .	2021
Sargent AJ , Groom D, Rico-Guevara A. Reassessing hummingbird foraging: the territoriality-traplining continuum. Society for Integrative and Comparative Biology, <i>Talk</i> (“Physical mechanisms of behavior” symposium).	2021
Sargent AJ , Hindy M, Van Dyke F. Examining nesting site flexibility of the Kirtland’s Warbler—an endangered, extreme habitat specialist. School of Science, Engineering, and Health Research Symposia, Messiah University, <i>Talk</i> .	2018
Sargent AJ , Foster D. Survey of the Oakwood Hills avian community, stratified by habitat type. School of Science, Engineering, and Health Research Symposia, Messiah University, <i>Poster</i> .	2018
Sargent AJ , Hindy M, Van Dyke F. Kirtland’s Warbler use of red pine stands in Northern Lower Michigan. Internal Research Symposium, Au Sable Institute, <i>Talk</i> .	2017
Sargent AJ , E Lindquist. Non-invasive individual identification of the Panamanian golden frog (<i>Atelopus zeteki</i>). School of Science, Engineering, and Health Research Symposia, Messiah University, <i>Talk</i> (’16), <i>Poster</i> (’17).	2016–17

Professional Service

Career-Building Workshop Discussion Leader , University of Washington	2023
Departmental Awards Peer Reviewer , University of Washington	2023
NSF GRFP Workshop Peer Reviewer , University of Washington	2022
Applying to Graduate School Panelist and Host , University of Washington Facilitator of Q&A panel for prospective grad students (>140 total attendees)	2020–
Biology Website Accessibility Redesign , University of Washington Established, co-led taskforce to enhance website accessibility for prospective grad students	2020

Academic Peer Review (2020–present)

Biology Letters (1), *Journal of Pollination Ecology* (1), *The Oriole* (1)

Students Mentored (14)

Project: Biologging ethics and time budgets of radio-tagged hummingbirds <i>University of Washington</i> : Samantha-Lynn Martinez (also mentored for 2024 Mary Gates Leadership Scholarship), Laney Hansell, McKenna Dailey, Yutong Sung, Olivia Cartwright, Alexandra Coenen, Jonathan Bristle <i>Texas A&M University</i> : Aeris Clarkson	2023–
Project: Characterizing hummingbird movement ecology through automated telemetry <i>Centro de Investigación Colibrí Gorriazul</i> : Ana Melisa Fernandes	2022–
Project: Geometric morphometrics of hummingbird bills <i>University of Washington</i> : Linda Chen, Michelle Hsu, Monica Hu, Allison Li	2020

Additional Research & Field Experience

Field Assistant , New York University, Dr. Valentina Alaasam (Puerto Rico, USA) Project: Thermoregulatory evolution of hummingbirds: using urban heat islands as a natural experiment	2023
Research Technologist , University of Washington, Dr. Alejandro Rico-Guevara (Washington, USA) Lab maintenance; virtual outreach; wrote protocols, permits, proposals, and papers	2020
Banding Assistant & Owl Banding Crew Leader , Long Point Bird Observatory, Kyle Cameron (Ontario, Canada) Fall migration constant-effort banding	2019
Research Intern , AMNH Southwestern Research Station, Dr. Susan Wethington (Arizona, USA) Project: Blue-throated Mountain-gem site preference and nest characterization	2019
Field Assistant , Cardiff University, Drs. Hannah Hereward & Veronica Neves (Azores, Portugal) Project: Nesting study and conservation of the Monteiro's Storm-Petrel	2019
Field Assistant , Cornell University & University of Queensland, Dr. Will Feeney (Brisbane, Australia) Project: Avian brood parasitism and social behavior of Australian fairywrens	2018
Field Assistant , University of Missouri, Melissa Roach (Missouri, USA) Project: Effects of lead (Pb) on success of ground-foraging birds in Southeast Missouri	2018
Research Student , Au Sable Institute, Dr. Fred Van Dyke (Michigan, USA) Project: Kirtland's Warbler use of red pine in Northern Lower Michigan	2017

Skills Overview

Taxa handling: Trochilidae, Passeriformes, Procellariiformes, Strigiformes, Cuculiformes, Piciformes

Avian processing: mist-netting and extraction, ground trapping, baited trapping, processing (e.g., aging, sexing, recording biometrics, banding), brachial blood sampling, aging nestlings and eggs

Avian field techniques: ID, resighting color bands, nest searching and monitoring, territory mapping, point counting, spot mapping, behavioral monitoring

Wildlife tracking techniques: Automated Radio-Telemetry System setup, maintenance, data cleaning/analysis (grid, tower, base station); radio-telemeter, accelerometer, & GPS logger application/removal (glue, backpack harness); passive integrated transponder (PIT tag) implantation; radio-frequency identification (RFID) antenna maintenance

Field electronics: Raspberry Pi load cell & nest burrow camera maintenance, camera trapping, field video recording (JVC, GoPro, Minolta), high-speed camera operation (Chronos), wind tunnel calibration and operation

Vegetation sampling: ID, line-transect, Daubenmire, quadrat, DBH, density, relative cover

Programming languages: R (proficient); Raspberry Pi, Python (beginner)

Software: BORIS, BioRender (proficient); Premiere Pro, Procreate, Canva (competent); SlicerMorph, Illustrator, Photoshop (beginner)