

Rebecka Lauren Brasso, PhD
Weber State University
Department of Zoology
1415 Edvalson St., Dept 2505
Ogden, UT 84408

Education

Ph.D. (2014)

Marine Biology

Department of Biology and Marine Biology

University of North Carolina Wilmington, Wilmington, NC

Dissertation: Penguins as biomonitors of temporal and spatial patterns of mercury availability in Southern Hemisphere marine food webs

Advisor: Dr. Steven D. Emslie

GPA: 4.0

Master of Science (2007)

Biology

Department of Biology

The College of William and Mary, Williamsburg, VA

Thesis: The effects of mercury contamination on the nesting success and return rate of tree swallows

Advisor: Dr. Daniel A. Cristol

GPA: 3.85

Bachelor of Science (2004)

Marine Biology

Department of Biology and Marine Biology

University of North Carolina Wilmington, Wilmington, NC

Thesis: A late Pleistocene avifauna from Sandia Cave, New Mexico

Advisor: Dr. Steven D. Emslie

GPA: 3.89, *magna cum laude*, university and departmental honors

Professional Experience

Associate Professor

Weber State University

Department of Zoology

Ogden, UT 84408

July 1, 2018-present

Urban ecology

Assistant Professor

Southeast Missouri State University (SEMO)

Department of Biology

Cape Girardeau, MO 63701

August 1, 2015-2018

Ecotoxicology, ornithology, wildlife biology

Postdoctoral Fellow

University of North Carolina Greensboro (UNCG)

Greensboro, NC

July 1, 2014-June 2015

Ecotoxicology and biogeochemistry; Using stable isotopes of Hg to identify sources of methylmercury in forest food webs

Avian/Experimental Design Consultant

Industrial Economics, Inc

Cambridge, MA

April 2010 – April 2011

Natural Resource Damage Assessment technical working group, Deepwater Horizon oil spill, Gulf of Mexico. Searcher Efficiency and Carcass Persistence study protocol development, logistics, and implementation.

Instructor of Biology

Randolph College

Lynchburg, VA

July 2007 – May 2009

Full-time, non-tenure track position.

Laboratory Coordinator

The College of William and Mary

Williamsburg, VA

January 2006 – May 2006

Coordinate General Biology undergraduate labs including supervision of two graduate teaching assistants

Zookeeper/Animal Technician/Outreach educator

The Maryland Zoo in Baltimore

Baltimore, MD

May 2000-August 2003 (Summers only)

Zookeeper, Bird Division: Black-footed African penguin husbandry, enrichment, and public education; Animal technician, Education Department: Classroom instructor, outreach education instructor; parrot, raptor, small mammal, and reptile husbandry and exhibit maintenance

Teaching experience

Assistant Professor

Weber State University

Department of Zoology

Ogden, UT 84408

July 1, 2018-present

Courses taught: Ecology (with lab), Principles of Zoology, Diversity of Animals (lecture/lab combined), Marine Ecology (with and without lab), Topics in Zoology: Marine biology, Topics in Zoology: Toxicology, Seminar: Ecological History of North America

Assistant Professor

**Southeast Missouri State University
Department of Biology
Cape Girardeau, MO
2016-2018**

Courses taught: Ecology (with lab), Ecological History of North America, Introduction to Biological Reasoning (with lab), Introduction to Ecology and Evolution (with lab), Introduction to Toxicology, Management of Wildlife Habitats (with lab), Wildlife Toxicology

Teaching Assistant

**University of North Carolina Wilmington (UNCW)
Department of Biology and Marine Biology
Wilmington, NC
August 2009 – May 2014**

Undergraduate laboratory courses taught: Human Anatomy and Physiology, Ecology

Instructor, Marine Quest Summer Enrichment Program

**University of North Carolina Wilmington
Youth programs
Wilmington, NC
July 2012, June – July 2013**

Full-time instructor, including curriculum development for “SeaGEMS” Girls Exploring Marine Science, girls ages 10-14; part-time instructor (sole curriculum design and instruction) for *Mercury in North Carolina Salt Marshes* module with Oceans17, students ages 16-17

Graduate Assistant

**University of North Carolina Wilmington
Center for the Support of Undergraduate Research and Fellowships
Wilmington, NC
January 2010 – May 2013**

Development, implementation, and instruction of the university-wide Responsible Conduct of Research training seminar; proposal development for a UNCW Quality Enhancement Plan: Undergraduate Research as Applied Learning; workshop development and implementation on professional poster-making and presentations for undergraduates; management of the annual UNCW Undergraduate Research and Creativity Showcase

Instructor of Biology

**Randolph College
Biology Department
Lynchburg, VA
July 2007 – May 2009**

Teach and coordinate four sections of Biological Principles lab/week, curriculum development including creation of a new laboratory manual; position included faculty committee assignments and academic advising of first-year students

Teaching Assistant

**The College of William and Mary
Department of Biology
Williamsburg, VA
August 2004 – May 2006**

Undergraduate laboratory courses taught: General biology (Teaching assistant Fall 2004, Laboratory coordinator/curriculum development Spring 2006); Principles of Biology: Organisms, Ecology, and Evolution (included curriculum development); Principles of Biology: Molecules, Cells, and Development

Peer-reviewed Publications

* Denotes undergraduate research students whom I supervised, § denotes graduate students I supervised

Lois NA, Balza U, **Brasso R**, Dodino S, Pütz K, Polito MJ, Riccialdelli L, Ciancio J, Quillfeldt P, Mahler B, Raya Rey A. 2022. Mercury and stable isotopes portray colony-specific foraging grounds in southern rockhopper penguins over the Patagonian Shelf. *Marine Pollution Bulletin*, in press.

Dodino S, Riccialdelli L, Polito MJ, Pütz K, **Brasso RL**, Raya Rey A. 2021. Mercury exposure driven by geographic and trophic factors in Magellanic penguins from Tierra del Fuego. *Marine Pollution Bulletin*, 174: <https://doi.org/10.1016/j.marpolbul.2021.113184>

Balza U, **Brasso R**, Lois NA, Pütz K, Raya Rey A. 2021. The highest mercury concentrations ever reported in a South American bird, the Striated caracara (*Phalacrocorax australis*). *Polar Biology*, 44: 2189-2193.

Schutt D[§], **Brasso RL**, Vajda AM, Wunder MB. 2021. Comparison of feather mercury concentrations in live-caught vs. found-dead chick carcasses of Gentoo penguins (*Pygoscelis papua*). *Polar Biology*, 44: 1955-1960.

McCormick A, Robertson MD, **Brasso R**, Midway SR. 2020. Mercury concentrations in store bought shrimp. *Food Science and Nutrition*, 8: 731-737. <https://doi.org/10.1002/fsn3.1659>

Zarn AM, Valle CA, **Brasso R**, Fetzner WD, Emslie SD. 2020. Stable isotope and mercury analysis of the Galapagos Islands seabird community. *Marine Ornithology*, 48: 71-80.

Brasso R, Rittenhouse KA[§], Winder GL. 2020. Are wetlands hotspots for bioaccumulation of mercury for songbirds? *Ecotoxicology*, 29: 1183–1194.

Benjamin T, **Brasso R**, Midway S, Thompson D, Harden LA. 2018. Using non-destructive techniques to measure mercury (Hg) concentrations in gravid Blandings turtles (*Emydoidea blandingii*) in northeastern Illinois. *Bulletin of Environmental Contamination and Toxicology* 101: 295-299

Polito MJ, **Brasso RL**, Trivelpiece WZ, Karnovsky N, Patterson WP, Emslie SD. 2016. Differing Foraging Strategies Influence Mercury (Hg) Exposure in an Antarctic Penguin Community. *Environmental Pollution* 218: 196-206.

Fournier AMV, Welsh KJ, Polito MJ, Emslie SD, **Brasso RL**. 2016. Levels of Mercury in Feathers of Clapper Rails (*Rallus crepitans*) over 45 Years in Coastal Salt Marshes of New Hanover County, North Carolina. *Bulletin of Environmental Contamination and Toxicology* 97: 469-473.

Emslie SD, **Brasso RL**, Patterson W, Valera AC, McKenzie A, Silva AM, Gleason J, Blum J. 2015. Chronic mercury exposure in Late Neolithic/Chalcolithic populations in Portugal from the cultural use of cinnabar. *Scientific Reports* 5:14679, DOI: 10.1038/srep14679.

- Brasso RL**, Chiaradia A, Polito MJ, Raya Rey A, Emslie S. 2015. A comprehensive assessment of mercury exposure in penguin populations throughout the Southern Hemisphere: Using trophic calculations to identify sources of population-level variation. *Marine Pollution Bulletin*, 97: 408-418.
- Emslie SD, Polito MJ, **Brasso RL**, Patterson WP, Sun L. 2014. Ornithogenic soils and the paleoecology of pygoscelid penguins in Antarctica. *Quaternary International*, 352: 4-15.
- Brasso RL**, Polito MJ, Emslie SD. 2014. Multi-tissue analyses reveal limited inter-annual and seasonal variation in mercury exposure in an Antarctic penguin community. *Ecotoxicology* 23: 1494-1504.
- Brasso RL**, Lang J*, Jones CD, Polito MJ. 2014. Ontogenetic niche expansion influences mercury exposure in the Antarctic silverfish (*Pleuragramma antarcticum*). *Marine Ecology Progress Series* 504: 253-263.
- Brasso RL**, Polito MJ. 2013. Trophic calculations reveal the mechanism of population-level variation in mercury concentrations between marine ecosystems: Case studies of two polar seabirds. *Marine Pollution Bulletin* 75: 244-249.
- Brasso RL**, Drummond BE*, Borrett SR, Chiaradia A, Polito MJ, Raya Rey A. 2013. Unique pattern of molt leads to low intra-individual variation in feather mercury concentrations in penguins. *Environmental Toxicology and Chemistry*, **32**, 2331-2334.
- Brasso RL**, Polito MP, Lynch HJ, Naveen R, Emslie SD. 2012. Penguin eggshell membranes reflect homogeneity of mercury in the marine food web surrounding the Antarctic Peninsula. *Science of the Total Environment*, **439**:165-171.
- Brasso RL**, Abel S, Polito MP. 2011. Pattern of Mercury Allocation into Egg Components is Independent of Dietary Exposure in Gentoo Penguins. *Archives of Environmental Contamination and Toxicology*, **62**: 494-501.
- Hallinger KK*, Cornell KL, **Brasso RL**, Cristol DA. 2011. Mercury exposure and survival in free-living tree swallows (*Tachycineta bicolor*). *Ecotoxicology*, **20**: 39-46.
- Brasso RL**, Abdel Latif M*, Cristol DA. 2010. Relationship between laying sequence and mercury concentration in tree swallow eggs. *Environmental Toxicology and Chemistry* **29**:1155-1159.
- Monroe AP*, Hallinger KK*, **Brasso RL**, Cristol DA. 2008. Occurrence and implications of double brooding in a southern population of tree swallows. *Condor* **110**:382-386.
- Cristol DA, **Brasso RL**, Condon AM, Fovargue RE, Friedman SL, Hallinger KK, Monroe AP, White AE. 2008. The movement of aquatic mercury through terrestrial food webs. *Science* **320**:335.
- Friedman SL, **Brasso RL**, Condon AM. 2008. An improved simple nest-box trap. *Journal of Field Ornithology* **79**:99-101.
- Brasso RL**, Cristol DA. 2008. Effects of mercury exposure on the reproductive success of tree swallows (*Tachycineta bicolor*). *Ecotoxicology* **17**:133-141.

Brasso RL, Emslie SD. 2006. Two new late Pleistocene avifaunas from New Mexico. *Condor* **108**:721-730.

Other publications

**indicates undergraduate author*

Boyden S*, Mills J*, Brasso R. Effects of baiting on image capture rate and species richness documented using trail cameras at Weber State University. Submitted to *Ergo*, December 13, 2021.

- This research originated from a class experiment conducted by students in Ecology (ZOOL3450) in Spring 2021. I designed the project; students completed it (experimental set-up, data collection, data analysis, data interpretation, and writing of a scientific manuscript) over multiple weeks of the semester. Co-first authors are undergraduate students from that class.

Flowers D*, Price-Sturgeon C*, Rollin A*, Schmidt D*, Banford M*, Collard C*, Dearden M*, Deem S*, Dubose R*, Faulkner M*, Haney S*, Hipolito K*, Hughes H*, Hunnel D*, Johnson H*, Mercer K*, Miller C*, Moran D*, Pressley S*, Pytlewski S*, Sorenson G*, White A*. 2021. Investigating the effects of ocean acidification on adult oyster (*Crassostrea virginica*) shells. *Ergo*, 14-28.

<https://www.weber.edu/wsuiimages/OUR/Ergo/Ergo%20Volume%2014%20-%20Online%20PDF.pdf> (Links to an external site.)

- This manuscript was submitted from a class experiment conducted by students in Marine Ecology (ZOOL4490) in Spring 2019. I designed the project; students completed it (experimental set-up, data collection, data analysis, data interpretation, and writing of a scientific manuscript) over multiple weeks of the semester, culminating in this publication. All listed are undergraduate students from this course.

Funding awarded

Weber State University, RSPG, New Faculty Hemingway Grant (Spring 2020): \$3,800.00

Grants and Research Funding Committee, Southeast Missouri State University (2017): \$5,389

Grants and Research Funding Committee, Southeast Missouri State University (2016): \$5,832

US Fish & Wildlife Service Cooperative Agreement: Effects of lead (Pb) exposure on songbirds breeding within the Southeast Missouri Pb Mining District. Natural Resource Damage Assessment, SEMO Pb mining district. (2016-2018): \$151,306

UNCW Alumni Graduate Scholarship (2013-2014): \$3000.00

Graduate School Travel Award, UNCW (2010, 2011, 2012, 2013): \$400.00 per award;
Total: \$1600.00

Fisheries Resource Grant, North Carolina Sea Grant (Co-PI) (2013-2014): \$10,000.00

UNC General Equipment Fund, UNCW (2011): \$55,000.00; Funding awarded to R. Brasso and Dr. S. Emslie for purchase of a Direct Mercury Analyzer

Philanthropic Educational Organization Scholar Award, PEO International (2011-2012): \$15,000.00

Public Service Educational Fellowship, Division for Public Service and Continuing Studies, UNCW (2010): \$1300.00

Fellowship for Graduate Student Travel, Society for Integrative and Comparative Biology (2010): \$2000.00

Virginia Foundation of Independent Colleges, Undergraduate Research Program Competitive Fellowship (2008): \$2500.00

Randolph College Summer Research Grant (2008): \$1000.00

Professional Development Grant, Randolph College (2008): \$1633.00

Williamsburg Bird Club Grant (2006): \$500.00

JJ Murray Research Award, Virginia Society of Ornithology (2006): \$1000.00

Student Supervision

Graduate thesis advisor:

Kathy Hixson (SEMO, Master's of Natural Science, August 2018): *Effects of Lead (Pb) on Songbirds Breeding in the Southeast Missouri Lead Mining District*

- Contributed poster presentation Central Ecology and Evolution Conference, Oklahoma State University
- Contributed oral presentation American Ornithological Society/Canadian Society of Ornithologists Joint Meeting, Lansing, MI

Katie Rittenhouse (SEMO, Master's of Natural Science, December 2017): *Mercury (Hg) exposure in insectivorous songbirds and invertebrates in a wetland community in southeast Missouri*

- Contributed poster presentation Central Ecology and Evolution Conference, Oklahoma State University
- Contributed oral presentation American Ornithological Society/Canadian Society of Ornithologists Joint Meeting, Lansing, MI
- Audubon Society of Missouri Graduate Research Scholarship (2017, \$2000.00)

Undergraduate research (WSU, 2018-present):

Lisa Stoneham and Megan Faulkner (WSU Zoology majors, 2018-2019): *Mercury exposure in gentoo penguin (*Pygoscelis papua*) chicks on sub-Antarctic and Antarctic islands*

- Students learned to use the Direct Mercury Analyzer in my lab and analyzed all penguin feather samples provided to us through a collaboration with graduate student D Schutt at the University of Colorado
- Students analyzed data and prepared a poster for presentation, Utah Conference on Undergraduate Research (UCUR) at WSU, February 2019

Megan Faulkner (WSU Zoology major, 2019-2020): *Bioaccumulation of mercury (Hg) by western spotted orb weaver spiders at Antelope Island State Park.*

- Collection of western spotted orb weaver spiders from multiple locations on Antelope Island in the summer of 2019

- Analyzed all spiders for mercury, conducted basic statistical analysis on data
- Presented findings at WSU OUR Research Symposium, Spring 2020

Lisa Stoneham (WSU Zoology major, 2019-2020): *Examining spatial and temporal variation in mercury (Hg) concentrations in brine flies at Antelope Island*

- Awarded \$1,140 from WSU OUR long-term grant (Spring 2019)
- Collection of brine flies from multiple locations on Antelope Island in the summer of 2019
- Analyzed all flies for mercury, conducted basic statistical analysis on data
- Presented findings at WSU OUR Research Symposium, Spring 2020

Chrisula Stone (Northern Kentucky University, biology/anthropology major, 2020-2022): *A bander's contribution to ecotoxicology: Comparisons of mercury concentrations in feathers and blood of nestling tree swallows demonstrates feathers' suitability as biomonitors*

- I was co-advisor along with Dr. L Walters (NKU) for this project
- I developed field sampling methods and conducted all Hg analysis on tissues, C Stone conducted all field work and sample collection (Summers 2020 and 2021)
- Poster presentations:
 - Northern Kentucky University's Heather Bullen Interdisciplinary Summer Research Celebration (2021 and 2022)
 - Received Hellen Bullen Memorial Award 2022
 - Wilson Ornithological Society Annual Meeting, Santa Fe, NM (2022)

Dillon Flowers (WSU Zoology major, 2020-2021): *Mercury concentrations in Bluegill (*Lepomis macrochirus*) and Largemouth Bass (*Micropterus salmoides*) in local fishing ponds along the Wastach Front.*

- Dillon created this project on his own and presented it to me in Spring 2020.
- He wrote an OUR short-term research grant to support the project (awarded \$461.00)
- Field collection of fish in summer 2020
- Spent summer and Fall of 2020 dissecting fish to harvest tissues for mercury analysis; prepared all tissues and analyzed them for mercury concentrations as well as for stable isotope analysis (nitrogen and carbon, through collaboration at Louisiana State university)
- Presented preliminary findings at WSU OUR Research symposium, Spring 2021
- Currently writing a manuscript for publication in a peer-reviewed journal

Megan Faulkner (WSU Zoology major, 2020-2021): *DNA analysis of burrowing owl (*Athene cunicularia*) pellets to determine risk of exposure to mercury*

- In summer 2020, regurgitated dietary pellets from burrowing owls nesting on Antelope Island were collected
- Pellets were dissected and arthropod exoskeletons were removed for DNA amplification to identify the prey remains
- All DNA protocols and analyses were conducted by M Faulkner in collaboration with Dr. John Clark (Zoology department)

Kimberlee Whitmore and Morgan Sanford (WSU Zoology majors, 2020-2022): *Examining spatial variation in mercury concentrations in brine flies and western spotted orb weaver spiders from Antelope Island State Park*

- Field collection of invertebrates in summer 2020 and 2021
- Sample preparation and analysis for mercury concentrations
- Maintenance of sample database
- Poster presentation at WSU OUR symposium, Spring 2022

Kimberlee Whitmore (WSU Zoology major, Spring 2021-present): *Microhabitat conditions in songbird nest boxes*

- Awarded \$1,000 from WSU OUR semester/exploratory research grant
- Spring 2021 established/erected two nest box trails for Black-capped chickadees (WSU campus and North Fork Park, Eden, UT)
- Monitored/checked status of all nest boxes every 4 days throughout summer 2021
- Assisted with banding adults and nestlings from two nests
- Poster presentation at WSU OUR symposium, Spring 2022

Undergraduate research projects (prior to 2018):

Taylor Simmonds (SEMO, BS Biology, 2016-present): Co-advisor, *Mercury concentrations in freshwater turtles in MS and TN*

- Poster presentations at: Association of Southeastern Biologist (2017, 2018)

Madi Herrboldt (SEMO, BS Biology, 2016-2017): Co-advisor, *Mercury concentrations in three freshwater turtle species of West Tennessee*

Zoe Harper (SEMO, BS Environmental Science, 2016-2017): *Effects of lead (Pb) contamination on song structure of songbirds breeding in a Pb contaminated ecosystem*

- Field technician, summer 2016
- Poster presentation at SEMO 25th Annual Student Research Conference (2017)

Caitlin Johnson (SEMO, BS Biology, 2017): *Mercury concentrations in feathers of Sora (Porzana carolina) at migration stop-over sites in Missouri*

- Poster presentation at SEMO 25th Annual Student Research Conference (2017)

Lindsey Probst (SEMO, Biology major, 2016-2017): *Songbird feathers as biomonitors of mercury availability in Central and Southeast Missouri*

- Field technician, summer 2016
- Poster presentation at SEMO 25th Annual Student Research Conference (2017)

Caitlin Weible (SEMO, BS Biology, 2017), Honors project: *Mercury concentrations in Swamp Sparrows over-wintering at Duck Creek Conservation Area, Missouri.*

Joel Alva (UNCG, BS Biology, 2014-2015): *Methylmercury concentrations in forest soils.*

Tessa Pfeifer (UNCW, BS Marine Biology, 2013): Advisor, Undergraduate Directed Independent Study project, *Inter-annual variation in mercury concentrations in Little Penguins (Eudyptula minor) from Phillip Island in Victoria, Australia.*

- Invited presenter for Phillip Island Research Twitter Symposium (R. Brasso, 2016)

Bridget Drummond (UNCW, BS Marine Biology, 2011-2013): Co-advisor, undergraduate Directed Independent Study project, *Unique Pattern of molt leads to low intra-individual variation in feather mercury concentrations in penguins.*

- Undergraduate Research Scholar Award
- Published in *Environmental Toxicology and Chemistry* (2013; see above)

Jennifer Lang (UNCW, BS Marine Biology, 2011): Co-advisor, undergraduate departmental honors

project, *Total mercury in major prey species (Pleuragramma antarcticum, Euphausia superba, and E. crystallorophias) within the Antarctic marine food web.*

- Published in *Marine Ecology Progress Series* (2014; see above)

Marwa Abdel Latif (Randolph College, BS Biology/Chemistry, 2008-2009): Randolph College Summer Research Program, *Intraclutch comparison of mercury allocation into tree swallow eggs.*

- Published in *Environmental Toxicology and Chemistry* (2010, see above)

Adrian Monroe (College of William and Mary, BS Biology, 2006): Co-advisor, *Effects of mercury contamination on the nest building behaviors of tree swallows.*

Additional student advising/supervisory roles:

- 2019-present Faculty liaison, WSU chapter of The Wildlife Society: work with student chapter to manage activities and finances.
- 2018-present: Graduate school advisor: Advisor for Zoology majors planning to attend graduate school. Duties include individual advising upon request and co-leading seminars for majors per academic year. Created/manage content for Canvas sandbox course "Grad School Info for Zoology Majors" to provide links and information for majors interested in graduate school
- 2018-present Major advising: Animal care, Marine biology, Wildlife, Ecology, and Conservation: Advising for Zoology majors interested in pursuing these career fields; meet with students individually upon request.
- 2015-2018 Undergraduate academic advising, Biology majors (wildlife biology concentration), SEMO.
- 2014-2015 Training and supervision of graduate and undergraduate students using CVAA for Hg analysis, solution making in biogeochemistry clean lab. Mentored graduate and undergraduate students in research development, data presentation. Biology Department, UNCG.
- 2011-2014 Training and supervision of students on the Direct Mercury Analyzer for the Departments of Biology and Marine Biology and Chemistry and Biochemistry, UNCW.
- 2007-2009 Undergraduate academic advising, first-year student advisor, Randolph College.

Conference Presentations (only 1st author, presenter listed)

- 2019 Are wetlands hotspots for bioaccumulation of mercury (Hg) for songbirds? Contributed oral presentation. American Ornithological Society annual meeting, Anchorage, AK.
- 2019 *EcoPhoto, a student-driven class project.* Rebecka Brasso. Contributed oral presentation. WSU Teaching and Learning Forum, Faculty Symposium, Weber State University.

- 2017 Influence of foraging strategy on mercury exposure in sympatrically breeding *Pygoscelis* penguins. Invited oral presentation, 13th International Conference on Mercury as a Global Pollutant, Providence, RI.
- 2017 Freshwater turtles as biomonitors of Hg availability in aquatic ecosystems of western TN. Contributed poster presentation (co-authored with undergraduate research students); 13th International Conference on Mercury as a Global Pollutant, Providence, RI.
- 2013 *Pygoscelis* penguins as biomonitors of annual trends of mercury availability in the Antarctic Peninsula (2004/2005-2011/2012). Contributed oral presentation, American Ornithologists' Union conference, Chicago, IL.
- 2013 Investigating the influence of diet and foraging habitat on mercury concentrations in Adélie penguins in two geographically distinct Antarctic marine food webs. Contributed oral presentation, Wilson Ornithological Society meeting. Williamsburg, VA.
- 2012 Penguin feathers as a predictive tool for assessing Hg exposure in marine food webs in the Southern Hemisphere. Contributed oral presentation, North American Ornithological Conference, Vancouver, Canada.
- 2011 *Pygoscelis* penguins as biomonitors of regional trends of mercury in the Antarctic Peninsula. Contributed oral presentation, 10th International Conference on Mercury as a Global Pollutant, Nova Scotia, Canada.
- 2010 Inter-tissue comparison of mercury concentrations in individual components of penguin eggs. Contributed poster presentation, 7th International Penguin Conference, Boston, MA.
- 2008 Intraclutch comparison of mercury allocation into tree swallow eggs. Contributed poster presentation, American Ornithologists' Union Annual Meeting, Portland, OR
- 2006 Effects of mercury on the nesting success and return rate of tree swallows (*Tachycineta bicolor*). Contributed presentation. North American Ornithological Conference. Veracruz, Mexico.
- 2006 Reproductive success of insectivorous birds in a watershed contaminated with mercury. Contributed poster presentation. 8th Annual International Conference on Mercury as a Global Pollutant. Madison, WI.

Invited talks

- 2021 Bioaccumulation of mercury (Hg) in the Great Salt Lake food web. Department of Biology seminar series, Utah State University.
- 2021 Stable isotopes and mercury concentration as ecological niche proxies in the Southern Rockhopper Penguin. N Lois and R Brasso. Association of Field Ornithologists, AFO Cafe virtual event.
- 2021 Monitoring mercury in the Great Salt Lake food web, 5-slide seminar panelist, WSU Department of Zoology Faculty seminar, Weber State University.

- 2018 Monitoring lead (Pb) exposure in songbirds in the southeast Missouri Pb mining district. Department of Zoology seminar series, Weber State University.
- 2018 Songbirds as biomonitors of legacy Pb contamination in southeast Missouri. Shades of Green Sustainability seminar series, Weber State University.
- 2018 Birds as biomonitors of environmental pollutants: from passerines to penguins...and back. Departmental seminar. Truman State University, Kirksville, MO.
- 2018 Birds as biomonitors of environmental pollutants: from passerines to penguins...and back. Departmental seminar. SUNY Oswego, Oswego, NY.
- 2018 Birds as biomonitors of environmental pollutants: from passerines to penguins...and back. Departmental seminar. Monmouth University, Long Beach, NJ.
- 2017 Influence of foraging strategy on mercury exposure in sympatrically breeding *Pygoscelis* penguins. Departmental seminar. Department of Oceanography and Coastal Sciences Louisiana State University, Baton Rouge, LA
- 2016 Influence of foraging strategy on mercury exposure in sympatrically breeding *Pygoscelis* penguins. Departmental seminar. Biology Department, University of Arkansas, Fayetteville, AR.
- 2015 Penguins as biomonitors of mercury availability in Southern Hemisphere marine food webs. Research seminar. Becton-Dickinson Diagnostic Systems, Glencoe, MD.
- 2015 Trophic calculations reveal the mechanism of population-level variation in mercury exposure within and among marine ecosystems. Wake Forest EcoLunch Seminar, Wake Forest University, Winston-Salem, NC.
- 2015 Penguins as biomonitors of mercury availability in Southern Hemisphere Marine food webs. Biology Department Seminar, The College of William and Mary, Williamsburg, VA.
- 2014 Birds as biomonitors of environmental mercury: Case studies using songbirds and seabirds. Departmental Seminar, University of North Carolina Greensboro, Greensboro, NC.
- 2012 Penguins as monitors of mercury in marine food webs. Philanthropic Educational Organization, Wilmington, NC.
- 2008 The effects of mercury contamination on the nesting success of an insectivorous songbird. Sigma Xi, Lynchburg, VA chapter.
- 2007 The effects of mercury on tree swallow reproduction and survival. The Williamsburg Bird Club. Williamsburg, VA.

Academic, community and scientific service/outreach

Press attention:

- [Research on mercury in the Great Salt Lake highlighted by WSU \(Links to an external site.\)](#) (August 2021)
- [Interviewed by ABC 4 News about Great Salt Lake research \(Links to an external site.\)](#), aired November 8, 2021
- Interviewed by St Louis Public Radio: St. Louis Public Radio story on lead poisoning in wildlife. <https://news.stlpublicradio.org/post/state-officials-ban-lead-shot-conservation-areas-reduce-wildlife-poisoning#stream/0> (Links to an external site.) (April 2019)

Reviewer: *Archives of Environmental Toxicology and Chemistry, Canadian Journal of Zoology, Chemosphere, Condor, Ecological Indicators, Ecotoxicology, Emu, Environmental Monitoring and Assessment, Environmental Pollution, Environmental Science and Technology, Environmental Toxicology and Chemistry, Marine Pollution Bulletin, Northeastern Naturalist (Guest editor), PLoS ONE, Polar Biology, Science of the Total Environment, Scientific Reports*

Master bander: Federal bird banding permit holder (permitted for banding, blood and feather sampling of songbirds)

Academic service (committee work):

2019-present	Faculty senator, College of Science
2019-2022	University committee: APAFT, College committees: Environmental Science BS Task Force, Peer-review committee (3 rd year review C Frantz 2019, tenure peer review B Hilbig 2021)
2016-2018	Department committees (SEMO): Chair, graduate committee; Cell biologist search committee member; Biology education search committee member; College committee: College Scholarship committee; University committee: University Commencement committee. Faculty co-sponsor for The Wildlife Society.
2015-2016	Department committees (SEMO): Library and Graduate committees, College committee: College Scholarship committee, University committee: University Commencement committee. Faculty co-sponsor for The Wildlife Society.
2013-2014	Vice President Biology Graduate Student Association; Instructor for university Responsible Conduct of Research training seminars
2011-2013	PhD representative, UNCW Dept of Biology and Marine Biology Graduate Advisory Committee (2 year position); Instructor for university Responsible Conduct of Research training seminars; Panel member representing undergraduate research opportunities at UNCW during prospective parent/student visitation and orientation programs\

Scientific/Community outreach and service:

- 2021 *Demystifying graduate school* (Hosted departmental event). Zoology majors invited to join to watch a live Zoom event (panel discussion) hosted by the Association of Field Ornithologists followed by group Q&A in the classroom.
- 2020-present Council member, Association of Field Ornithologists. Primary role as member of Communications Committee; additional roles as member of Bergstrom Awards committee and Chair of Student Travel Awards committee. Co-host/organizer of monthly "AFO Science Cafes", virtual seminars delivered to the public via Zoom.
- 2020-2021 North American Ornithological Conference, Marketing and Communications Committee: responsible for the marketing and promotion of NAOC2020 to the global ornithological community via the collective reach of NAOC partner societies' social media channels (including managing/content creation on 3 social media platforms), member newsletters, websites, etc. Virtual meeting August 10-15, 2021.
- 2020 Northeastern Natural History Conference, virtual conference planning committee: Roles on Communications committee, Volunteer coordination committee, and ran Bonfire campaign for conference gear. Virtual meeting April 15-18, 2021
- 2019 Physics Open House, Ask a Scientist booth participant (Fall 2019)
- 2019-present Speakers I have invited/hosted at WSU: Dr. Clark Rushing (USU, October 2019), Dr. Gaelle Batot (Epilepsy Therapy Screening Program, November 2019), Allyson Bangerter and Dylan Schmidt (WSU Zoology undergraduate students, "Alternative spring breaks—experiences in zoology", November 2019), Brian Switek, author of "Skeleton Keys--The Secret Life of Bone" presentation by Brian Switek followed by Q&A and book signing(March 28, 2019).
- 2019-present K-12 school student mentoring/outreach:
- External expert for AP Research project for high school student Amy Tekverk (Saint Joseph Catholic High School, Ogden, UT). Project title: Plastic Removal Techniques-A Review of the Opportunities for the Removal of Plastics in Oceans and Rivers. In my role as a mentor on this project I met with Amy to discuss project/research ideas and have assisted her with finding and interpreting primary literature for her report. I provided feedback on her final paper and presentation.
 - Assisted middle and high school students with class projects by being interviewed via email. Each student has asked 5-10 questions about my career path and/or opinions on environmental issues, responses take on average 1 hour each: Maureen Bosak (High school environmental science course, Central Bucks School District, PA), Caleb McKenna (Gifted and

Talented Research program, Harper's Choice Middle School, Howard County, MD)

- Invited students from Fremont High School (led in collaboration with science teacher Ben Watkins) to assist with establishing a nest box trail at Swanson's North Fork Environmental Center (collaboration with Dave Jenkins) in April 2021. Together with one of my WSU undergraduate research students, Fremont High School students placed nest boxes for chickadees around the Swanson Environmental Center (North Fork Park, Eden, UT). After field work, I led a discussion on majoring in biology/zoology and answered questions about the college experience.

- 2018-present *Preparing for graduate school*. Annual departmental seminar. Co-hosted with Dr. Elizabeth Sandquist. Department of Zoology, WSU Undergraduate zoology majors.
- 2016-2018 Invited speaker, Hawn State Park (Halloween themed bird talk); Bird leader for 1st Annual BioBlitz community program at Missouri Dept of Conservation (MDC) Cape Nature Center; Invited speaker, MDC Cape Nature Center "Bird Conservation"; Created Twitter page (@SEMObiology) for Dept of Biology, SEMO for science communication
- 2015-2016 Hosted community event showing "The Messenger" documentary followed by a panel discussion in collaboration with MDC Cape Nature Center; invited panelist for SEMO's Green STEM Girl's Summer Academy
- 2013-2014 Qualified Scientist for high school International Science and Engineering Fair (ISEF) project: *Investigating variation in sediment mercury concentrations with salt marsh zonation in coastal North Carolina*; Career day speaker, Williams Township School, Whiteville, NC
- 2011-2012 Interactive blogging with Special Education students at Troy High School, Troy, Kansas during Antarctic deployment 2011/2012 (teaching students about penguins, Antarctica, links to resources, and question and answer sessions before, during, and after the trip); Exhibitor in NC Science Festival/UNCW STEM Expo
- 2010-2013 Presenter aboard the *National Geographic Explorer* (Lindblad Expeditions) and *Akademik Ioffe* (One Ocean Expeditions) tour vessels during Antarctic voyages
- 2009-2011 In-class and online participation in "Penguins Past and Present" curriculum program with 4th grade students from Gregory Elementary School, Wilmington, NC including maintenance of an interactive blog during Antarctic deployment; Science Fair judge, Isaac Bear Early College High School, Wilmington, NC.
- 2007-2009 Assistant coach of a girl's travel soccer team (ages 11-14), Lynchburg United Soccer

Awards and Academic Honors

- 2013 Honorable Mention, Ford Foundation Fellowship Program (Dissertation Competition)
- 2010 Runner-up, North Carolina Association of Environmental Professionals Scholarship program
- 2009 Graduate member of Beta Beta Beta Biological Honor Society (Nu Theta Chapter, Randolph College); Full member, Sigma Xi
- 2005 Teaching Assistantship Excellence in Teaching Award (The College of William and Mary)