

# Suzanne M. Gray, Ph.D.

## *Curriculum Vitae*

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Citizenship: Canadian; US Permanent Resident

## PROFESSIONAL SYNOPSIS

### **Appointments**

2022-current Associate Director, Stone Laboratory – Academic Programming & Research, OSU  
2019-current Associate Professor, School of Environment and Natural Resources, OSU  
2013-2019 Assistant Professor, School of Environment and Natural Resources, OSU  
2015-current Associate Editor, Canadian Journal of Fisheries and Aquatic Sciences

### **Academic Positions**

2012-2013 Research Associate, McGill University  
2010-2012 Visiting Fellow in a Government Lab, Fisheries & Oceans Canada and McGill University  
2009-2010 NSERC Postdoc Fellow, McGill University  
2007-2008 Postdoctoral Researcher, Queen's University

### **Education**

2007 - Ph.D. Behavioural Ecology Simon Fraser University, British Columbia, Canada  
2002 - M.Sc. Zoology University of Guelph, Ontario, Canada  
1999 - B.Sc. Honours Zoology University of Guelph, Ontario, Canada

## HIGHLIGHTS

- 35 peer-reviewed publications
- 2 book chapters
- >\$1.5 million US research funding
- 2 national teaching awards
- 12 graduate students mentored
- 25 graduate student committees
- 35 undergraduate research projects
- H-index: 21, Citations: 1927

## PEER-REVIEWED PUBLICATIONS

(\*graduate and \*\*undergraduate students supervised/mentored)

35. Atkinson\*, T.L., S.M. Gray. 2022. Intra-population variation in male nuptial coloration and diet across anthropogenically altered visual microhabitats in an African cichlid. **Journal of Zoology** 317: 294-304. doi.org/10.1111/jzo.12996

34. Ames\*, E.M., M.R. Gade\*, C.M. Marroquin\*, C.L. Nieman\*, A. Tutterow\*, J. Wright\*, C. Tonra, S.M. Gray. 2020. Striving for population-level conservation: integrating physiology across the biological hierarchy. **Conservation Physiology** 8(1): coaa019. doi.org/10.1093/conphys/coaa019

33. Nieman\*, C.L., J.T. Bruskotter, E.C. Braig IV, S.M. Gray. 2020. You can't just use gold: Elevated turbidity alters successful lure color for recreational Walleye fishing. **Journal of Great Lakes Research** 46: 589-596. doi.org/10.1016/j.jglr.2020.03.002
32. Nieman\*, C.L., Gray, S.M. 2019. Elevated algal and sedimentary turbidity alter prey consumption by emerald shiner (*Notropis atherinoides*). **Ecology of Freshwater Fish** 29: 325– 333. doi.org/10.1111/eff.12517
31. Carlson, A.K., Taylor, W.W., Kinnison, M.T., Sullivan, S.M.P., Weber, M.J., Melstrom, R.T., Venturelli, P.A., Wuellner, M.R., Newman, R.M., Hartman, K.J., Zydlewski, G.B., DeVries, D.D., Gray, S.M., Infante, D.M., Pegg, M.A., Harrell, R.M., Todgham, A.E. 2019. Fisheries administrator perspectives on current and future threats to freshwater fisheries in the United States of America. **Fisheries** 44: 276-287.
30. Nieman\*, C.L., Gray, S.M. 2019. Visual performance impaired by elevated sedimentary and algal turbidity in walleye *Sander vitreus* and emerald shiner *Notropis atherinoides*. **Journal of Fish Biology**. 95: 186-199.
29. Zapata, M.J., Sullivan, S.M.P, and S.M. Gray. 2019. Artificial lighting at night in estuaries – ecological implications from individuals to ecosystems. **Estuaries and Coasts** 42: 309-330. doi: 10.1007/s12237-018-0479-3. *Selected as Editor's Choice*
28. Nieman\*, C., C. McElwain\*\*, A.L. Oppliger\*\*, S.M. Gray. 2018. Visual abilities of a Lake Erie predator and prey both differ under algal and sedimentary turbidity. **Conservation Physiology** 6(1): coy044; doi:10.1093/conphys/coy044.
27. Oldham\*\*, R.C., L.M. Pintor, S.M. Gray. 2018. Behavioral differences within and among populations of an African cichlid found in divergent and extreme environments. **Current Zoology** 1-10. doi: 10.1093/cz/zoy027.
26. Sabol, A.C., J.K. Hellmann, S.M. Gray, I.M. Hamilton. 2017. The role of ultraviolet colouration in intrasexual interactions and individual recognition in a colonial fish. **Animal Behavior** 131: 99-106.
25. Gray, S.M., L.H. McDonnell\*\*, N.E. Mandrak, L.J. Chapman. 2016. Species-specific effects of turbidity on the physiology of imperiled blackline shiners (*Notropis* spp.) in the Laurentian Great Lakes. **Endangered Species Research** 31: 271–277.
24. McNeil\*, G.V., C.N. Friesen\*, S.M. Gray, A. Aldredge\*\*, L.J. Chapman. 2016. Male colour variation in a eurytopic African cichlid: the role of diet and hypoxia. **Biological Journal of the Linnean Society** 118: 551-568.

23. Nyboer\*, E.A., S.M. Gray, L.J. Chapman. 2014. A colourful youth: ontogenetic colour change is habitat specific in the invasive Nile perch. **Hydrobiologia** 738: 221-234.
22. Gray, S.M., F. M. E. Bieber\*\*, L.H. McDonnell\*, L.J. Chapman, and N.E. Mandrak. 2014. Experimental evidence for species-specific response to turbidity in imperilled fishes. **Aquatic Conservation: Marine and Freshwater Ecosystems** 24: 546-560.
21. Pfaender, J., S.M. Gray, I.P. Rick, S. Chapuis, R.K. Hadiaty and F. Herder. 2014. Spectral data reveal unexpected cryptic colour polymorphism in female sailfin silverside fish from ancient Lake Matano. **Hydrobiologia** 739: 155-161.
20. Sabbah, S., N.F. Troje, S.M. Gray, and C.W. Hawryshyn. 2013. High complexity of aquatic irradiance may have driven the evolution of four-dimensional colour vision in shallow-water fish. **Journal of Experimental Biology** 216:1670-1682.
19. Herder, F., U.K. Schliewen, M.F. Geiger, R.K. Hadiaty, S.M. Gray, J.S. McKinnon, R. Walter, and J. Pfaender. 2012. Alien invasion in Wallace's Dreamponds: records of the hybridogenic "flowerhorn" cichlid in Lake Matano, with an annotated checklist of fish species introduced to the Malili Lakes system in Sulawesi. **Aquatic Invasions** 7: 521-535.
18. Gray, S.M., L.J. Chapman, and N.E. Mandrak. 2012. Turbidity reduces hatching success in Threatened Spotted Gar (*Lepisosteus oculatus*). **Environmental Biology of Fishes** 94: 689-694.
17. Gray, S.M., L.H. McDonnell\*, F.G. Cinquemani\*\*, and L.J. Chapman. 2012. As clear as mud: turbidity induces behavioral changes in the African cichlid *Pseudocrenilabrus multicolor*. **Current Zoology** 58: 146-157.
16. Sabbah, S., S.M. Gray, and C.W. Hawryshyn. 2012. Radiance fluctuations induced by surface waves can enhance the appearance of underwater objects. **Limnology and Oceanography** 57: 1025-1041.
15. Gray, S.M., S. Sabbah, and C.W. Hawryshyn. 2011. Experimentally increased turbidity causes behavioural shifts in Lake Malawi cichlids. **Ecology of Freshwater Fish** 20: 529-536.
14. Crispo, E., J.-S. Moore, J.A. Lee-Yaw, **S.M. Gray**, and B.C Haller. 2011. Broken barriers: Human-induced changes to gene flow and introgression in animals. **BioEssays** 33: 508-518.
13. Gray, S.M., F.L. Hart\*\*, M.E.M. Tremblay\*\*, T.J. Lisney, and C.W. Hawryshyn. 2011. The effects of handling time, ambient light and anaesthetic method on the standardized measurement of fish colouration. **Canadian Journal of Fisheries and Aquatic Sciences** 68: 330-342.

12. Sabbah, S., S.M. Gray, E.S. Boss, J.M. Fraser, R. Zatha, and C.W. Hawryshyn. 2011. The underwater photic environment of Cape Maclear, Lake Malawi: Comparison between rock- and sand-bottom habitats and implications for cichlid fish vision. **Journal of Experimental Biology** 214: 487-500.
11. Watson, C.T., S.M. Gray, M. Hoffmann, K.P. Lubieniecki, J.B. Joy, B.S. Sandkam, D. Weigel, E.R. Loew, C. Dreyer, W.S. Davidson, and F. Breden. 2011. Gene duplication and divergence of long wavelength-sensitive opsin genes in the guppy, *Poecilia reticulata*. **Journal of Molecular Evolution** 72: 240-252.
10. van der Sluijs, I.<sup>§</sup> S.M. Gray<sup>§</sup>, M.C.P. Amorim, I. Barber, U. Candolin, A. Hendry, R. Krahe, M.E. Maan, A.C. Utne-Palm, H.J. Wagner, and B.B.M. Wong. 2011. Communication in troubled waters: responses of fish communication systems to changing environments. **Evolutionary Ecology** 25: 623-640 (<sup>§</sup>**equal contributors**).
9. Sabbah, S., R.L. Laria, S.M. Gray, and C.W. Hawryshyn. 2010. Functional diversity in the color vision of cichlid fishes. **BMC Biology** 8: 133.
8. Gray, S.M., L.M. Dill, F.Y. Tantu, E.R. Loew, F. Herder, and J.S. McKinnon. 2008. Environment contingent sexual selection in a colour polymorphic fish. **Proceedings of the Royal Society of London B** 275: 1785-1791.
7. Gray, S.M., J.S. McKinnon, F.Y. Tantu, and L.M. Dill. 2008. Sneaky egg-eating in *Telmatherina sarasinorum*, an endemic fish from Sulawesi. **Journal of Fish Biology** 73:728-731.  
- Media coverage: *Research Highlights (Nature 454, 806-807, 14 August 2008)*
6. Gray, S.M. and J.S. McKinnon. 2007. Linking color polymorphism maintenance and speciation. **Trends in Ecology and Evolution** 22:71-79.  
- "Highly cited paper" (As of March/April 2015, this [highly cited paper](#) received enough citations to place it in the top 1% of its academic field based on a highly cited threshold for the field and publication year); ~390 citations
5. Gray, S.M., L.M. Dill and J.S. McKinnon. 2007. Cuckoldry incites cannibalism: Male fish turn to cannibalism when perceived certainty of paternity decreases. **The American Naturalist** 169: 258-263.  
- Media Coverage: interviewed on *Quirks and Quarks (CBC Radio)*; featured in the book, "Nasty, Brutish & Short: The Quirks & Quarks Guide to Animal Sex and Other Weird Behaviour; ScienceDaily (AAAS); Nature.com.
4. Gray, S.M. and J.S. McKinnon. 2006. A comparative description of mating behaviour in the endemic telmatherinid fishes of Sulawesi's Malili Lakes. **Environmental Biology of Fishes** 75: 471-482.
3. Gray, S.M., B.W. Robinson, and K.J. Parsons. 2005. Testing alternative explanations of character shifts against ecological character displacement in brook sticklebacks (*Culaea inconstans*) that coexist with ninespine sticklebacks (*Pungitius pungitius*). **Oecologia** 146: 25-35.

2. Gray, S.M. and B.W. Robinson. 2002. Experimental evidence that competition between stickleback species favours adaptive character divergence. **Ecology Letters** 5: 264-272.
1. Stewart, J.E., L.J. Marks, L. C.R. Wood, S.M. Risser, and S.M. Gray. 1997. Symbiotic relations between bacteria and the domoic acid producing diatom *Pseudo-nitzschia multiseriata*, and the capacity of these bacteria for gluconic acid/gluconolactone formation. **Aquatic Microbial Ecology** 12: 211-221.

### BOOK CHAPTERS

- Gray, S.M. The evolutionary ecology of cichlid vision. 2021 **Invited chapter** in M.E. Abate & D.L. Noakes (Eds.). *The Behavior, Ecology and Evolution of Cichlid Fishes: A Contemporary Modern Synthesis*.
- Gray, S.M. 2016. Muddy Waters: The Influence of Soil and Sediment on Aquatic Life. **Invited submission** In Lal, R. (Ed.) **Encyclopedia of Soil Science**. Taylor & Francis. DOI: 10.1081/E-ESS3-120052911.

### MANUSCRIPTS SUBMITTED FOR REVIEW

- Bohenek, J., Sulliván, S.M.P., Gray, S.M. Habitat and nutrients, but not artificial lighting at night, drive fish assemblage composition in urban streams. *In review* **Urban Ecosystems** (Pre-print doi.org/10.21203/rs.3.rs-1510851/v1)
- Nieman\*, C.L., T.K. Hrabak\*\*, S.M. Gray. Can fish see the bait on the hook? The relationship between altered visual environments and lure color choice. *In review* **Aquaculture, Fish and Fisheries**

### MANUSCRIPTS IN PREPARATION

- Atkinson\*, T.L., M.L. Martinez and S.M. Gray. The relationship between turbidity, carotenoid-based coloration and sperm quality of centrarchid fishes in urban streams. *In prep* **Journal of Fish Biology**.
- Gray, S.M. Is elevated turbidity a barrier, refuge or trap? *Invited perspective* **Aquaculture & Fisheries**
- Gray, S.M., C.L. Nieman\*, and L.J. Chapman. Colour variation in *Barbus neumayeri*, an African cyprinid found across dissolved oxygen and turbidity extremes. *In prep* **Journal of Fish Biology**.
- Hrabak, T., MacDonald, R. Tiarks, J., and S.M. Gray. Ontogenetic shifts in onset of reproductive

behavior associated with elevated turbidity. *In prep* **Biology Letters**.

Oldham\*, R.C., S.M. Gray. Population-level divergence in visual performance and morphology associated with water clarity. *In revision*

Tiarks\*, H.J., S.M. Gray, L. Grigoryeva\*, and L.J. Chapman. Brain and eye size variation across populations experiencing extremes of turbidity. *In prep* **Brains, Behavior and Sociobiology**.

Tiarks\*, H.J., S. Black\*\*, A. Morera\*\*, T.K. Hrabak\*, and S.M. Gray. Ontogenetic shifts in visual sensitivity associated with elevated turbidity. *In prep* **TBD**.

Williams\*, B.L., L.M. Pintor, and S.M. Gray. Multiple Stressors Lead to Complex Responses in Reproductive Behaviors. *In prep* **Proceedings of the Royal Society of London, B**.

## RESEARCH GRANTS

<b><u>Funded</u></b>		<b>\$US</b>
2022-24	<b>Ohio Sea Grant College Program (Small Grant) (PI):</b> Pilot study: Testing the effects of climate stressors on species interactions between Smallmouth Bass and Round Goby in Lake Erie (Co-PI: Lauren Pintor, Noel Schmitz)	10,000
2018-23	<b>Ohio Department of Transportation (Co-PI):</b> Ecological Design Rules for Roadway Lighting ( <b>PI:</b> Dr. Mazeika Sullivan).	600,000
2018-24	<b>Ohio Sea Grant College Program (Full Proposal invited) (PI):</b> Seeing the bait on the hook: Assessing the impact of harmful algal blooms on the recreational Walleye fishery in Lake Erie ( <b>Co-PI:</b> Jeremy Bruskotter, Eugene Braig, Chelsey Nieman)	120,000
2017-23	<b>NSF-IOS (Animal Behavior) Full Proposal (PI):</b> Key drivers and functional significance of sensory and behavioral trait divergence across multiple environmental stressors in an African cichlid ( <b>Co-PI:</b> Dr. Lauren Pintor)	500,000
2017-18	<b>OARDC SEEDs Grant (PI):</b> Linking common mitigation practices with fisheries and water quality in privately owned ponds in rural Ohio ( <b>Co-PI:</b> Eugene Braig)	50,000
2016-18	<b>Ohio Sea Grant College Program (Full Proposal invited) (PI):</b> Can fish see the bait on the hook? Linking effects of algal and sedimentary turbidity on fish vision to the Lake Erie recreational fishery through research and outreach.	120,000
2016-21	<b>National Institute of Food and Agriculture Multistate Project NC1189 (Co-PI):</b> Understanding the Ecological and Social Constraints to Achieving Sustainable Fisheries Resource Policy and Management (\$5,000/year)	25,000
2015	<b>Ohio Sea Grant Small Grants (PI):</b> Consequences of algal and sedimentary turbidity for the visual abilities of Lake Erie fishes.	10,000
2014	<b>OSU Office of International Affairs Gateway Seed Grant (PI):</b> Linking freshwater biodiversity and water quality in Uganda through research and	8,000

## Suzanne M. Gray - Curriculum Vitae

	education.	
2014-16	<b>The Nature Conservancy, Research Contract (Co-PI):</b> Biological monitoring of macroinvertebrates at the Crane Creek, pool 1 restoration (PI: Dr. Lauren Pintor).	19,975
2014-16	<b>The Nature Conservancy, Research Contract (Co-PI):</b> Biological monitoring of macroinvertebrates at the Howard Farms wetland restoration (PI: Dr. Lauren Pintor).	39,325
		<b>\$CAD</b>
2009-12	Critical habitat of Pugnose Shiner in Canada, Species at Risk Program, Fisheries and Oceans Canada (3 yrs; project team member)	211,000
2009-12	Identifying the critical habitat, limiting factors and threats of Spotted Gar, Species at Risk Program, Fisheries and Oceans Canada (3 yrs; project team member)	207,000
<b><u>Pending</u></b>		
2023	<b>Ohio Sea Grant College Program (Full Proposal invited) (Co-PI):</b> The Effect of Climate Stressors (temperature, hypoxia and turbidity) on the Trophic Interactions of Smallmouth Bass and Benthic Prey. (PI: Dr. Lauren Pintor)	200,000
2023	<b>OSU Ohio State Energy Partners (PI):</b> Establishing a research experience for undergraduate program focused on aquatic biodiversity in Ohio	22,000
2022	<b>NSF-Organismal Response to Climate Change (Co-PI):</b> Understanding how predator-prey interactions are affected by physiological responses and reciprocal behavioral feedbacks to climate change stressors. (PI: Dr. Lauren Pintor)	902,806
<b><u>Non-Funded</u></b>		
2022	<b>OSU Ohio State Energy Partners (PI):</b> Water Across the World	50,000
2021	<b>OSU Women &amp; Philanthropy At The Ohio State University (PI):</b> Water Across the World: A community connected globally by water	50,000
2021	<b>Ohio Sea Grant College Program (Full Proposal invited) (PI):</b> Communication in troubled waters: how do multiple stressors affect the ability of juvenile Lake Erie percids to detect environmental change? (PI: Dr. Lauren Pintor)	160,000
2021	<b>Ohio Sea Grant College Program (Full Proposal invited) (Co-PI):</b> The effect of hypoxia and temperature on trophic interactions between smallmouth bass and benthic prey. (PI: Dr. Lauren Pintor)	120,000
2020	<b>NSF-DEB (Co-PI):</b> From individuals to ecosystems: integrating the effects of artificial lighting at night in urban stream systems (PI: Dr. Mazeika Sullivan).	680,000
2019	<b>OSU Office of International Affairs Academic Research Enhancement Grant (PI):</b> Water quality, aquatic biodiversity, and STEM education in East Africa	6,000
2019	<b>OSU Ohio State Energy Partners (PI):</b> Water Across the World	60,000

## Suzanne M. Gray - Curriculum Vitae

2017	<b>NSF-DEB (Co-PI): Full proposal invited:</b> Integrating responses to artificial lighting at night across aquatic-terrestrial boundaries in urban stream systems (PI: Dr. Mazeika Sullivan).	623,000
2017	<b>Ohio Sea Grant College Program:</b> Impact of artificial lighting at night on coastal Lake Erie fish communities (PI: Dr. Mazeika Sullivan)	120,000
2017	<b>OSU Connect and Collaborate Impact Grant (Co-PI):</b> Enhancing Public Awareness of Current Lake Erie Issues through Interactive Learning Experiences at The Ohio State University's Stone Laboratory's Aquatic Visitor Center (PI: Emily Burbacher, Ohio Sea Grant)	70,000
2017	<b>OSU Office of International Affairs Academic Research Enhancement Grant (PI):</b> Linking freshwater biodiversity, fish health, and water quality in rural Uganda through research and engagement.	5,500
2016	<b>OSU Connect and Collaborate Impact Grant (Co-PI):</b> Inspiring university students to address complex sustainability challenges associated with contemporary society (PI: Dr. Alia Dietsch)	25,000
2016	<b>NSF-IOS Pre-Proposal (PI):</b> Functional significance and fitness consequences of divergent sensory traits across extremes of multiple environmental stressors (Co-PI: Dr. Lauren Pintor) – <i>invited for full proposal</i>	NA
2016	<b>NSF-DEB Pre-Proposal (Co-PI):</b> Coupled river-riparian food-web responses to artificial lighting at night (PI: Dr. Mažeika Sullivan).	NA
2016	<b>Great Lakes Fisheries Commission Pre-Proposal (Co-PI):</b> Fish food-web architecture and connectivity across temperature gradients of Lake Erie (PI: Dr. Mažeika Sullivan)	195,000
2015	<b>OARDC SEEDs Grant (Co-PI):</b> Quantifying the influences of artificial lighting at night on river-riparian food webs: mechanisms and consequences (PI: Dr. Mažeika Sullivan)	49,463
2015	<b>OSU International Affairs Research Academic Enrichment Grant (PI):</b> Linking freshwater biodiversity and water quality in Uganda through research and education.	8,000
2015	<b>NSF-IOS Pre-Proposal (PI):</b> Functional significance and fitness consequences of divergent sensory traits across extremes of multiple environmental stressors (Co-PI: Dr. Lauren Pintor)	NA
2015	<b>NSF-DEB Pre-Proposal (Co-PI):</b> Food-web responses to artificial night lighting across the aquatic-terrestrial boundary (PI: Dr. Mažeika Sullivan)	NA
2015	<b>Great Lakes Fisheries Commission (PI):</b> Algal and sedimentary turbidity effects on the visual ecology of Lake Erie fishes.	110,000
2015	<b>CHS Foundation Research Grant (PI):</b> Field to Faucet Water Quality Monitoring Project for Ohio Youth.	300,000
2014	<b>OARDC SEEDs Grant (PI):</b> The effects of algal and sedimentary turbidity on the visual and physiological ecology of Lake Erie bait and game fishes	50,000
2014	<b>NSF-IOS Pre-Proposal (PI):</b> Functional significance and fitness consequences of divergent sensory traits across extremes of multiple environmental stressors (Co-PI: Dr. Lauren Pintor)	NA

## AWARDS AND FELLOWSHIPS

### Awards

- 2020 **Early Career Teaching Award**, Association of Public and Land-Grant Universities, U.S. Department of Agriculture National Awards Program for Excellence in College and University Teaching in the Food and Agricultural Sciences
- 2019 **Educator Award**, North American Colleges and Teachers of Agriculture.
- 2019 **Nominee, Early Career Teaching Award**, U.S. Department of Agriculture National Awards Program for Excellence in College and University Teaching in the Food and Agricultural Sciences.
- 2018 **OSU Alumni Award for Distinguished Teaching**, with induction into The Teaching Academy, The Ohio State University.

### Fellowships

		\$CAD/yr
2010-12	NSERC Visiting Fellow in a Canadian Government Lab (2 years)	46 500
2008-10	NSERC Postdoctoral Fellowship (2 years)	40 000
2006	President's Research Stipend, Simon Fraser University	6 000
2005	Linville Graduate Scholarship in Sensory Biology, Simon Fraser University	6 000
2004-06	Graduate Fellowship, Simon Fraser University (3 years)	18 000
2002-04	NSERC Post-Graduate Scholarship (doctoral) (2 years)	21 000
2002	Smithsonian Tropical Research Institute Short-Term Fellowship	5 000
2000	Norman James Aquatic Ecology Scholarship, 2000	2 000
2000-01	University of Guelph Graduate Scholarship (2 years)	4 000
1999	Ontario Graduate Scholarship in Science and Technology	15 000
1999	NSERC Summer Student Assistantship	4 000

### Graduate Research and Travel Grants

2011	Linnean Society, Percy Sladen Memorial Trust Grant	800
2010	North American Native Fishes Association Conservation Research Grant	1 000
2009	Fisheries Society of the British Isles Travel Grant	1 700
2009	American Cichlid Association, Jordan Endowment Fund Research Grant	1 300
2006	American Society of Naturalists Student Travel Award	500
2006	NSERC Graduate Travel Scholarship	700
2004	Sigma Xi Grant-In-Aid-of-Research, Vision	1 400
2003	PADI AWARE Foundation Conservation Grant	1 400
2003	Sigma Xi Grant-In-Aid-of-Research	500

## SELECT CONFERENCES AND INVITED SEMINARS

\*undergraduate and \*\*graduate students mentored; §presenter

### International Conference Presentations

Tiarks\*, H.J., S.M. Gray. The influence of turbidity on visual sensitivity in an African cichlid fish. International Congress on the Biology of Fish, Montpellier, France (June 2022)

Williams\*§, B.L., L.M. Pintor, S.M. Gray. Hormonal responses to multiple stressors and their behavioral consequences. International Congress on the Biology of Fish, Montpellier, France (June 2022)

Bohenek§, J., C. Karr, S. Harrison\*\*, S.M.P. Sullivan, S.M. Gray. Artificial light at night potentially shifts fish-assemblage composition, but not body size, in small urban streams. American Fisheries Society Virtual Annual Meeting (Sept. 2021).

Williams\*§, B.L., L.M. Pintor, S.M. Gray. The effect of multiple stressors on courtship behavior in an African cichlid. The effects of hypoxia and turbidity on male courtship behavior. Society for Experimental Biology. Virtual Conference (July 2021).

Harrison\*\*§, S., S.M. Gray, and S.M.P. Sullivan. Effects of light pollution on Bluegill (*Lepomis macrochirus*) feeding behavior. Ohio Chapter of the American Fisheries Society. Virtual Annual Meeting (Feb. 2021).

Williams\*§, B.L., L.M. Pintor, S.M. Gray. The effects of hypoxia and turbidity on male courtship behavior. Society for Integrative and Comparative Biology, Virtual Meeting (Jan. 2021).

Nieman\*\*§, C.L., T.K. Hrabak\*, S.M. Gray. Can the fish see the bait on the hook: The relationship between altered visual environments and lure color choice. The American Fisheries Society Virtual Annual Meeting (Sept. 2020).

Nieman\*\*§, C.L., J.T. Bruskotter, E.C. Braig IV, S.M. Gray. You can't just use gold: Using mobile phone applications to collect data on fish physiology. The American Fisheries Society Virtual Annual Meeting (Sept. 2020).

Gray§, S. M., A.L. Oppliger\*, C.C. McElwain\*, C.L. Nieman\*\*. Visual detection thresholds in Walleye and their prey are compromised in algal compared to sedimentary turbidity (*oral*). 13<sup>th</sup> International Congress on the Biology of Fish, Calgary, Alberta, Canada. (Aug. 2018).

Nieman\*\*§, C.L., **S.M. Gray**. Visual performance impaired by elevated sedimentary and algal turbidity in walleye (*Sander vitreus*) and Emerald Shiner (*Notropis atherinoides*) (*oral*). 13<sup>th</sup> International Congress on the Biology of Fish, Calgary, Alberta, Canada. (Aug. 2018).

Atkinson\*\*§, T.L., **S.M. Gray**. Testing the role of turbidity and diet on the reproductive traits of an African cichlid fish (*oral*). 13<sup>th</sup> International Congress on the Biology of Fish, Calgary, Alberta, Canada. (Aug. 2018).

Oldham\*\*§, R.C., **S.M. Gray**. Divergence in visual performance and morphology in an African cichlid found in divergent environments". (*oral*). 13<sup>th</sup> International Congress on the Biology of Fish, Calgary, Alberta, Canada. (Aug. 2018).

Atkinson\*\*§, T.L., **S.M. Gray**. Testing the role of turbidity and diet on the reproductive traits of an African cichlid fish (*poster*). American Fisheries Society, Tampa, Florida (Aug. 2017).

Nieman\*\*§, C.L., C. McElwain\*, **S.M. Gray**. Visual Ecology of Lake Erie Fish: Assessing the impacts of increased turbidity on vision. American Fisheries Society, Tampa, Florida (Aug. 2017).

Oldham\*\*§, R.C., **S.M. Gray**. Environmental differences affect the visual ecology of cichlid fish (*poster*). American Fisheries Society, Tampa, Florida (Aug. 2017).

**Gray§, S. M.**, R.C. Oldham\*, L.M. Pintor. Behavioral responses to environmental extremes in an African cichlid, Animal Behavior Society, Toronto, Ontario, Canada (June 2017).

Nieman\*\*§, C.L., C. McElwain\*, **S.M. Gray**. Visual Ecology of Lake Erie Fish: Assessing the impacts of increased turbidity on vision. International Association of Great Lakes Research, Detroit, Michigan (May 2017).

**Gray§, S.M.**, L.H. McDonnell\*, N.E. Mandrak, L.J. Chapman. The influence of turbidity on the behavior and physiology of imperiled blackline shiners (*Notropis* spp.) in the Laurentian Great Lakes. International Association of Great Lakes Research, Guelph, ON, Canada (June 2016).

Odegard\*\*§, J., **S.M. Gray**, and L.M. Pintor. The role of functional diversity in biotic resistance of exotic fishes and invertebrates in wetlands (*poster*). International Association of Great Lakes Research, Guelph, ON, Canada (June 2016).

**Gray, S.M.** Using behaviour and physiology to inform conservation of imperiled species. Canadian Society of Zoology. *Invited speaker* in the Ecology, Ethology, and Evolution symposium, "Contemporary approaches to wildlife conservation science". London, Ontario, Canada (May 2016).

**Gray§, S.M.**, L.J. Chapman. Sexy males in muddy water: adaptive phenotypic divergence in an African cichlid. International Congress on the Biology of Fishes, Edinburgh, Scotland, UK (August 2014).

**Gray§, S.M.**, L.J. Chapman. Sexy males in muddy water: adaptive phenotypic divergence in an African cichlid. Evolution2012, Ottawa, Ontario (July 2012).

**Gray§, S.M.**, L.J. Chapman. How does turbidity influence the maintenance of fish diversity? *International Conference on the Evolutionary Ecology of Fishes*, Berlin, Germany (Nov. 2009).

**Gray§, S.M.**, S. Sabbah, C.W. Hawryshyn. Exploring visual microhabitat usage by three sympatric, congeneric Lake Malawi cichlids, Society for the Study of Evolution Annual Meeting, Moscow, Idaho (June 2009).

**Gray§, S.M.**, L.M. Dill, F.Y. Tantu, J.S. McKinnon. Colour polymorphism maintenance in the telmatherinid fishes of Sulawesi's Malili Lakes. Speciation in Ancient Lakes, Berlin, Germany. (Sept. 2006).

**Gray<sup>§</sup>, S.M.**, L.M. Dill, J.S. McKinnon. Cuckoldry incites cannibalism. Society for the Study of Evolution Annual Meeting, Stony Brook, New York, U.S.A. (June 2006).

**National & Regional Conference Presentations**

Schmitz, N., L.M. Pintor, S.M. Gray. Watershed Management Association of Ohio, Columbus, OH. (Nov. 2022)

Evans<sup>\*\*§</sup>, J., D. Trouten\*, S.M. Gray. The Effect of Aquatic Colorants Used To Control Aquatic Vegetation on the Health of Bluegill Sunfish (*Lepomis macrochirus*). 80th Midwest Fish and Wildlife Conference, Springfield, IL. (Jan. 2020)

Nieman<sup>\*\*§</sup>, C.L., **S.M. Gray**. Seeing into The Past: An Investigation of The Relationship Between Visual Morphology and 90 Years of Anthropogenic Turbidity in Emerald Shiner” 80th Midwest Fish and Wildlife Conference, Springfield, IL. (Jan. 2020)

**Gray<sup>§</sup>, S.M.**, C. L. Nieman<sup>\*\*</sup>, A.L. Oppliger\*, J. Bruskotter, E. Braig, T. Hrabak\*. Can fish see the bait on the hook?. Lake Erie – Inland Waters Annual Research Review. Columbus, OH (Dec. 2019)

**Gray<sup>§</sup>, S.M.** “Muddy waters: Fish behavior and vision in the Anthropocene” Sensorium: Annual Symposium of Sensory Biology and Ecology, University of Illinois Urbana-Champaign, Urbana, IL (Oct. 2019)

Hrabak<sup>\*§</sup>, T., C.L. Nieman<sup>\*\*</sup>, **S.M. Gray**. .See no evil, smell no evil: Predator avoidance in the face of harmful algal blooms. Sensorium: Annual Symposium of Sensory Biology and Ecology, University of Illinois Urbana-Champaign, Urbana, IL (Oct. 2019)

Tiarks<sup>\*\*§</sup>, H.J., **S.M. Gray**. The influence of turbidity on visual sensitivity in an African cichlid. Sensorium: Annual Symposium of Sensory Biology and Ecology, University of Illinois Urbana-Champaign, Urbana, IL (Oct. 2019)

Williams<sup>\*\*§</sup>, B.L., T.L. Atkinson<sup>\*\*</sup>, R.C. Oldham<sup>\*\*</sup>, T.K. Hrabak\*, L.M. Pintor, S.M. Gray. Linking Vision, Color Signals, and Mate Choice in an African Cichlid. Sensorium: Annual Symposium of Sensory Biology and Ecology, University of Illinois Urbana-Champaign, Urbana, IL (Oct. 2019)

Atkinson<sup>\*\*§</sup>, T.L., R.C. Oldham<sup>\*\*</sup>, B.L. Williams<sup>\*\*</sup>, **S.M. Gray**. Water Across the World: A tale of two communities. ScienceTalk 2020 Conference, Seattle, Washington (March 2019)

Atkinson<sup>\*\*§</sup>, T., **S.M. Gray**. Testing the role of turbidity and diet on the reproductive traits of an African cichlid fish (*oral*). 79th Midwest Fish and Wildlife Conference, Cleveland, OH (Jan. 2019).

Nieman<sup>\*\*§</sup>, C.L., J. Bruskotter, E. Braig, **S.M. Gray**. You can’t just use gold: The effects of algal and sedimentary turbidity on lure success for Walleye. (*oral*) 79th Midwest Fish and Wildlife Conference, Cleveland, OH (Jan. 2019).

Oppliger\*§, A.L., C.L. Nieman\*\*, **S.M. Gray**. Visual detection thresholds of Walleye under varying turbidity" (*poster*). 127th Annual Meeting of The Ohio Academy of Science, Bowling Green, Ohio. (April 2018)

Nieman\*\*§, C.L., **S.M. Gray**. Determining the effects of increasing turbidity on visual acuity in Lake Erie fishes (*poster*). 78th Midwest Fish and Wildlife Conference, Milwaukee, Wisconsin (Jan. 2018).

Atkinson\*\*§, T.L., **S.M. Gray**. Testing the role of turbidity and diet on the reproductive traits of an African cichlid fish (*poster*). Ohio Chapter of the American Fisheries Society, Columbus, Ohio (Jan. 2018).

Nieman\*\*§, C.L., **S.M. Gray**. Determining the effects of increasing turbidity on visual acuity in Lake Erie fishes (*poster*). Ohio Chapter of the American Fisheries Society, Columbus, Ohio (Jan. 2018).

Oldham\*\*§, R.C., **S.M. Gray**. Environmental differences affect the visual ecology of cichlid fish (*poster*). Ohio Chapter of the American Fisheries Society, Columbus, Ohio (Jan. 2018).

**Gray§, S.M.** The visual ecology of fish in a changing world. Sensorium: Annual Symposium of Sensory Biology and Ecology, Cincinnati, Ohio (Sept. 2017).

Tiarks\*\*§, H.J., **S.M. Gray**. The influence of turbidity on the development of eye and brain morphology in an African cichlid (*poster*). Ohio Academy of Sciences (April 2017).

**Gray§, S.M.** Color variation in fishes across turbidity extremes in East Africa. Watershed Management Association of Ohio, Annual Meeting, Columbus, OH (Nov. 2014)

**Gray§, S.M.,** L.J. Chapman, N.E. Mandrak. As clear as mud: What have we learned about the effects of turbidity on Canadian fishes at risk? Canadian Conference for Fisheries Research, Moncton, New Brunswick (Jan. 2012).

**Gray§, S.M.,** F. M. Bieber\*, F. Cinquemani\*, L.H. McDonnell\*, N.E. Mandrak, L.J. Chapman. Fish in muddy waters: Consequences of turbidity for fish biodiversity. Canadian Society for Ecology and Evolution, Annual Meeting, Banff, Alberta (May 2011).

**Gray§, S.M.,** F. M. Bieber\*, L.J. Chapman, N.E. Mandrak. The effects of turbidity on the behaviour and physiology of Endangered Pugnose Shiner (*Notropis anogenus*) and congeners. Canadian Conference for Fisheries Research, Toronto, Ontario (Jan. 2011).

**Gray§, S.M.,** F. Cinquemani\*, N.E. Mandrak, L.J. Chapman. Fish in muddy waters: The effects of turbidity on fish phenotype and persistence. Quebec Centre for Biodiversity Science Annual Conference, Montreal, Quebec (Nov. 2010).

### **Invited Seminars and Workshops**

**Gray, S.M.** Can walleye see the bait on the hook? Freshwater Science Webinar, Ohio Sea Grant (June 2022)

**Gray, S.M.** Water Across the World: Partnering with Ugandan schools and Ohio youth on issues of water quality. Global Teacher Seminar 2022: Global Competency and the UN's Global Goals (June 2022)

**Gray, S.M.** APLU National Teaching Workshop: Early Career Panel, Invited panelist (Feb. 2022)

**Gray, S.M.** Using sensory ecology to understand how fish respond to anthropogenic environmental change. Ohio University, Athens, OH (Nov. 2021).

**Gray, S.M.** The evolutionary ecology of fish vision. Tadulako University, Palu, Sulawesi, Indonesia (Nov. 2021)

**Gray, S.M.** Can fish see the bait on the hook? The effects of algal blooms on Walleye vision. 2019 Wildlife Symposium, Zane State University, Zanesville, OH (Mar. 2019).

**Gray, S.M.** A blurry future? The visual ecology of fish in a changing world. Purdue University, Indiana (Nov. 2018).

**Gray, S.M.** A fish eye view of changing water quality. Bowling Green State University, Bowling Green, Ohio (Oct. 2018).

**Gray, S.M.** A fish eye view of changing water quality in Lake Erie. Science Writers Workshop, Ohio Sea Grant, Stone Laboratory, Ohio (Aug. 2018).

Nieman<sup>\*\*§</sup>, C.L., **S.M. Gray**. Walleye vision and HABs: A Citizen Science Project. Lake Erie Central Basin Sport Fish Summit. Painesville, Ohio (March 2018).

Nieman, C.L., **S.M. Gray**. (2018). Effects of Harmful Algal Blooms on Walleye vision. (*oral*). 37<sup>th</sup> Annual Ohio Charter Captains Conference. Huron, Ohio (March 2018).

**Gray, S.M.** Can fish see the bait on the hook? An exploration of visual ecology in the face of human-induced environmental change. University of Toledo, Toledo, Ohio (Mar. 2018).

**Gray, S.M.** Sexy Males in Muddy Water: How Cichlids Respond to Increased Turbidity in the Wild. Columbus Area Fish Enthusiasts, Columbus, Ohio (Feb. 2018).

**Gray, S.M.** Phenotypic responses to environmental extremes in an African cichlid. University of Maryland-College Park (Nov. 2017).

**Gray, S.M.** Can fish see the bait on the hook? An exploration of visual ecology in the face of human-induced environmental change. Science Writers Workshop, Ohio Sea Grant (Aug. 2017).

**Gray, S.M.** Can fish see the bait on the hook? Decisions Makers Workshop, Ohio Sea Grant (Aug. 2017).

**Gray, S.M.** Water Across the World. Ohio Youth Institute, Columbus, OH (April 2017). *Keynote Speaker*

**Gray, S.M.** Water Across the World: Linking water quality with aquatic biodiversity in rural Ugandan communities. OSU Center for African Studies and Global Water Institute: Voices from the field. (March 2017).

**Gray, S.M.** Can fish see the bait on the hook? An exploration of visual ecology in the face of human-induced environmental change. SENR Seminar Series (March 2017).

**Gray, S.M.** Sexy Males in Muddy Water: How Cichlids Respond to Increased Turbidity in the Wild. Ohio Cichlid Association, Cleveland, Ohio (Feb. 2017).

**Gray, S.M.** The consequences of a changing world for fish biodiversity. Presented at Program in Ecology, Evolution, and Conservation Biology Seminar Series, University of Illinois Urbana-Champaign. (Nov. 2016).

**Gray, S.M.** Linking freshwater fish biodiversity and water quality in Uganda. International Research Symposium, Office of International Affairs, OSU (Feb. 2015).

Pintor, L.M., **S.M. Gray**<sup>s</sup>. Wetland restoration in Crane Creek Watershed & Ottawa National Wildlife Refuge: Fish and Invertebrate Monitoring. The Nature Conservancy, Ohio Board of Trustees, Columbus, OH (Jan. 2015).

**Gray, S.M.** A blurry future? Consequences of turbidity for fish diversity. Invited seminar, West Virginia University, Morgantown, West Virginia (Oct. 2014).

**Gray, S.M.** The effects of turbidity on imperiled Great Lakes fishes. Invited seminar, Stone Laboratory, Gibraltar Island, OH (July 2014). (<https://www.youtube.com/watch?v=ry-M9mYmbAI>)

**Gray, S.M.** Fish biodiversity in a changing world. Invited seminar, SENR, The Ohio State University, Columbus, OH (April 2014).

**Gray, S.M.** Consequences of turbidity for freshwater fish diversity. Ohio Environmental Protection Agency, Columbus, OH (Dec. 2013).

**Gray, S.M.** Consequences of environmental change for fish diversity. Invited seminar, Department of Biology, East Carolina University, Greenville, NC (Oct. 2013).

**Gray, S. M.** A blurry future? Consequences of environmental change for fish diversity. Special Seminar, School of Environment and Natural Resources, The Ohio State University, Columbus, OH (Feb. 2013).

**Gray, S. M.** A blurry future? Consequences of environmental change for fish behaviour and diversity. Departmental Seminar, Department of Biology, University Laval, Quebec (Nov. 2012).

**Gray, S. M.** A blurry future? Consequences of environmental change for fish diversity. Special Seminar, Department of Biology, University of New Brunswick - Saint John, New Brunswick (Sept. 2012).

**Gray, S. M.** A blurry future? Consequences of turbidity for freshwater fish diversity. Special Seminar, Department of Biology, University of Toronto Mississauga, Ontario (Jan. 2012).

**Gray, S.M.**, L.M. Dill, F.Y. Tantu, and J.S. McKinnon. The maintenance of male colour polymorphism in the telmatherinids of the Malili Lakes: implications for conservation. International Symposium on the Ecology and Limnology of the Malili Lakes, Bogor, Indonesia (March 2006). *Panellist*.

**Gray, S.M.** Ikan Danau Matano (The Fish of Lake Matano). YPS National Highschool and Pt. INCO Ltd. Government and Community Relations Department, Soroako, Sulawesi, Indonesia. (Nov. 2004).

**Gray, S.M.** An examination of spatial segregation in sister species of sea urchins, *Echinometra lucunter* and *E. viridis*. Florida International University, Tropical Ecology Field Course, Bocas Marine Station, Bocas del Toro, Panama (July 2002).

## TEACHING AND MENTORSHIP

### **OSU Instruction**

- ENR 4900.01 Environment and Natural Resources Senior Capstone Course (Spring 2015, 2016, 2017, 2018, 2019)
- ENR 5350.02 Taxonomy and Behavior of Fishes (Spring 2014, Autumn 2015, 2017, 2019, 2021, 2022, Summer 2019)
- ENR 5358 Applied Vertebrate Physiological Ecology (Spring 2017, 2019, 2022)
- ENR 8890.01 FFW Graduate Seminar: Behavioral and Physiological Responses to a Changing World (Autumn 2014); Advanced Conservation Physiology (Spring 2018, 2020)
- EEOB 5930 Ichthyology (Summer 2018)

### **Lecturer Positions**

- ENVR 301: Environmental Research Design, McGill University (Fall 2012)
- BIOL 111: Organismal Biology, McGill University (Fall 2011)

### **Graduate Students**

#### **Current**

- Victoria Drumm (2022-current), MS
- Noel Schmitz (2021-current), MS (co-supervised with Dr. Lauren Pintor)
- H. Jai Tiarks (2019-current), PhD
- Bethany Williams (2018-current), PhD (co-supervised with Dr. Lauren Pintor)

#### **Completed**

- Jeremy Evans (2018-2021), MS
- Susanna Harrison (2019-2021), MS
- Chelsey Nieman (2015-2019), PhD
- Tiffany Atkinson (2016-2019), MS
- Richard Oldham (2015-2018), MS
- Jenna Odegard (2014-2017), MS (co-supervised with Dr. Lauren Pintor)
- Shib Pattadar (2017-2018; *incomplete*), PhD
- R. Chase Novello (2018-2020, *incomplete*), MS (Co-supervised with Dr. Mazeika Sullivan)

### **Graduate Student Committees**

#### **Current**

- Kylee Wilson (2022-current), PhD, EEOB, Supervisor Dr. Stu Ludsing

- Mahesha Kuluppuarachchi (2021-current), PhD, SENR Supervisors Dr. Sayeed Mehmood & Dr. Jeremy Bruskotter
- Alexandra Cabanelas Bermudez (2021-current), MS, EEOB, Supervisor Dr. Elizabeth Marschall
- Ivy Ciaburri (2021-current), PhD, SENR, Supervisor Dr. Chris Tonra
- Rachael Finigan (2020-current), PhD, EEOB, Supervisor Dr. Elizabeth Marschall
- Layne Gaynor (2019-current), PhD, EEOB, Supervisor Dr. Ian Hamilton
- Macie Smith (2019-current), PhD, EEOB, Supervisor Dr. Ian Hamilton
- Imran Razik (2019-current), PhD, EEOB, Supervisor Dr. Gerald Carter

### **Completed**

- Michael Gilboy (2019-2022), MS, SENR, Supervisor Dr. Mazeika Sullivan
- Andrew Bade (2018-2021), PhD, EEOB, Supervisor Dr. Stu Ludsin
- Krystal Pocock (2019-2021), MS, SENR, Supervisor Dr. Lauren Pintor
- Elizabeth Ames (2018-2021), PhD, SENR, Supervisor Dr. Chris Tonra
- Meaghan Gade (2017-2020), PhD, SENR, Supervisor Dr. Bill Peterman
- David Dippold (2017-2020), PhD, EEOB, Supervisor Dr. Stu Ludsin
- Kelly Jackson (2018-2019), MS, Bowling Green State University, Supervisor Dr. Paul Moore
- Kristie Stein (2017-2018), MS, SENR, Supervisor Dr. Chris Tonra
- Chelsea Crosby (2015-2018), MS, SENR, Supervisor Dr. Lauren Pintor
- Elizabeth Hoskins (2013-2018), PhD, EEOB, Supervisor Dr. Ian Hamilton
- Martha Zapata, (2014-2017), MS, SENR, Supervisor Dr. Mazeika Sullivan
- Ben Ellsesser, (2013-2017), MENR, SENR, Supervisor Dr. Mazeika Sullivan
- Christopher Johnson (2013-2016), MS, SENR, Supervisor Dr. Lauren Pintor
- Bobby Davis (2014-2016), MS, SENR, Supervisor Dr. Mazeika Sullivan
- Kristen Towne (2015-2016), MS, SENR, Supervisor Dr. Konrad Dabrowski
- Alayna Dorebek (2013-2016), MS, SENR, Supervisor Dr. Mazeika Sullivan
- Reed Brodnick (2013-2015), MS, EEOB, Supervisor Dr. Stu Ludsin
- Danielle Vent (2013-2015), MS, SENR, Supervisor Dr. Mazeika Sullivan
- Kerry Perrault (2013-2015), MS, Laurentian University, Supervisor Dr. Mery Martinez
- Laura McDonnell (2013-2015), MS, McGill University, Supervisor Dr. Lauren Chapman
- John Grayson, (2013-2015), MS, SENR, Supervisor Dr. Konrad Dabrowski
- Ali Zarea (2011-2012), MS, Laurentian University, Supervisor Dr. Mery Martinez

### **Supervision of Undergraduate Research Projects**

<b>School</b>	<b>Year Started</b>	<b>Student</b>	<b>Title</b>	<b>Status</b>
OSU	2022	M. Penka	- Lure color, fishing methods & HABs ( <i>Honors</i> )	<b>In progress</b>
		SG. O'Donnell	- Effects of temperature on reproduction in African cichlids ( <i>Honors</i> )	<b>In progress</b>
	2021	S. Black	- Visual sensitivity and morphology associated with turbidity	Complete 2021
	2020	E. Teaford	- Effects of Harmful Algal Blooms on the Walleye recreational fishery in Lake Erie ( <i>Stone Lab REU, virtual</i> )	Complete 2020
	2019	Steffensmeier	- Effects of artificial lighting at night on visual abilities of fish ( <i>Research with Distinction</i> )	Complete 2020
		K. Oriyo	- Sensory ecology of Lake Erie fishes ( <i>Honors Research</i> )	Complete 2022
		L. Bobay	- Lure color preference of Smallmouth Bass	Complete 2019

	2018	G. Ravary R. MacDonald	( <i>Stone Lab REU</i> ) TBD - Reproductive behaviors in an African cichlid exposed to environmental stressors ( <i>Research with Distinction</i> )	Graduate 2019 Complete 2020
	2017	M. Boltri A. Oppliger	TBD - Visual ecology of Lake Erie Walleye ( <i>Stone Lab REU; Research with Distinction</i> )	Complete 2019 Complete 2019, Nieman et al. 2018 Cons. Phys.
		H. Fried	- Physiological effects of algal and sedimentary turbidity on Lake Erie Emerald Shiner ( <i>Stone Lab REU; Honors</i> )	Complete 2019
		N. Episcopo	- Mating behavior in cichlids across extreme environmental conditions ( <i>Research with Distinction</i> )	Complete 2018
		T. Hrabak	- Ontogenetic behavioral shifts across extreme habitats in an African cichlid ( <i>Research with Distinction</i> )	Complete 2018
		B. Tracy	- TBD	Complete 2019
		B. Glover	- Gut contents of threatened Night Heron from Lake Erie	Complete 2017
	2016	E. Bertolini	- Eye size variation among Lake Erie Emerald Shiner across years with variable Harmful Algal Bloom events ( <i>Research with Distinction</i> )	Complete 2017
		C. McElwain	-The optokinetic response of Lake Erie Emerald Shiner ( <i>Notropis atherinoides</i> ) under algal and sedimentary turbidity ( <i>Stone Lab REU</i> )	Complete 2017, Nieman et al. 2018 Cons. Phys.
	2015	M. Carolin K. Funk	- Brain and eye morphology of Lake Erie fishes - Ontogenetic behavioral change cichlids ( <i>Research with Distinction</i> )	Complete 2016 Complete 2017
		M. McKinney H. Tiarks	- Influence of eye parasites on cichlid vision - Brain and eye morphology across environmental gradients in an African cichlid	Complete 2017 Complete 2017; MS in prep
		T. Atkinson	- Centrarchid color variation across turbidity gradients Columbus ( <i>Honors</i> )	Complete 2016; MS in prep
		J. Whitman	- Centrarchids reproduction and color above and below low-head dams ( <i>Honors</i> )	Complete 2016
		J. Robbins	- Optomotor response in Great Lakes fishes ( <i>Research with Distinction</i> )	Complete 2016
	2014	R. Oldham	- Repeatability of bold behaviors in an African cichlid fish ( <i>Research with Distinction</i> )	Complete 2015; Oldham et al. 2018 Curr Zool
		C. Balsley	- Literature review of Centrarchid color and reproduction	Complete 2015
McGill University	2012	M. Woolner	- Colour pattern variation in guppies across an environmental gradient	Complete 2013
		J. Sunahara	- Colour divergence in <i>Barbus neumayeri</i> across forested and deforested streams	Complete 2013
		K. Smith	- Swim performance in Blacknose Shiner ( <i>Notropis heterolepis</i> )	Gray et al 2014 Aquat Cons
		S. Melwani	- Ecomorphology of <i>Barbus neumayeri</i> from forested and deforested streams in Uganda	Complete

		L. Smith	- Possible sex change in <i>Pseudocrenilabrus multicolor</i>	MS in prep
	2011	M. Bieber	- Swim performance of Endangered Pugnose Shiner ( <i>Notropis anogenus</i> ) acclimated to low and high turbidity	Gray et al. 2014 Aquat Cons
	2010	L. Grigoryeva	- Effects of turbidity on brain and visual morphology in an African cichlid (Honors)	MS in prep
		L. McDonnell	- Effects of turbidity in male-male aggression in an African cichlid fish	Gray et al. 2012. Curr Zool
		F. Cinquemani	- Behavioural response to turbidity in a widespread African cichlid	Gray et al. 2012. Curr Zool
Queen's University	2008	F. Hart	- Colour change in fish: Spectral reflectance characteristics in <i>Melanochromis auratus</i>	Gray et al. 2011. CJFAS
		M. Tremblay	- Patterns of spectral reflectance in <i>Metriaclima zebra</i>	Gray et al. 2011. CJFAS

### Guest Lectures

#### OSU

ENR 1100: Environment and Natural Resources Survey (2016, 2017, 2018, 2019)  
 ENR 2000: Natural Resources Data Analysis (2015, 2016, 2017, 2019)  
 ENR 4900.02: FFW Capstone, aquatic sampling (2014)  
 ENR 8897: Research Proposal Symposium, panel discussion (2014, 2017)  
 ESHESA 7540: Higher Educational Institutions and Core Academic Issues (2017, 2018, 2019)  
 VPM 7775: Interactive Laboratory Animal Medicine Tour (2019)

#### McGill University

BIOL 329: East African Field Ecology, Uganda (2011)  
 BIOL 515: Advances in Aquatic Ecology (2011), two lectures  
 BIOL 432/632: Limnology (2010)  
 Ecology and Evolution Lunch Seminar Series (2009 and 2012)

#### Queen's University

BIOL 445: Neuroethology

#### Simon Fraser University

BISC 100: Introduction to Biology (2007), 3 lectures  
 BISC 300: Evolution (2006), 3 lectures  
 BISC 304: Animal Ecology (2003)

### Teaching Awards

- **Early Career Teaching Award**, Association of Public and Land-Grant Universities, U.S. Department of Agriculture National Awards Program for Excellence in College and University Teaching in the Food and Agricultural Sciences (2020).
- **Educator Award**, North American Colleges and Teachers of Agriculture (2019).
- **Nominee**, U.S. Department of Agriculture National Awards Program for Excellence in College and University Teaching in the Food and Agricultural Sciences (2019).
- **OSU Alumni Award for Distinguished Teaching**, OSU (2018)

## PROFESSIONAL DEVELOPMENT

2023 CFAES Leadership Program, Office for Research & Graduate Education

- 2023 CFAES “Pathways to Promotion to Full Professor Workshop”, Office for Research & Graduate Education
- 2021 CFAES STARS Program (Strategic Alignment for Research Success), Office for Research & Graduate Education
- 2018 Teaching Support Program, University Institute for Teaching and Learning.
- 2014 Course Design Institute (CDI), University Center for the Advancement of Teaching, OSU.
- 2013 NSF ADVANCE Workshop, Women Evolving Biological Sciences, Invited participant, NECENT, Duke University, Durham, NC.

### **OTHER RESEARCH AND TEACHING EXPERIENCE**

- **Field research expeditions:** 12 months Uganda (10 trips); 5 weeks Malawi; 10 months Indonesia (4 trips); 5 months Panama; 8 months Northern Ontario, Canada (3 trips); 5 weeks Australia; St. Lawrence River, Ontario (6 trips); Lake Erie (multiple trips)
- **Field assistants trained:** >30 Canadian/U.S. and International students trained in various field techniques, including behavioural observations of wild animals, underwater videography, species identification, use of seine nets, gill nets, minnow traps, underwater light measurements with a spectrometer, turbidity and other water quality measurements, and basic fish measurement techniques.
- **Research assistants trained:** >30 undergraduate students trained in aquatic facility maintenance, tropical and temperate fish care (water quality and behavioural monitoring), lab techniques including fish rearing, dissections, stomach content analysis, spectrometry, and behavioural observations.
- **Smithsonian Tropical Research Institute, Short-Term Fellow:** 2002 (Dr. Harris A. Lessios, STRI, Panama City, Panama)
- **Shark Research Technician:** 1998 (Dr. Steven E. Campana, Marine Fish Division, Bedford Institute of Oceanography, Dartmouth, Nova Scotia, Canada)

### **ACADEMIC SERVICE**

- *School of Environment and Natural Resources:*
  - **Wetlands Leadership Committee**, 2022-current
  - **Academic Affairs Committee**, 2013-current

- **Research, Space and Equipment Committee**, 2015-2017
- **Faculty Search Committees:** Hydrologist position (2015-2016); Wildlife Ecology and Management position (2014-15); Stream/Wetland Ecology (2022-current)
- **Staff Search Committees:** Aquatic Instructional Aid Associate, Chair (2016, 2019); Water and Environmental Science Lecturer, Chair (2021-2022).
- **Recruitment Activities** – Freshmen trip to Stone Lab (Autumn 2017, 2018, 2019, 2021, 2022); Faculty Phoning Event (for admitted SENR students, 2014); GoGreenGoBuckeye event (Schiermeier Olentangy River Wetlands Research Park 2014, 2015); Wetlands BioBlitz (ORWRP, 2016); Kottman Hall Lab tours to high school groups, ENR staff, ENR 1100 students, etc.
- *College of Food, Agriculture and Environmental Sciences:*
  - CFAES Greenhouse Advisory Committee (2023-current)
  - Stone Laboratory-CFAES Integration Task Forces – Academic Programming Lead, Research Co-Lead (2021-2022)
  - Columbus Greenhouse Consolidation Task Force (2021-2022)
  - Welcoming Dr. Debbie Lee, Director of NOAA's Great Lakes Environmental Research Lab, Ohio Sea Grant (Nov. 2019)
  - Welcoming the Ohio Department of Natural Resources to the Olentangy River Wetlands Research Park (Aug. 2019)
  - CFAES Animal Housing Planning (2019, one meeting, documents)
- *The Ohio State University*
  - General Education Implementation Bookends Sub-Committee (Autumn 2019)
- *Professional Service*
  - **Associate Editor**, Canadian Journal of Fisheries and Aquatic Sciences (2015-current; handled 52 manuscripts to date)
  - 14<sup>th</sup> International Congress on the Biology of Fish, **Symposium Organizer:** Sensing the Anthropocene: From Molecules to Populations (2019-current; rescheduled to 2022 due to COVID-19 pandemic).
  - Ohio Chapter of the American Fisheries Society, **Past-President 2020-2021**, President, 2019-2020; President-Elect, 2018-2019.
  - American Fisheries Society Annual Conference 2020, **Local Organizing Committee, Continuing Education and Student Activities Chair** (2019-2020; rescheduled due to COVID-19 pandemic)
  - Lake Erie Area Research Network, **Member at Large**, Board of Directors (2018-current)
  - North American Lake Management Society, Annual Meeting 2018, **Local Organizing Committee, Program Co-Chair**, 2016-2018.
  - Ohio Lake Management Society, elected **Board Member**, 2013-2016.
  - **Journal reviews:** American Naturalist, American Midland Naturalist, Animal Behaviour, Animal Ecology, Aquatic Conservation: Marine and Freshwater Ecosystems, Behavioral Ecology, Behavioral Ecology and Sociobiology, Biological Journal of the Linnean Society, Biology Letters, BMC Evolutionary Biology, Canadian Journal of Fisheries and Aquatic

Sciences, Conservation Biology, Conservation Physiology, Current Zoology, Ecohydrology, Ecology and Evolution, Ecology of Freshwater Fish, Ecology Letters, Endangered Species Research, Environmental Biology of Fishes, Ethology, Evolutionary Ecology, Great Lakes Research, Integrative Zoology, Journal of Fish Biology, Journal of Great Lakes Research, Marine Environmental Research, Oecologia, PLoS One, Science.

- **Grant reviews:** National Geographic Society; National Science Foundation (USA); Natural Sciences and Engineering Research Council (Canada); Austrian Science Foundation (Austria); Ohio Sea Grant (USA); OSU Office of International Affairs (USA); Graduate Women in Science (GWIS) National Fellowship Program; Austrian Partnership Programme in Higher Education and Research for Development.
- **Professional Affiliations:** American Fisheries Society (Physiological Ecology section, and Ohio Chapter), American Society of Naturalists, International Association for Great Lakes Research, North American Native Fishes Association, Ohio Academy of Science.
- Canadian Society for Ecology and Evolution, Outreach **Committee Member**, 2009-2013
- “Communication in Troubled Waters Symposium”, held during the International Conference on Evolutionary Ecology of Fishes, Berlin, Germany, **Co-Organizer**, Nov. 2009.
- Departmental Graduate Studies Committee, Biological Sciences, SFU, **Elected Representative**, 2005-2007.
- Seminal Papers in Behavioural Ecology Discussion Group, **Organizer**, SFU, 2006.
- Graduate Student Mentoring Program, **Coordinator**, 2003-2005.

## OUTREACH AND CONSERVATION

- **International Women & Girls in Science Day**, panel participant, Westerville, OH
- **Water Across the World:** collaboration to link rural Ohio K-12 students from Ohio with rural Ugandan K-12 students studying water quality (2014-current).
- **Kasiisi Water Project:** *Co-founder*, with Dr. Elizabeth Ross, (Director, Kasiisi School Project, Uganda) <http://www.kasiisiproject.org/> (2010-current).
- **Outreach Committee, Canadian Society for Ecology and Evolution:** *Member*, 2009-2013.
- **Third Millennium Alliance Jama-Coaque Reserve, Ecuador:** *Scientific Advisor*, 2010-2014.