

Shane M Hanlon, Ph.D.

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Positions

**indicates term-limited fellowship*

American Geophysical Union

Senior Specialist, Sharing Science Program 2017-Present

Specialist, Sharing Science Program 2015-2016

Acting Manager, Sharing Science Program Nov. 2015 – Feb. 2016

- Engages with scientists in academia, private sector, and the government to promote clear and concise communication of complex scientific principles to a wide variety of audiences.
- Serves as a science communicator and policy liaison to government, NGO, stakeholder, and community officials.
- Manages special projects, e.g. [@AGU_SciComm](#) Twitter account, [The Plainspoken Scientist](#) blog, collaborations with partner societies, Reddit *Ask Me Anything* sessions.

The Story Collider

Washington DC Producer & Host 2015-Present

- Coaches scientists & non-scientists to tell true, personal stories of science live on stage.

Friends of the National Zoo

Snore & Roar Host (Outreach Specialist) 2014-Present

- Facilitates overnight learning sessions that connect zoo curators and researchers with the public.

National Academy of Sciences*

Christine Mirzayan Science and Technology Policy Fellowship

Educational Outreach Specialist 2015

- Created interactive exhibits to promote student and community involvement in science.
- Acted as a STEM outreach specialist for individuals and groups who visited the museum.
- Designed and implemented programs to enhance science education to groups underrepresented in the sciences.
- Coordinated a community outreach event with the science story-telling non-profit Story Collider.
- Collaborated with government and non-governmental agencies to provide educational content for the museum.

United States Fish and Wildlife Service

Branch of Consultations and Habitat Conservation Plans

Biologist 2015

- Developed policies and guidance to facilitate implementation of the Endangered Species Act (ESA), with specific attention paid to Section 7 consultations.
- Consulted with government agencies to develop national-level pesticide consultations in accordance with the ESA.

United States Fish and Wildlife Service*

Sea Grant Knauss Postdoctoral Fellowship

Congressional and Legislative Affairs Fellow 2014

- Served as a liaison for the Service with the office of Members and Committees of Congress.
- Advised the Service's senior leadership regarding pending legislation.
- Served on the Department of Interior's (DOI) Senior Ocean Policy Team.
- Initiated, drafted, reviewed, and facilitated clearance of policy positions on testimony and reports on many and varied legislative issues referred to the Service by the DOI's Legislative Council.

- Portfolio areas included climate change, oceans, coastal barriers, fisheries and aquatic conservation, endangered species, contaminants, and wildlife diseases.
- University of Memphis
 Graduate Teaching Assistant 2009-2013
- Crafted curriculum for and taught biology classes to undergraduate students.

Teaching Experience

Instructor of Record

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|---|-----------------------------|
| Environmental Sustainability University of Maryland University College | 2016-present |
| Disease Ecology, University of Pittsburgh Pymatuning Laboratory of Ecology | 2015-present (every summer) |
| Herpetology, University of Memphis | 2013 |
| Anatomy & Physiology Lecture and Laboratory University of Memphis | 2011-2013 |

Guest Lecturer

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| Ecology Census Techniques, Christian Brothers University | 2013 |
| Evolution, University of Memphis | 2012, 2013 |

Teaching Assistant

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| Graduate, Anatomy & Physiology Laboratory University of Memphis | 2009-2013 |
| Undergraduate, Freshmen Studies University of Pittsburgh | 2007-2008 |

Workshops & Webinars Conducted

Science Communication & Policy Workshops

2017

Sciencing & Storytelling (AAAS Leshner Leadership Fellowship, Washington DC)

2016

- A Taste of Science Communication (AAAS Annual Meeting, Washington DC)
- AGU Congressional Visits Day Workshop (AGU Congressional Visits Day, Washington DC)
- Communicating Science with Any Audiences (AGU Annual Meeting, San Francisco CA)
- The Next Frontier: Science Communication and Outreach Workshop for Established Scientists (AGU Annual Meeting, San Francisco CA)
- Share Science in Your Community (Ocean Sciences Meeting, New Orleans LA)
- Sharing Science from Public to Policy (Colorado State University, Ft. Collins CO)
- Sharing Science with Any Audience (American Geophysical Union, Washington DC; Sea Grant Knauss Marine Policy Fellowship, Washington DC; Scripps Institution of Oceanography, La Jolla CA; Texas A&M University, College Station TX)
- Talking Science from Public to Policy (Massachusetts Institute of Technology, Boston MA)

Science Communication & Policy Webinars

2017

- AGU Congressional Visits Day (American Geophysical Union, Washington DC)
- Marching for Science...and Beyond! (American Geophysical Union, Washington DC)
- Science Communication 101 in Support of Your Program (American Geophysical Union & American Geosciences Institute, Washington DC)
- Sciencing & Social Media (American Geophysical Union, Washington DC)
- Sharing Science with the Media (American Geophysical Union, Washington DC)
- What's Your Science Message? (American Geophysical Union, Washington DC)

2016

- How to Prepare for an AGU Press Conference (American Geophysical Union, Washington DC)
- Working with the Media (American Geophysical Union, Washington DC)

Education

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| Ph.D. Biology – University of Memphis | 2013 |
| M.S. Biology – University of Memphis | 2012 |
| B.S. Ecology and Evolution – University of Pittsburgh | 2008 |
| Minors – Chemistry & Music | |

Publications

† indicates undergraduate co-author

Peer reviewed research

2017

Hanlon SM, Henson JR, and Kerby JL. *Accepted*. Detection of amphibian chytrid fungus on waterfowl integument in natural settings. *Diseases of Aquatic Organisms*.

2016

Hanlon SM, Henson JR, Patillio B, Weeks D, Kerby JL, and Moore JE. 2016. No occurrence of Ranaviruses in reptile populations in Wapanocca National Wildlife Refuge in Arkansas. *Herpetological Review* 47(4): 606–607.

Pendergast TH, **Hanlon SM**, Long ZM, Magliocca MR, Royo M, Krayesky DM, and Carson WP. 2016. The legacy of deer overabundance: Long-term delays in wildflower community recovery. *Canadian Journal of Forest Research* 46(3): 362-369.

2015

Holden WM, **Hanlon SM**, Woodhams DC, Chappell TM, Wells HL, Glisson SM, McKenzie VJ, Parris MJ, and Rollins-Smith LA. 2015. Symbiotic skin bacteria defend newly metamorphosed *Rana sphenoccephala* against *Batrachochytrium dendrobatidis*, the fungal pathogen responsible for global amphibian declines. *Biological Conservation* 18(2015): 91-102.

Hanlon SM, Lynch KJ†, Kerby JL, and Parris MJ. 2015. The effects of a fungicide and chytrid fungus on anuran larvae in aquatic mesocosms. *Environmental Science and Pollution Research* 22(17): 12929-12940.

Hanlon SM, Lynch KJ†, Kerby JL, and Parris MJ. 2015. Environmental substrates alter survival and foraging efficiencies in tadpoles. *Herpetological Conservation and Biology* 10(1): 1-8.

Hanlon SM, Lynch KL†, Kerby JL, and Parris MJ. 2015. Effects of *Batrachochytrium dendrobatidis* exposure on foraging efficiencies and body size in anuran tadpoles. *Diseases of Aquatic Organisms* 112(3): 237-242.

Holden WM, Reinert LK, **Hanlon SM**, Parris MJ, and Rollins-Smith LA. 2015. Development of Antimicrobial peptide defenses of southern leopard frogs, *Rana sphenoccephala*, against the pathogenic chytrid fungus, *Batrachochytrium dendrobatidis*. *Developmental and Comparative Immunology* 48(2015):65-75.

2014

Hanlon SM, Smith D†, Kerby J, Parris MJ, and Moore JE. 2014. Detection of *Batrachochytrium dendrobatidis* infection via qPCR at the Edward J. Meeman Biological Field Station, Tennessee. *Herpetological Review* 45(1): 32-34.

Hanlon SM, Smith D†, Kerby J, Berg E†, Peterson W, Parris MJ, and Moore JE. 2014. Occurrence of *Batrachochytrium dendrobatidis* in Wapanocca National Wildlife Refuge, Arkansas, . *Herpetological Review* 45(1): 31-32.

Hanlon SM and Parris MJ. 2014. The interactive effects of chytrid fungus, pesticides, and exposure timing on gray treefrog (*Hyla versicolor*) larvae. *Environmental Toxicology and Chemistry* 33(1): 216-222.

2013

Hanlon SM and Relyea R. 2013. Sublethal effects of pesticides on predator-prey interactions in amphibians. *Copeia* 2013(4): 691-698.

Hanlon SM, Lynch KJ†, and Parris MJ. 2013. Mouthparts of southern leopard frog, *Lithobates sphenoccephalus*, tadpoles not affected by exposure to a formulation of glyphosate. *Bulletin of Environmental Contamination and Toxicology* 91:611-615.

Hanlon SM and Parris MJ. 2013. Previous exposure of predatory fish to a pesticide alters palatability of larval amphibian prey. *Environmental Toxicology and Chemistry* 32(1):2861-2865.

Venesky MD, **Hanlon SM**, Lynch KJ†, Parris MJ, and Rohr JR. 2013. Optimal digestion theory does not predict the effect of pathogens on intestinal plasticity. *Biology Letters* 9:20130038.

2012

Hanlon SM, Kerby J, and Parris M. 2012. Unlikely remedy: Fungicide clears pathogenic fungus in larval southern leopard frogs (*Lithobates sphenoccephalus*). PLoS ONE 7(8): e43573. doi:10.1371/journal.pone.0043573.

Featured in *Conservation Magazine*: [Curious Cure. Pesticide helps frogs fight off fungal infection](#). 22 August, 2012.

Hanlon SM and Parris M. 2012. The impact of pesticides on the pathogen *Batrachochytrium dendrobatidis* independent of potential hosts. Archives of Environmental Contamination and Toxicology 63(1):137-143.

2009

Mouded M, Egea EE, Brown MJ, **Hanlon SM**, Houghton AM, Tsai LW, Ingenito EP, and Shapiro SD. 2009. Epithelial cell apoptosis causes acute lung injury masquerading as emphysema. American Journal of Respiratory Cell and Molecular Biology 41:407-414.

In review

Hanlon SM, Kerby JL, and Parris MJ. Interactions between contaminants and disease alter survival and life history responses in amphibians. Freshwater Science.

In preparation

Hanlon SM, Kerby JL, Parris MJ, and Moore JE. Fungicide alters community and disease dynamics in an aquatic ecosystem.

Moore JE, **Hanlon SM**, Vlautin CT, and Franklin SB. Competitive interactions of *Microstegium vimineum* on two native forest herbs.

Reports

Hanlon SM and Moore JE. Agriculture-Induced Aquatic Contamination and Disease Dynamics in Reptile Populations, 2016: A report for the Southeast Region Inventory & Monitoring Branch. United States Fish and Wildlife Service.

Op-eds & contributions

[How to Write a Plain-Language Abstract](#). 2017. Before the Abstract, 13 June 2017.

[Welcome to SciComm](#). 2017. The Scientist. 9 March 2017.

[#MySciComm: Shane Hanlon](#). 2017. ESA SciComm Section Blog. 8 March 2017.

[Managing my fear of missing out](#). 2016. Science 353(6306):1458.

Popular Science

[Braving the cold to understand what makes squirrels tick](#). 2015. Newswise.

[Frozen frogs: How amphibians survive the harsh Alaskan winters](#). 2014. Newswise.

[Topsin-M®: How one pesticide is changing how we look at amphibian toxicology](#). 2013. FrogLog 106, 37-38.

[Birdseed, cowbirds, and disease: The unintended consequences of bird feeding](#). 2013. SICB Science News.

Grants and Fellowships

2014-2015

United States Fish and Wildlife Service, Southeast Region Inventory and Monitoring Network
Grant: \$16,299

2014

Society for Integrative and Comparative Biology, Grant-in-Aid of Research: \$1,000

2013

American Society of Ichthyologists and Herpetologists, Gaige Grant: \$500

Society of Environmental Toxicology and Chemistry, Student Training Exchange Opportunity:
\$650

University of Memphis, Society Doctoral Fellow*: \$2,500

Society for Freshwater Science, General Endowment Grant: \$1,000

United States Fish and Wildlife Service, Small Projects Grant: \$350

Society for Integrative and Comparative Biology, Student Journalism Internship

2012

Sigma Xi, Grant-in-Aid of Research: \$1,000

University of Memphis Ecological Research Center, Grant-in-Aid of Research: \$500

2010

University of Memphis Ecological Research Center, Grant-in-Aid of Research: \$500

**Provided to a single graduate student per year across the entire University.*

Awards

Research

2013

University of Memphis Department of Biological Sciences: \$300

University of Memphis Graduate Student Research Forum, 1st Place, Applied and Physical Sciences: \$150

Nomination for University of Memphis Morton Dissertation Award

2012

University of Memphis Graduate Student Research Forum, 1st Place, Applied and Physical Sciences: \$150

Nomination for University of Memphis Morton Dissertation Award

2011

University of Memphis Professional Support Award: \$500

2009

University of Memphis tuition waiver and graduate assistantship (2009-2013)

Travel

2014

Society of Integrative and Comparative Biology, Charlotte Magnum Student Support

2013

Society of Integrative and Comparative Biology, Charlotte Magnum Student Support

Society of Environmental Toxicology and Chemistry: \$400

Society of Wetland Scientists: \$100

University of Memphis Department of Biological Sciences, Matching Support (SETAC STEO): \$650

2012

University of Memphis College of Arts and Sciences, Travel Enrichment Award (IRCEB conference, Tempe AZ): \$500

University of Memphis Department of Biological Sciences

5 conferences: cumulative \$2,450

2011-2013

University of Memphis Student Government Association

5 conferences: cumulative \$1,110

2009-2013

Other

Boy Scouts of America: Eagle Scout

2002

Mentorship

Madison Cao, Christian Brothers University

1st place Best Paper Award, Tennessee Academy of Sciences

Collegiate Division, Western Regional Meeting

Kyle Lynch, University of Memphis

NSF MemphiSTEM Recipient

Department of Biological Sciences, Omar E. Smith Ecology Scholarship Recipient

Eron Raines, University of Memphis

NSF S-STEM and MemphiSTEM Recipient

Department of Biological Sciences, Edward T. Browne Scholarship Recipient

Alex Rhodes, University of Memphis

Desire Smith, Christian Brothers University

Directed two experiments published in peer-reviewed journals

Presentations

Invited Oral Presentations

Science Communication

2016

Up-Goer Five: Explaining your research one ten-hundredth at a time (AGU Annual Meeting, San Francisco CA)

2015

Sharing Science: Clear and compelling Communication for Any Audience (American Geophysical Union, San Francisco CA)

Research

2015

Varying effects of agricultural pesticides on host-pathogen interactions and aquatic ecosystems (Le Moyne College, Syracuse NY)

2014

Fungicide alters community and disease dynamics in an aquatic ecosystem (National Oceanic and Atmospheric Administration, Silver Spring MD)

Contributed Oral Presentations

2015

Agriculture-induced aquatic contamination as a predictor for disease dynamics in reptile populations (Society for Integrative and Comparative Biology, West Palm Beach, FL)

2014

Fungicide alters community and disease dynamics in an aquatic ecosystem (Ecological Society of America, Sacramento CA)

Differential contributions of *Batrachochytrium dendrobatidis* exposure and environmental substrate on foraging efficiencies and body condition in anuran tadpoles (Society for Integrative and Comparative Biology, Austin TX)

2013

Fungicide alters community and disease dynamics in an aquatic ecosystem (Society of Wetland Scientists Southwest Chapter, Starkville MS)

Beneficial contaminants? Pesticides reduce amphibian pathogen abundance and ameliorate negative pathogen effects on hosts (Ecological Society of America, Minneapolis MN)

Taking the good with the bad: Varying effects of Roundup® on amphibian health (Society for Integrative and Comparative Biology, San Francisco CA)

2012

For better or worse: The enigmatic effects of a fungicide on host-pathogen interactions and aquatic communities (Integrated Challenges for Environmental Biology, Tempe AZ)

Taking the good with the bad: Varying effects of Roundup® on amphibian health (Tennessee Herpetological Society Meeting, Martin TN)

The pesticide enigma: Varying effects of a fungicide and chytrid fungus on Southern leopard frogs (Ecological Society of America, Portland OR)

2011

Pieces of the puzzle: Testing the interactions between a fungicide and *Batrachochytrium dendrobatidis* (Integrated Challenges for Environmental Biology, Tempe AZ)

Interactive effects of the fungicide thiophanate-methyl and *Batrachochytrium dendrobatidis* in culture and on Southern Leopard Frogs (*Lithobates sphenocephalus*) (Joint Meeting of Ichthyologists and Herpetologists, Minneapolis MN)

Contributed Poster Presentations

2014

Competitive interactions of *Microstegium vimineum* on two native forest herbs (Ecological Society of America, Sacramento CA)*

2013

Previous exposure of predatory fish to a pesticide alters palatability of larval amphibian prey (Society of Environmental Toxicology and Chemistry, Nashville TN)

The mitigation of agricultural pesticides by an amphibian pathogen in aquatic communities
(Wildlife Disease Association Annual International Conference, Knoxville TN)

The mitigation of an amphibian disease by agricultural pesticides in aquatic communities
(University of Memphis Student Research Forum, Memphis TN)

2012

An Unforeseen Turn: Harmful effects of a pesticide and pathogen on amphibian health
(University of Memphis Student Research Forum, Memphis TN)

Sessions Moderated

2015

Make It More Simple: The Up-Goer Five Giving-It-a-Try [aka Challenge] (American
Geophysical Union, San Francisco CA)

Interviews

[“Geophysical scientists take red pencils to Wikipedia.”](#) *Associations Now*, 4 October 2016.

[“AGU’s Sharing Science is helping scientists talk to the rest of us.”](#) *The Guardian*, 8 January 2016

**Contributing Author*

Professional Service

Extramural Panels

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| AAAS Live Panel on Communicating Science | 2017 |
| John A. Knauss Fellowship Career Panel | 2015, 2016 |
| AAAS Mass Media Fellow Selection Panel | 2016, 2017 |
| “Exploring Careers Outside Academia.” Ocean Sciences Meeting | 2016 |
| National Ocean Sciences Bowl Science Policy Expert | 2015, 2016 |
| John A. Knauss Fellowship Selection Panel | 2014 |

Invited Seminars

2013

[Focus on Frogs: The Amphibians-Human Connection](#) (A Naturalist’s Guide to the Mid-South,
Wolf River Conservancy and Memphis Botanic Garden, Memphis TN)

Amphibian Ecotoxicology (University of Memphis, Memphis TN)

The good, the bad, and the ugly of environmental contamination (St. Benedict at Auburndale
High School, Memphis TN)

2012

Roundup® bites: Pesticide alters tadpole mouthparts and development (Christian Brothers
University, Memphis TN)

Anthropogenic pressures on environmental health (St. Benedict at Auburndale High School,
Memphis TN)

Outreach & Engagement

Primary Contributor: [Ecoroulette](#), conservation and science communication blog; [PLE Disease Ecology](#), popular science blog for field course

2017

Co-contributor: [@iamscicomm](#) Twitter account, National Science Bowl Question Reviewer

2016

DOEE DC FrogWatch

Contributor: [@iamscicomm](#) Twitter account, National Science Bowl

Judge: American Geophysical Union Virtual Poster Showcase

2015

Contributor: National Science Bowl, National Ocean Sciences Bowl

Participant: Story Collider at Koshland Science Museum

Judge: American Geophysical Union Virtual Poster Showcase; Environmentors, Science

Policy Expert; Society for Integrative and Comparative Biology, Division of Ecoimmunity and
Disease Ecology Graduate Student Presentations

2014

Judge: NOAA Student Science and Education Symposium; Sigma Xi

Student Research Showcase

2013

Judge: Pleasant View School Science Fair
Session Moderator: Tennessee Academy of Sciences,
Western Regional Meeting, Memphis, TN

2012

ACT Science Preparation Facilitator, Memphis, TN
Guest Speaker for Wolf River Conservation Corps: Memphis, TN
Participation in career day: Raleigh Egypt Middle School, Memphis TN

Appointments

2012-2013

President: University of Memphis Biology Graduate Student Association

2011-2013

Reviewer-in-Chief: University of Memphis Biology Graduate Student Association Manuscript
Editorial Board

Peer-reviewed Journal Reviewer

Animal Conservation, Aquatic Toxicology, Biological Invasions, Chemosphere, Copeia, Diseases of Aquatic Organisms (3), Ecological Applications (2), Ecotoxicology (2), Ecotoxicology and Environmental Safety (2), Environmental Science and Pollution Research (4), Environmental Science and Technology (6), Freshwater Biology (2), Freshwater Biology (2), Functional Ecology, Global Change Biology, Herpetological Conservation and Biology, Herpetological Review, Journal of Herpetology, Journal of Wildlife Management, Microbial Ecology, Proceedings of the Royal Society B

Certifications

Project Management Essentials– Franklin Covey, 2016

Professional Societies

American Association for the Advancement of Science, American Geophysical Union,
Association of Ichthyologists and Herpetologists, Ecological Society of America, Society of
Conservation Biology