**Loranzie S. Rogers**

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ORCID: 0000-0003-0040-6994

**EDUCATION**

**Ph.D.** 2019 – Present

University of Washington – Seattle, WA

Department of Psychology

Psychology (Animal Behavior) Graduate Program

**M.S.** 2017 – 2019

University of Minnesota – Duluth, MN

Department of Biology

Integrated Biosciences Graduate Program

Thesis: The effect of self-generated movement and playbacks of biological and anthropogenic sound on the hearing sensitivity of the Oyster Toadfish, *Opsanus tau*

**B.S.** 2013 – 2017

University of Minnesota – Duluth, MN

Major: Biology; Minor: Chemistry

**RESEARCH EXPERIENCE**

**University of Washington, Seattle, WA**, Fall 2019 – Present

Graduate School Fellow (Ph.D. student); Advisor: Dr. Joseph Sisneros

* Utricular potentials of the vocal plainfin midshipman (*Porichthys notatus*)
* Neural mechanisms of midshipman (*Porichthys notatus*) sound source localization

**University of Minnesota – Duluth**, Fall 2017 – Summer 2019

Graduate School Fellow (M.S. student); Advisor: Dr. Allen Mensinger

* Lateral line and utricular neural recordings in free-swimming toadfish (*Opsanus tau*)
* Acoustic evoked potential (AEP) recordings in the oyster toadfish (*Opsanus tau*)
* 3D conceptual design and printing

**Marine Biological Laboratory, Woods Hole, MA**, Summer 2016

Biological Diversity NSF REU; Mentor: Dr. Allen Mensinger

* Scanning electron microscopy of neuromasts and hair cells
* Micro computed tomography scanning of fish lateral line
* 3D conceptual design and printing

**University of Wisconsin – Superior**, Fall 2015 – Spring 2016

McNair Scholar; Mentor: Dr. Allen Mensinger

* Morphotype comparison of scotopic visual sensitivity in lean (*Salvelinus namaycush*) and siscowet lake trout (*Salvelinus namaycush siscowet*)

**University of Minnesota – Duluth**, Summer 2015 – Spring 2017

Undergraduate Researcher; Advisor: Dr. Allen Mensinger

* Visual sensitivity and impacts of strobe light on carp
* Visual sensitivity of walleye (*Sander vitreus*), yellow perch (*Perca flavescens*) and bluegill (*Lepomis macrochirus*)
* Behavioral foraging studies of siscowet lake trout (*Salvelinus namaycush siscowet*)
* Predator avoidance behavior of sculpin (*Myoxocephalus thompsonii*)

**FELLOWSHIPS & RESEARCH GRANTS**

***Graduate***

2018 University of Minnesota Graduate School Excellence Research Grant ($6,441)

2017               NSF Graduate Research Fellowship ($34,000/year for 3 years + tuition)

2017               University of Minnesota Diversity of Views and Experience (DOVE) Fellowship

($25,000/year for 1 year + tuition + $1,000 travel)

***Undergraduate***

2017 UMD Undergraduate Research Opportunities Program ($2,000)

2016 NSF REU – Marine Biological Laboratory ($5,500)

2015 UMD Undergraduate Research Opportunities Program ($2,000)

2015               Ronald E. McNair Scholars Program ($2,500 + GRE funding)

**HONORS & AWARDS**  
  
***Graduate***

2019 University of Washington Department of Psychology Travel Award ($750)  
2018 University of Minnesota College of Graduate School Travel Award ($400)

2018 Swenson College of Science and Engineering Travel Award ($400)

2018 Integrated Biosciences Travel Award, University of Minnesota ($500)

2018 Society for Neuroscience Trainee Professional Development Award ($1,200)

2018 Best Student Paper Presentation, 2018 National American Fisheries Society

Meeting ($450)

2018               College of Graduate Schools Travel Award, University of Minnesota ($558.60)

2018              Best Student Paper Presentation, MN Chapter of the American Fisheries

Society ($250)  
2018              North Star STEM Alliance Travel Award, University of Minnesota – Duluth ($1000)

***Undergraduate***  
  
2017               T.O. Odlaug Outstanding Senior Biology Student, University of Minnesota – Duluth  
2017               Undergraduate Research Opportunities Program,

University of Minnesota – Duluth ($1,500)  
2017               North Star STEM Alliance Travel Award, University of Minnesota – Duluth ($1,300)  
2016               North Star STEM Alliance Travel Award, University of Minnesota – Duluth ($550)  
2016               ​Travel Award, Minnesota Chapter of the American Fisheries Society ($100)  
2016               Undergraduate Fisheries Scholarship, Minnesota Chapter of the American

Fisheries Society ($700)  
2016               Undergraduate Research Opportunities Program,

University of Minnesota – Duluth ($1,500)

**ORIGINAL RESEARCH PUBLICATIONS**

1. **Rogers, L.S.**, Putland, R.L., & Mensinger, A.F. (2020) The effect of biological and anthropogenic sound on the auditory sensitivity of oyster toadfish, Opsanus tau. *Journal of Comparative Physiology A*, *206*(1), 1-14. doi: 10.1007/s00359-019-01381-x
2. Butler, J.M., Whitlow, S.M., **Rogers, L.S.**, Putland, R.L., Mensinger, A.F., & Maruska, K.P. (2019). Reproductive-state dependent plasticity in the visual system of an African cichlid fish. *Hormones and Behavior*. doi: 10.1016/j.yhbeh.2019.06.003.
3. Nissen, A.C., Vetter, B.J., **Rogers, L.S.**, & Mensinger, A.F. (2019) Impacts of anthropogenic sound on hearing sensitivities of bigheaded carps. *Fish Physiology and Biochemistry, 1-13.* doi: 10.1007/s10695-019-00657-y.
4. Mensinger, A. F., Van Wert, J. C., & **Rogers, L. S.** (2019). Lateral line sensitivity in free-swimming toadfish Opsanus tau. *Journal of Experimental Biology*, *222*(2). doi: 10.1242/jeb.190587.
5. Vetter, B.J., **Rogers, L.S.**, & Mensinger, A.F. (2019). Visual sensitivity and the impacts of strobe light on invasive silver (*Hypophthalmichthys molitrix*) and bighead (*H. nobilis*)carp*. Journal of Fish Biology: The Sensory Ecology of Fishes (special issue). 95:256–262.* doi: 10.1111/jfb.13880.
6. Keyler, T.D., Hrabik, T.R.,Mensinger, A.F., **Rogers, L.S.**,& Gorman, O.T**.** (2018)**.**Foraging mechanisms of siscowet lake trout (*Salvelinus namaycush siscowet*) on the benthic deepwater sculpin (*Myoxocephalus thompsonii*): effect of light intensity and substrate composition on native predator-prey interaction*.* *Hydrobiologia.* 1-12*.* doi: 10.1007/s10750-019-3944-5.
7. **Rogers, L.S.**, Van Wert, J.C., & Mensinger, A.F. (2017). An implantable two axis micromanipulator made with a 3D printer for recording neural activity in free-swimming fish. *Journal of Neuroscience Methods*, *288*, 29-33. doi: 10.1016/j.jneumeth.2017.06.012.

***In Review***

1. **Rogers, L.S.**, Van Wert, J. C., & Mensinger, A. F. Utricular sensitivity to multimodal inputs in the vocal toadfish, *Opsanus tau. In review: Journal of Neurophysiology.*
2. Putland, R.L., **Rogers, L.S.**, & Mensinger, A.F. The effects of eugenol on lateral line sensitivity in the Oyster Toadfish, *Opsanus tau. In review: Journal of XXX*
3. **Rogers, L.S.**, Vetter, B.V., Seeley, L.H., Sisneros, J.A., Utricular evoked potentials of the vocal plainfin midshipman fish, *Porichthys notatus*. *In review: Journal of Experimental Biology.*

**CONFERENCE PRESENTATIONS**

***Presenting Author***

**Rogers, L.S.**, Van Wert, J.C., & Mensinger, A.F. Multimodal sensory integration of the utricle in freely swimming toadfish, *Opsanus tau*. Society for integrative and Comparative Biology Meeting. Austin, TX. January 3-7, 2020. *Oral Presentation.*

**Rogers, L.S.**, Vetter, B.J., & Mensinger, A.F. The effect of light stimuli on dark-adapted visual sensitivity in invasive silver (*Hypophthalmichthys molitrix*) and bighead (*H. nobilis*) carp. 2019 Society for Integrative and Comparative Biology Meeting, Tampa, FL. January 3-7, 2019. *Oral Presentation.*

**Rogers, L.S.**, Van Wert, J.C., & Mensinger, A.F. The effect of self-generated movement on lateral line sensitivity in the toadfish, *Opsanus tau*. 2018 Society for Neuroscience Meeting, San Diego, CA. October 3-7, 2018. *Poster Presentation.*

**Rogers, L.S.**, Van Wert, J.C., & Mensinger, A.F. The effect of self-generated movement on lateral line sensitivity in the toadfish, *Opsanus tau*. 2018 National American Fisheries Society Meeting, Atlantic City, NJ. August 19-23, 2018. *Oral Presentation.*

**Rogers, L.S.**, Van Wert, J.C., & Mensinger, A.F. The effect of self-generated movement on lateral line sensitivity in the toadfish, *Opsanus tau*. 2018 MN Chapter of the American Fisheries Society Meeting, St. Cloud, MN. February 6-8, 2018. *Oral Presentation.*

**Rogers, L.S.**, Vetter, B.J., & Mensinger, A.F. Visual Sensitivity and Impact of Strobe Light on Invasive Carp. Spring 2017 Undergraduate Research Symposium, University of Minnesota, Duluth. April 18, 2017. *Poster Presentation.*

**Rogers, L.S.**, Giuffrida, B., Le Roux, V., & Mensinger, A.F. Visualization of the Oyster Toadfish (*Opsanus tau*) Anterior Lateral Line via Micro-CT. 2017 Society of Integrative and Comparative Biology Meeting, New Orleans, LA. January 4-8, 2017. *Poster Presentation.*

**Rogers, L.S.**, Keyler, T.D., & Mensinger, A.F. Scotopic Visual Sensitivity of Lean Lake Trout (*Salvelinus namaycush*)and Siscowet Lake Trout (*Salvelinus namaycush siscowet*): A Morphotype Comparison. 2016 National American Fisheries Society Meeting, Kansas City, MO. August 21-25, 2016. *Poster Presentation.*

**Rogers, L.S.,** Giuffrida, B., Le Roux, V., & Mensinger, A.F. Comparing Scanning Electron Microscopy and Micro-CT Imaging Techniques for the Mechanosensory Lateral Line. Marine Biological Laboratory Undergraduate Symposium, Woods Hole, MA. August 16-18, 2016. *Oral Presentation.*

**Rogers, L.S.**, Keyler, T.D., & Mensinger, A.F. Visual Sensitivity of Lean Lake Trout (*Salvelinus namaycush*) and Siscowet Lake Trout (*Salvelinus namaycush siscowet*): A Morphological Comparison. 2016 MN Chapter of the American Fisheries Society Meeting, Duluth, MN. February 1-3, 2016. *Poster Presentation.*

***Contributing Author***

Putland, R.L., **Rogers, L.S.**, Mackiewicz, A.G., Mensinger, A.F. Effect of anthropogenic sound on the communication space of the oyster toadfish, *Opsanus tau*.Society for integrative and Comparative Biology Meeting. Austin, TX. January 3-7, 2020. *Oral Presentation given by Rosalyn L. Putland.*

Butler, J.M., Whitlow, S.M., **Rogers, L.S.**, Putland, R.L., Mensinger, A.F., & Maruska, K.P. Reproductive state dependent visual sensitivity in an African cichlid fish. 2018 Society for Neuroscience Meeting, San Diego, CA. November 3-7, 2018. *Poster Presentation given by Julie M. Butler.*

Mensinger, A.F., Van Wert, J.C., & **Rogers, L.S.**, Lateral line activity during self-generated movement in free swimming toadfish, *Opsanus tau*. 2018 J.B. Johnston Club for Evolutionary Neuroscience Annual Meeting, San Diego, CA. November 2, 2018. *Oral presentation given by Allen F. Mensinger.*

Nissen, A.C., Vetter, B.J., **Rogers, L.S.**, & Mensinger, A.F. Measuring Impacts of Anthropogenic Sound on Hearing Sensitivities of Bigheaded Carps. 2018 Upper Midwest Invasive Species Conference, Rochester, MN. October 15-18, 2018. *Oral presentation given by Allen F. Mensinger.*

Keyler, T.D., Hrabik, T.R., **Rogers, L.S.**, Mensinger, A.F., & Gorman, O.T. Foraging Mechanisms of Siscowet Lake Trout (*Salvelinus namaycush*) on the Benthic Deepwater Sculpin (*Myoxocephalus thompsonii*): Effect of Light and Substrate Composition on Native Predator-Prey Interaction. International Charr Symposium, Duluth, MN. June 18-21, 2018. *Oral presentation given by Trevor D. Keyler.*

Keyler, T.D., Hrabik, T.R., **Rogers, L.S.**, Mensinger, A.F., & Gorman, O.T. Foraging Mechanisms of Siscowet Lake Trout (*Salvelinus namaycush*) on the Benthic Deepwater Sculpin (*Myoxocephalus thompsonii*): Effect of Light and Substrate Composition on Native Predator-Prey Interaction. 2018 MN Chapter of the American Fisheries Society Meeting, St. Cloud, MN. February 6-8, 2018. *Oral presentation given by Thomas R. Hrabik.*

Nissen, A.C., Vetter, B.J., **Rogers, L.S.**, & Mensinger, A.F. Impacts of anthropogenic sound on hearing sensitivities of bigheaded carps. 2018 MN Chapter of the American Fisheries Society Meeting, St. Cloud, MN. February 6-8, 2018. *Oral presentation given by Andrew C. Nissen.*

Keyler, T.D., Hrabik, T.R., **Rogers, L.S.**, Gorman, O.T., & Mensinger, A.F. Foraging Mechanisms of Siscowet Lake Trout (*Salvelinus namaycush*) on the Benthic Deepwater Sculpin (*Myoxocephalus thompsonii*): Effect of Light and Substrate Composition on Native Predator-Prey Interaction. 2018 Midwest Fish and Wildlife Conference, Milwaukee, WI. January 28-31, 2018. *Oral presentation given by Trevor D. Keyler.*

Van Wert, J.C., **Rogers, L.S.**, & Mensinger, A.F. The effect of self-generated movement on lateral line sensitivity in the Toadfish, *Opsanus tau*. 2018 Society of Integrative and Comparative Biology Meeting, San Francisco, CA. January 3-7, 2018. *Oral presentation given by Jacey C. Van Wert*

Keyler, T.D., Hrabik, T.R., **Rogers, L.S.**, Harrington, K.A., & Mensinger, A.F.  Visual sensitivity of Walleye (*Sander vitreus*). University of Minnesota, Duluth. Twin Ports Early Career Scientist Symposium, Duluth, MN, March 30, 2017. *Oral presentation given by Trevor D. Keyler.*

Keyler, T.D., Hrabik, T.R., **Rogers, L.S.**, Harrington, K.A., & Mensinger, A.F. Visual sensitivity of Walleye (*Sander vitreus*). Great Lakes Fishery Commission, Ann Arbor, MI, March 27,2017. *Oral presentation given by Owen T. Gorman.*

Mensinger, A.F., **Rogers, L.S.**, & Van Wert, J.C. An implantable two axis micromanipulator made by a 3-D printer for recording neural activity in free swimming fish. 2017 Society of Integrative and Comparative Biology Meeting, New Orleans, LA. January 4-8, 2017. *Poster presented by Loranzie S. Rogers and Jacey C. Van Wert.*

Keyler, T.D., Hrabik, T.R., **Rogers, L.S.**, Gorman, O.T., Harrington, K.A., & Mensinger, A.F. Foraging Behavior and Visual Properties of Select Midwest Fishes. Trout Lake Station, University of Madison, WI, Boulder Junction, WI. June 29, 2016. *Oral presentation given by Trevor D. Keyler.*

Keyler, T.D., Hrabik, T.R., **Rogers, L.S.**, Harrington, K.A., & Mensinger, A.F. Visual Sensitivity of Walleye (*Sander vitreus*): A comparison of freshwater fishes. 2016 MN Chapter of the American Fisheries Society Meeting, Duluth, MN. February 1-3, 2016. *Oral presentation given by Trevor D. Keyler.*

Keyler, T.D., Hrabik, T.R., **Rogers, L.S.**, Harrington, K.A., & Mensinger, A.F. Visual Sensitivity of Walleye (*Sander vitreus*): A comparison of freshwater fishes. 2016 Midwest Fish & Wildlife Conference, Grand Rapids, MI. January 23-26, 2016. *Poster presented by Trevor D. Keyler and Loranzie S. Rogers.*

**TEACHING EXPERINECE**

**University of Minnesota – Duluth Undergraduate Teaching Assistant**

BIOL 1012: General Biology II, Fall 2016

**PROFESSIONAL MEMBERSHIPS**

J.B. Johnston Club 2018 - Present

Sigma Xi 2018 - Present

Society for Neuroscience 2017 - Present

Society for Integrative and Comparative Biology 2016 - Present

**RESEARCH/VOLUNTEER MEDIA OUTREACH**

*University of Minnesota Duluth –* Window cling illustrating research success among alumni of the University of Minnesota Duluth. Published November 1, 2018.

*The Falmouth Enterprise* – Article entitled *Students Bring Fresh Perspective to WHOI and MBL*. Published August 3, 2018.

*Marine Biological Laboratory –* The Well article entitled *Biological Discovery in Woods Hole Students Receive NSF Graduate Research Fellowships.* Published July 2, 2018.

*University of Minnesota Duluth –* Swenson College of Science and Engineering and University home page article entitled *SCSE Students Receive Prestigious Fellowships*. Published April 26, 2018.

*Minnesota Sea Grant* – Superior Science: Evaluating Lake Superior’s Health in a Changing World. Aired June 12, 2017.

*Minnesota Sea Grant –* Radio interview entitled *Ideas for Building a Career in Fisheries.* Aired November 22, 2016.

*University of Minnesota Duluth –* Swenson College of Science and Engineering and University home page article entitled *Fishing for Results.* Published March 14, 2016.

**VOLUNTEER EXPERIENCE**

***Graduate***

Marine Biological Laboratory – *Graduate Fellowships: What funding is available*  July 22, 2019

Marine Biological Laboratory – *How to make the most of your time at the MBL*  June 17,2019

Wareham High School, Wareham, MA May 29, 2019

Denfeld High School, Duluth, MN – *River watch*  September 19, 2018

Marine Biological Laboratory – *Grant fellowship writing* July 23, 2018

Marine Biological Laboratory – *What is grad school really like?* June 25, 2018

Lowell Elementary – *Turtle time* April 26, 2018

Myers-Wilkins Science and Engineering Night April 18, 2018

Lowell Elementary – *Playing with plankton* March 28, 2018

Swenson Science and Engineering Day – *Weakly electric fish* March 19, 2018

Lowell Elementary – *Underwater sounds* March 14, 2018

Lowell Elementary – *Animal behavior* February 26, 2018

Lowell Elementary – *Lake Superior fish* dissection February 14, 2018

Northeast MN Regional Science and Engineer Fair Judge February 3, 2018

Lowell Elementary – *Wild Rice Detective*  January 31, 2018

Lowell Elementary – *Fish Structures and Function* January 17, 2018

Lowell Elementary – *Fish Families*  November 29, 2017

Lowell Elementary – *Fish Sense*  November 8, 2017

UMD AFS beach clean-up October 8, 2017

Woods Hole Science Stroll MBL exhibit August 12, 2017

***Undergraduate***

Myer-Wilkens Elementary Young Scientists after-school program April 18, 2017

University of Minnesota – Duluth Science and Engineering Night February 18, 2017

Northeast MN Regional Science and Engineer Fair Judge February 4, 2017

University of Minnesota – Duluth Outreach, Lincoln Park Elementary December 9, 2016

University of Minnesota – Duluth Biodiversity Showcase November 10, 2016

University of Minnesota – Duluth Science Day and Student Panelist October 15, 2016

UMD AFS beach clean-up September 17, 2016

University of Wisconsin – Superior Upward Bound Panelist April 22, 2016

MN Sea Grant Booth, 2016 Arrowhead Home and Builders Show March 31, 2016

MN Sea Grant Booth, 2016 Boat and Trade Show February 20,2016

University of Minnesota – Duluth Admitted Students Day February 19, 2016

Northeast MN Regional Science and Engineering Fair Judge February 6, 2016

U.S. Geological Survey Upper Midwest Environmental Center January 4-7, 2016

MN Lake Superior DNR Fall Assessment October 21 & 29, 2015

UMD AFS Beach clean-up September 19, 2015

After-school math tutor, Piedmont Elementary September 2013 – December 2014

**References**

Joseph A. Sisneros, Ph.D. Allen F. Mensinger, Ph.D.

Professor Department Head/Professor

Department of Psychology Department of Biology

University of Washington University of Minnesota – Duluth

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