

RANDAL A. SINGER

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EDUCATION

- 2019 Ph.D., Interdisciplinary Ecology, The University of Florida/iDigBio, Gainesville, FL
Advisor: Lawrence M. Page
Dissertation: *An Interdisciplinary Approach to Increasing the Sustainability of Biodiversity Collections*: <https://tinyurl.com/4hfj7b4>
- 2013 M.S., Zoology, The University of Florida, Gainesville, FL
Advisor: Lawrence M. Page
Thesis: *A Revision of the genus Acanthocobitis (Peters 1861) with description of a new genus: Paracanthocobitis (Teleostei: Nemacheilidae)*
- 2008 B.S., Ecology, The University of Georgia, Athens, GA
Senior thesis: *Tracing carbon flow in deep-sea whale-fall communities using STELLA*

PROFESSIONAL APPOINTMENTS/EMPLOYMENT

- 2019-Present **Assistant Research Scientist/Collection Manager**
Department of Ecology and Evolutionary Biology
The University of Michigan Museum of Zoology
Division of Fishes, Ann Arbor, MI
- 2015-2019 **PhD Candidate**
iDigBio/The University of Florida
Florida Museum of Natural History, Gainesville, FL
- 2013-2015 **Collections Manager**
University of Alabama Ichthyological Collection
Department of Biological Sciences, Tuscaloosa, AL
- 2010-2013 **MS Student and Assistant Collection Manager**
The University of Florida
Florida Museum of Natural History, Fish Collection
Gainesville, FL
- 2010 **Collections Assistant**
The University of Florida
Florida Museum of Natural History, Ornithology Collection
Gainesville, FL
- 2006-2008 **Collection Technician**
University of Georgia
Georgia Museum of Natural History, Athens, GA

PUBLICATIONS

ORCID: 0000-0003-2440-7625; Google Scholar citations = 105, h-index = 6, i10-index = 5

16. Baskauf SJ, Girón Duque JC, Nielsen M, Cobb NS, **Singer R.A.**, Seltmann KC, Kachian Z, Pérez M, Agosti D, Klompen AML (2023) Implementation Experience Report for Controlled Vocabularies Used with the Audubon Core Terms subjectPart and subjectOrientation. *Biodiversity Information Science and Standards* 7: e94188. <https://doi.org/10.3897/biss.7.94188>
15. Kolmann, M.A., Nagesan, R.S., Andrews, J.V., Borstein, S., Figueroa, R.T., **Singer, R.A.**, Friedman, M. and López-Fernández, H. (2023), DiceCT for Fishes: Recommendations for pairing iodine contrast agents with μ CT to visualize soft tissues in fishes. *Journal of Fish Biology*. <https://doi.org/10.1111/jfb.15320>
14. Brownstein, C. D., Kim, D., Orr, O. D., Hogue, G. M., Tracy, B. H., **Singer, R.A.**, ... & Near, T. J. (2022). Hidden species diversity in an iconic living fossil vertebrate. *Biology Letters*, 18(11), 20220395.
13. Borstein, S. R., Lucanus, O., Gajapersad, K., **Singer, R. A.**, Mol, J., & López-Fernández, H. (2022). Fish Diversity of the Upper Tapanahony River, Suriname. *Miscellaneous Publications Museum of Zoology, University of Michigan*.
12. Chakrabarty, P., Desai, U., Peck, C., **Singer, R.A.**, Allcock, L., Downey, R., Mackenzie, M., Rodriguez, E., Bart, P. (2021). Preliminary Checklist of the Undersea Fauna of the Ross Sea Antarctic Continental Shelf. *Miscellaneous Publications Museum of Zoology, University of Michigan*. <https://tinyurl.com/yk8tbufv>
11. Monfils, A. K., Krimmel, E. R., Bates, J. M., Bauer, J. E., Belitz, M. W., Cahill, B. C.,... **Singer, R.A.** & Zaspel, J. M. (2020). Regional collections are an essential component of biodiversity research infrastructure. *BioScience*, 70(12), 1045-1047. <https://tinyurl.com/umuk543n>
10. **Singer, R. A.**, Moore, J. A., & Stanley, E. L. (2020). RETRACTED ARTICLE: Novel life history strategy in a deep sea fish challenges assumptions about reproduction in extreme environments. *Scientific reports*, 10(1), 1-7. *Article retracted: eggs misidentified as crab eggs, but rest of data supported*. <https://www.nature.com/articles/s41598-020-60534-0>
9. **Singer, R. A.**, Ellis, S., & Page, L. M. (2020). Awareness and use of biodiversity collections by fish biologists. *Journal of fish biology*, 96(2), 297-306. <https://tinyurl.com/22frrhjw>
8. **Singer, R. A.**, Love, K. J., & Page, L. M. (2018). A survey of digitized data from US fish collections in the iDigBio data aggregator. *PloS one*, 13(12), e0207636. <https://tinyurl.com/5ym59wxw>
7. **Singer, R.A.**, Love, K., & Page, L. (2018). FishfindR. net: A New Tool for Fish Biodiversity Collections Communication. *Biodiversity Information Science and Standards*. <https://tinyurl.com/27rf2dd2>
6. **Singer, R.A.**, L.M. Page, J.M. Pfeiffer. A Revision of the *Paracanthocobitis zonalternans* (Nemacheilidae) Species Complex, With Descriptions of Three New Species. *Zootaxa*, 4324(1), 85-107. (10.11646/zootaxa.4324.1.5). <https://tinyurl.com/krpm2a4n>
5. Quattrini, A. M., Demopoulos, A. W., **Singer, R.A.**, Roa-Varon, A., & Chaytor, J. D. Demersal fish assemblages on seamounts and other rugged features in the Greater-Lesser Antilles transition zone. *Deep Sea Research Part I: Oceanographic Research Papers*, 123 (2017), 90-104 <https://tinyurl.com/pzfadesc>

4. **Singer, R.A.**, L.M. Page. A revision of the Zipper Loaches, *Acanthocobitis* and *Paracanthocobitis* (Teleostei: Nemacheilidae), with description of five new species. *Copeia* (2015) 103(2).
3. **Singer, R.A.** Are Dehydrated Specimens a Lost Cause?: A Case-Study to Reclaim Dehydrated Fluid Preserved Specimens. *SPNHC Collection Forum* 28 (2014): 16-22.
2. **Singer, R.A.**, L.M. Page. Redescription of *Schistura myrmekia* (Fowler 1935) (Teleostei:Nemacheilidae). *Zootaxa* 3586 (2012): 347-352.
1. Page, L.M., Beamish F.W.H., Plongsesthee R. , Kangrang P., **Singer R.A.** , Randall Z.S., and Martin Z.P. *Schistura* (Teleostei: Nemacheilidae) in the Mae Khlong basin in southwestern Thailand with description of a new species. *Zootaxa* 3586 (2012): 319-328.

GRANTS AND CONTRIBUTIONS TO FUNDRAISING

- 2023 Review Panelist - NSF Infrastructure Capacity for Biological Research (Capacity) - NSF21-501 - <https://beta.nsf.gov/funding/opportunities/infrastructure-capacity-biological-research>
- 2023 Supervisor - iDigBio Summer Internship Program - Funding awarded to host 2 interns for 8 weeks of paid support to work and be trained in collections work - \$6,780
- 2020 Co-PI - CHANGES: Collections, Heterogeneous data, and Next Generation Ecological Studies. University of Michigan Institute for Data Science (MIDAS), Propelling Original Data Science (PODS) grant - \$90,000 <https://tinyurl.com/5uafa28z>
- 2020+ Organizer - Giving Blue Day Fundraising Campaign for the University of Michigan. Created a promotional video, social media materials and contributed to a web page about the museums to generate donations to the EEB museums research fund - \$10,000+ <https://www.youtube.com/watch?v=Ndg-KMKprkU>
- 2017 Digitization TCN: Collaborative Research: oVert: Open Exploration of Vertebrate Diversity in 3D. Graduate student contributor (could not be co-PI due to starting my PhD, but was heavily involved in the planning and writing process). https://www.nsf.gov/awardsearch/showAward?AWD_ID=1701714
- 2015 Co-PI. - CSBR Ownership Transfer: Saving an ecologically data-rich collection: adding the Geological Survey of Alabama Fish Collection to The University of Alabama Ichthyological Collection - \$272,239.00. https://www.nsf.gov/awardsearch/showAward?AWD_ID=1458223

TEACHING/MENTORING

- 2022-Present. Honors Chemistry Student -Instructor - Natalie Crowe - *Using Formalin Alternatives to Preserve Biodiversity Specimens for Sustained Uses in Research*
2022. Supervisor - iDigBio Summer Interns - Marissa Italiano and Heather Bricker
- 2019-Present. Guest lecturer for: Ecology of Fishes (EEB 486), Biology of Reptiles and Amphibians (EEB 450), Animal Diversity (BIO 288) and Intro Biology (BIO173)
- 2019-Present. Undergraduate Research Opportunities (UROP): Veronica Ling

- 2019-Present. Undergraduates mentored: Seeta Goyal, Elise Grabda, Anna Zhao, Katherine Barlow, Natalie Crowe, Aneesa Berner, Sneha Sunder, Mikel Vaughan-Coston
- 2019-Present. Graduate Students mentored: Elise Grabda (MS), David Rose (MS)
- 2020-Present. PhD Committee - James Andrews (Matt Friedman, Advisor)
- 2019-Present. Graduate Student Collection Assistant Supervisor – Jacqueline Popma (PhD), Hector Figueroa (PhD), Hayley Crowell (PhD), John David Curlis (PhD), Patricia Torres-Pineda (PhD)
2018. Co-Instructor - Ichthyology Immersion Course (UF - PCB 4460)
- 2015-present. Collection tours, summer camp talks, class visits on a frequent basis teaching children and lifelong learners about ichthyology, natural history, collections and evolution.
2014. University of Florida – Broader Impacts in Science – “Extreme Minnows Exhibit: How to be Creative with Broader Impacts” (Guest lecture)
2014. Assisted Dr. Phillip Harris with labs, field trips, lectures, and collection assignments for the Biology of Fishes course at the University of Alabama.
- 2013-2015. University of Alabama supervised and mentored two undergraduate research students Evans Delchamp, Andrew Dauphin, and Yashika Hamilton.
2012. University of Florida - Vertebrates in Lotic Systems – Collecting Fishes in Southeast Asian Lotic Systems (Guest lecture)
- 2011- 2013. David Boyd and Karen Aldridge – Collection techniques and fish identification (Mentor)

PROFESSIONAL SOCIETY ACTIVITY/PARTICIPATION

Workshops/Panels Organized

2022. PANELIST - ASIH Workshop on teaching ichthyology and herpetology
2021. PANELIST - Natural History Education Demo Camp
<https://www.idigbio.org/content/first-ever-natural-history-education-democamp>
2021. SPNHC Annual Conference Planning and Organization – Virtual
2020. ORGANIZER – Michigan State and Federal Agency Invasive Fishes Workshop – Virtual
2019. ESA Life Discovery Conference Gainesville, FL: Uses for the iDigBio Data Aggregation Portal in K-12 and Undergraduate Education.
2019. ORGANIZER – Michigan State and Federal Agency Invasive Fishes Workshop – University of Michigan Museum of Zoology
2017. ORGANIZER – Serri Graslie: How to Design a Great Storytelling Project: Insights from NPR Training, Recording:
https://idigbio.adobeconnect.com/_a1130716096/p9j6teh0fff/?proto=true
2016. ORGANIZER – Emily Graslie: Education and Outreach Webinar Series: The BrainScoop: Insight into Using Videos as Engaging Outreach Tools; Recording:
https://idigbio.adobeconnect.com/_a1130716096/p51jogv0rve/?proto=true
2016. ORGANIZER- iDigBio Workshop to Develop Best Practices Wiki for Fishes and Herps. New Orleans, LA
2016. PRESENTER - iDigBio Education and Outreach Webinar Series - Social Media and Telepresence to Engage the Public
2015. PANELIST - Social Media and Sustainability Conference. Levin School of Law, The University of Florida, Gainesville, FL
2015. BCON Collections Communications Workshop. Field Museum, Chicago, IL

- 2015 iDigBio Vertebrate Digitization Workshop Ithaca, NY – workshop session “Innovative Methods for Outreach using Museum Specimens”
- 2015 PANELIST - UF CAIRES Sustainability and Social Media Conference Gainesville, FL – “Digitizing Nature”

Oral Presentations

- 2022. ASIH/JMIH Annual Meeting, Spokane, WA – PRESENTER “The Importance of Community Building Around the Use of Natural History Collections in Education”
- 2022. ASIH/JMIH Annual Meeting, Spokane, WA – CONTRIBUTING AUTHOR - Coupling historical survey data and museum specimens to understand changing ecological patterns.
- 2021. SPNHC Annual Meeting Virtual – " Ch-ch-ch-ch-CHANGES: Turn and Face the Strange, Amounts of Ecological Data Hidden in Natural Resource Surveys"
- 2020. SPNHC Annual Meeting Virtual –“What Does the Perfect Database for Collections Management Look Like?" https://youtu.be/vlrY_c6ZVvo?t=4776
- 2019. ESA Life Discovery Conference Gainesville, FL – Keynote: "How Mentorship and Guidance from Teachers Influenced My Decision to be a Scientist."
<https://tinyurl.com/5w6vpwyb>
- 2018. SPNHC Annual Meeting, Dunedin, NZ – "FishfindR.net: A New Tool for Fish Biodiversity Collections Communication."
- 2018. ASIH/JMIH Annual Meeting, Rochester, NY – “Fishy Feud: What the Survey Says About How Fish Biologists Interact with Biological Collections”
<https://www.youtube.com/watch?v=Imun8931Jo4>
- 2018. Digital Data in Biodiversity Research Conference, Berkeley, CA – “Where do we go from here? The future of collections use, attribution and communications in a digital age through the lens of a data aggregator.”
- 2017. ASIH/JMIH Annual Meeting Austin, TX – “Finding Dories: Variation in *Parazen pacificus* (Zeiformes: Parazenidae: Parazen) with the discovery of an undocumented reproductive strategy in a deep sea fish”
- 2017. SPNHC Annual Meeting Denver, CO – “Fantastic Fishes and Where to Find Them: A Dynamic Inventory of United States Fish Collections” (oral presentation); Recording: <https://vimeo.com/223347095>
- 2016. ASIH/JMIH Annual Meeting New Orleans, LA – “Jar Wars, The Data Source Awakens: New Ichthyological Frontiers in Specimen-based Research, Outreach and Education”
- 2016. ASIH/JMIH Annual Meeting New Orleans, LA – “Bridging a Deep Gap: First Records of Wide-spread Bathyal and Abyssal Fish Genera from the Central North Pacific Gyre” (contributor)
- 2016. SPNHC Annual Meeting Berlin, Germany – “Small Collections Can Make Big Waves in Education and Outreach”
- 2016. EEEF Annual Meeting Tallahassee, FL – “Using High Definition ROV Video to Explore the Biodiversity of Deep Sea Fish Fauna”
- 2015. ASIH/JMIH Annual Meeting Reno, NV – “Telepresence as an Underutilized, but Powerful Tool for the Modern Taxonomist”
- 2015. SPNHC Annual Meeting Gainesville, FL – “Unlocking the Hidden Potential: Using Museum Collections to Engage Children with Autism”
- 2014. ASIH/JMIH Annual Meeting Chattanooga, TN – Back to the Future – Bringing the UAIC into the Modern Age.

- 2013. ASIH/JMIH Annual Meeting Albuquerque, NM – Does your Flap Hang Low? Is it Bony or a Row? A Taxonomic Revision of the Genus *Acanthocobitis* (Teleostei: Nemacheilidae) with the Recognition of a New Genus *Paracanthocobitis*.
- 2013. Presentation of research on *Acanthocobitis* and specimen rehydration at the Florida Museum of Natural History annual retreat.
- 2013. Asian Freshwater Fishes Conference 2013 at Universiti Brunei Darussalam, Brunei - *Acanthocobitis botia* is not one, but several species.
- 2012. ASIH/JMIH Annual Meeting Vancouver, British Columbia, Canada - Are Dehydrated Fluid-Preserved Specimens A Lost Cause?: A Case-Study to Reclaimed Dehydrated Fluid-Preserved Specimens. Presentation for SPNHC Collections Symposium.
- 2012. All Cypriniformes International Conference in Chiang Mai, Thailand – *Schistura myrmekia*: A Valid Species of Loach from Southeast Thailand.

Poster Presentations

- 2022. JMIH/ASIH Spokane, WA - Morphometric and meristic disparity within the zeiform genus *Parazen* correlated with its geographic distribution
- 2020. Annual Michigan Institute of Data Science (MIDAS) Conference: CHANGES: Collections, Heterogeneous data, and Next Generation Ecological Studies
- 2016. ASIH/JMIH Annual Meeting New Orleans, LA – C. Peck, **R. Singer**, C. Mah, B. Philip, P. Chakrabarty. “Examination of the Ross Ice Sea Shelf Fauna”.
- 2016. ASIH/JMIH Annual Meeting New Orleans, LA – A. Quattrini, A. Roa-Varon, **R. Singer**, J. Chaytor, A. Demopoulos. “Mesophotic and Deep-Sea Demersal Fish Assemblages on Rugged Hardbottoms of the Greater-Lesser Antilles Transition Zone”.

RESEARCH EXPERIENCE/SCIENTIFIC EXPEDITIONS

- 2022. December. Invasive Fish Round Up: Worked in collaboration with Florida State and Federal Agencies to collect invasive fish specimens and data from south Florida. Specimens used in workshops for Michigan DNR, research, education and outreach.
- 2019. November. Invasive Fish Round Up: Worked in collaboration with Florida State and Federal Agencies to collect invasive fish specimens and data from south Florida. Specimens used in workshops for Michigan DNR, research, education and outreach.
- 2016. April-July. Deepwater Exploration of the Marianas: collect critical baseline information of unknown and poorly known areas in and around the Marianas Trench Marine National Monument (MTMNM) and the Commonwealth of the Northern Mariana Islands (CNMI). (shore-based).
- 2015. February-March. Exploring Papahānaumokuākea Marine National Monument: exploration of deep-water habitats in and around Papahānaumokuākea Marine National Monument (PMNM) and will include work on seamounts in the Mid-Pacific Mountains while en route to port in Kwajalein (shore-based).
- 2015. September. NOAA Okeanos Explorer Hohonu Moana: Exploring the Deep Waters off Hawai'i Expedition to the Pacific, Telepresence Scientist. Using high speed internet and voice communication assisted in identification of fishes at localities and recorded video for deep sea fish behavior and localities (shore-based).
- 2015. April. NOAA Okeanos Explorer Oceano Profundo Expedition to the Caribbean, Telepresence Scientist. Using high speed internet and voice communication assisted in identification of fishes at localities and recorded video for deep sea fish behavior and localities (shore-based).

2014. September-October. NOAA Okeanos Explorer Atlantic Seamounts and Canyons Expedition, Telepresence Scientist. Using high speed internet and voice communication assisted in identification of fishes at localities and recorded video for deep sea fish behavior and localities (shore-based).
2013. January. NSF funded collecting expedition to eastern and northeastern Thailand, Laos and Brunei under the All Cypriniformes Species Inventory. Similar to previous expeditions, hundreds of specimens and tissues were cataloged at the Florida Museum of Natural History.
2012. Winter NSF-funded collecting expedition to western and southern peninsular Thailand under the All Cypriniformes Species Inventory. Similar to the 2011 expedition, hundreds of specimens and tissues were cataloged at the Florida Museum of Natural History.
2011. Spring. NSF funded collecting expedition to western Thailand under the All Cypriniformes Species Inventory. Collections were made across western Thailand and hundreds of specimens and tissues were cataloged at the Florida Museum of Natural History.
2009. Summer. NOAA MAR-ECO research cruise to the Mid-Atlantic Ridge under the supervision of Dr. Tracy Sutton of VIMS. On this trip I aided in ship research trawling, sample sorting, organism identification, and research project preparation.

PROFESSIONAL AFFILIATIONS/SERVICE

Service

2022. University of Michigan Road Scholar - Office of Government Relations state tour
- 2020-pres. EEB Faculty and Staff search committees - participation in candidate selection process and hosting candidates
- 2022-pres. UM EEB Social Committee
- 2019-pres. American Society of Ichthyologists and Herpetologists (ASIH) - student talk and poster judge
- 2011-pres. American Society of Ichthyologists and Herpetologists (ASIH) – Collections Committee, Best Practices Subcommittee Co-Chair, Liaison to SPNHC.
- 2019-pres. Specify Collection Management System Technical Advisory Board
- 2020-pres. University of Michigan Museum of Zoology Digital Data Committee, Chair
- 2020-pres. University of Michigan Museum of Zoology Education and Outreach Committee
- 2015-pres. Biological Collections Network (BCoN) – Co-Chair, Communications Working Group
- 2014-2016. American Society of Ichthyologists and Herpetologists (ASIH) – Board of Governors Nominee (Class of 2019 and 2018)
- 2013-pres. The Society for the Preservation of Natural History Collections (SPNHC) – Best Practices Subcommittee Member and Wiki Contributor, Liaison to ASIH, IDEA Committee: <https://tinyurl.com/25sef79a> Wiki: https://spnhc.biowikifarm.net/wiki/Category:Best_Practices
- 2020-2023 The Society for the Preservation of Natural History Collections (SPNHC) – Board Member – Member at Large
- Various. Museum best practices consultation. Assisting various collections around the world with specimen rehydration, collection ethics, and management issues via video conference and email.

Peer Reviews

Collection Forum, Zootaxa, Ichthyology & Herpetology (formerly *Copeia*), *Southeastern Naturalist* and *Journal of Fish Biology* *Catalog of Fishes*: Eschmeyer, W. N. (various editions).
<http://research.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>

MEDIA COVERAGE

- 2021 NPR - Scientific Specimens Are Going Online, But Much Remains Hidden In Storage:
<https://tinyurl.com/ajdzbnzb>
- 2019 OnAir with Ryan Seacrest September 2019: <https://tinyurl.com/nd7m4pe8>
- 2018 Unvarnished on NPR "Trouble in Thailand": <https://tinyurl.com/y4q3gqgx>
- 2017 The Independent Florida Alligator - "UF Ph.D. student uses ground-breaking technology for deep-sea research".
(http://www.alligator.org/news/article_b8660e1a-4be3-11e7-9d79-67fe79552e36.html)
- 2017 UF News – "A new age for deep sea exploration".
(<http://news.ufl.edu/articles/2017/06/a-new-age-for-deep-sea-exploration-.php>)
- 2016 Florida Museum Research News – "iDigBio: Why Digitize (Watch)".
<https://www.floridamuseum.ufl.edu/science/idigbio-why-digitize/>
- 2015 Florida Museum Research News – "A New Age for Exploring the Uncharted Deep Sea".
(<https://www.floridamuseum.ufl.edu/science/a-new-age-for-exploring-the-uncharted-deep-sea/>)
- 2015 NOAA.gov – "The New NOAA Inouye Regional Center Exploration Command Center"
(<http://oceanexplorer.noaa.gov/oceanos/explorations/ex1504/logs/aug19/aug19.html>)

PROFESSIONAL MEETINGS/WORKSHOPS ATTENDED

- 2022. ASIH Joint Meeting of Ichthyologists and Herpetologists. Spokane, WA
- 2022. Digital Data in Biodiversity research Conference Virtual
- 2021. Natural History Education DemoCamp Virtual
- 2021. iDigBio Digital Data Conference Virtual
- 2021. SPNHC Annual Meeting Virtual
- 2020. Bays and Bayous Annual Conference Virtual
- 2020. SPNHC Annual Meeting Virtual
- 2019. ESA Life Discovery Conference, Gainesville, FL
- 2018. SPNHC Annual Meeting, Dunedin, NZ
- 2018. ASIH/JMIH Annual Meeting, Rochester, NY
- 2018. Digital Data in Biodiversity Research Conference, Berkeley, CA
- 2017. ASIH Joint Meeting of Ichthyologists and Herpetologists. Austin, TX
- 2017. SPNHC Annual Meeting. Denver, CO
- 2016. ASIH Joint Meeting of Ichthyologists and Herpetologists. New Orleans, LA
- 2016. SPNHC Annual Meeting. Berlin, Germany
- 2016. EEEF Annual Meeting. Tallahassee, FL
- 2016. iDigBio Workshop Challenges of Digitizing Fluid-Preserved Vertebrates. Champaign, IL
- 2015. ASIH Joint Meeting of Ichthyologists and Herpetologists. Reno, NV
- 2015 SPNHC Annual Meeting. Gainesville, FL
- 2015 iDigBio Vertebrate Digitization Workshop. Ithaca, NY
- 2014. ASIH Joint Meeting of Ichthyologists and Herpetologists. Chattanooga, TN
- 2014. iDigBio Collections in the 21st Century Workshop. Gainesville, FL
- 2014. Specify 6.5 Workshop for Collection Managers. Cookeville, TN

- 2013. Advancing Digitization of Wet Natural History Collections Workshop. Lawrence, Kansas
- 2013. Biodiversity of Asian Freshwater Fishes Conference. Gadong, Brunei.
- 2013. ASIH Joint Meeting of Ichthyologists and Herpetologists. Albuquerque, NM
- 2012. ASIH Joint Meeting of Ichthyologists and Herpetologists. Vancouver, BC
- 2012. All Cypriniformes International Meeting. Chiang Mai, Thailand.
- 2011. ASIH Joint Meeting of Ichthyologists and Herpetologists. Minneapolis, MN

OUTREACH

- Ongoing. Collection tours (virtual and in person), K-12 classroom visits, natural society lectures, public museum exhibit openings/consultation, departmental seminars and outreach events
- 2022. University of Michigan Museum of Natural History (UMMNH) Science Forum film about collections - participation, collections coordination and storyboarding
- 2022. BSB Building permanent exhibit about RMC Collections - assisted in design and contributed content
- 2014-Current. YouTube channel dedicated to museum and ichthyology topics. (25,000+ views as of January 2023):
<https://www.youtube.com/channel/UCmVORwx9IqUdymBkImWJYLA>
- 2014-Current. Co-Moderator of a Facebook group with 1,600 members: "Underwater webcams screenshot sharing" devoted to citizen science. Participants share video clips and screenshots from various livestream ROV projects (e.g. Okeanos and NautilusLive).
https://www.facebook.com/groups/253354671511754/admin_activities/
- 2019. Florida Museum "Fieldwork Fails" Live storytelling event
<https://www.floridamuseum.ufl.edu/events/blog/talking-science-through-laughter-and-tears/>
- 2017. Florida Museum 100th Anniversary Exhibit App. Developed content for virtual app tour of exhibits using location services.
- 2016. "Why Digitize" video for iDigBio. Video content explaining the importance of collections and digitization of museums. (<https://vimeo.com/184552432>)
- 2016. Florida State University STEAM Day. Coordinating outreach and education about natural history collections for k-12 students with emphasis on the intersection between Art, Science and Technology. iDigBio.
- 2015-2017. Telepresence classroom visits to Alabama and Florida high school Biology classes to discuss museum collections and ichthyology.
- April 2014. Visit to Northside High School. Lectured 10th grade students about Marine Biology and presented interesting marine fish adaptations.
- April 2014. American Christian Academy field trip to the UAIC. Lectured and organized hands-on activities with 2nd grade children about "fish and oceans".
- 2013-2015. University of Alabama collaboration with "Arts and Autism" to create activities and programs for exposure therapy and engagement of children with neurodevelopmental disorders.
- 2013-2015. Numerous field trips with Huntsville, AL with Dr. Michael Sandel and local area middle school students to various springs to explain invasive species, ecology, and natural history.
- 2013. Contributed to the University of Alabama "Traveling Fish Show" for community activities and programs.
- 2012-2013. Designed and developed an exhibit titled "Extreme Minnows" housed at the Florida Museum of Natural History, funded by the NSF- All Cypriniformes

- Species Inventory
- 2011-2013. Florida Museum Ichthyology collection tours for visiting researchers, students and visitors as Assistant Collection Manager.
- 2012-2013. Contribution to planning and development of the Florida Museum of Natural History "Extreme Minnows" exhibit.
2012. Florida Museum of natural History – Earth Day – Ichthyology information/education table.
2011. Florida Museum of Natural History – Butterfly Fest – Ichthyology information/education table.
2010. White County High School – Biology/Zoology Classes – Career Profile: Museum Collection Manager and Ichthyologist. (oral presentation)
2009. White County High School – Biology/Zoology Classes – Why am I an Ichthyologist?

PROFESSIONAL MEMBERSHIPS/AFFILIATIONS

- 2015-pres. Biological Collections Network (BCoN)
- 2010-pres. American Society of Ichthyologists and Herpetologists (ASIH)
- 2010-pres. The Society for the Preservation of Natural History Collections (SPNHC)
- 2009-pres. Southeastern Fishes Council (SFC)