

Alex R. Seigel

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Education

- M.S. in Conservation Biology – Anticipated Graduation Date: December 2023, University of South Florida, St. Petersburg Campus, Department of Integrated Biology
- B.S. in Ecology and Evolutionary Biology – Minnesota State University Moorhead, Biosciences Department

Research Experience

- Thesis: The hidden benefits of restoration: using eDNA to assess fish diversity as a measure of the health of restored estuaries, Spring 2022 – Fall 2023, University of South Florida, Advisor: Dr. Deby Cassill
- Tone deaf: zebrafish do not generalize fear for auditory stimuli, Fall 2019/Spring 2020, Biosciences Department, Minnesota State University Moorhead, Advisor: Dr. Brian Wisenden
- Association of predation risk with a heterospecific vocalization by an anabantoid fish (*Trichogaster chuna*). Spring and Summer 2021, Biosciences Department, Minnesota State University Moorhead, Advisor: Dr. Brian Wisenden
- Goose and Duck Population Management/E coli. Wastewater parameters. Spring 2021, Biosciences Department, Minnesota State University Moorhead, Advisor: Dr. Donna Stockram
- Influence of hypoxia on the reactions of Fathead Minnows (*Pimephales promelas*) to chemical cues, Fall 2021, Biosciences Department, Minnesota State University Moorhead, Advisor: Dr. Brian Wisenden

Research Publications/Manuscripts

- **Seigel, A. R.**, DeVriendt, I. G., Hohenstein, S. J., Lueders, M. B., Shastri, A., & Wisenden, B. D. Tone deaf: zebrafish do not generalize fear for auditory stimuli. *Behavioural Processes*. Volume 189. August 2021. <https://doi.org/10.1016/j.beproc.2021.104421>
- **Seigel, A. R.**, DeVriendt, I. G., Strand, M. C., Shastri, A., & Wisenden, B. D. Association of predation risk with a heterospecific vocalization by an anabantoid fish. *Journal of Fish Biology*, 1–6. November 2021. <https://doi.org/10.1111/jfb.14965>
- Strand, M. C., DeVriendt, I. G., **Seigel, A. R.**, Merkord, C. L., & Wisenden, B. D. Hypoxia constrains behavioral responses to chemical alarm cues by fathead minnows (*Pimephales promelas*). *Environmental Biology of Fishes*. March 2022. <https://link.springer.com/article/10.1007/s10641-022-01235-7>

Grant Writing Experience

- Grant Writing to request funding for research project: Association of predation risk with a heterospecific vocalization by an anabantoid fish (*Trichogaster chuna*). Successfully received full funding.
- Grant writing to request funding for travel to the Animal Behavior Society Conference in Costa Rica, Summer 2021. Declined due to the conference moving to a virtual setting.
- Grant Writing to request funding for a research project: Influence of hypoxia on the reactions of Fathead Minnows (*Pimephales promelas*) to chemical cues. Successfully received full funding.

Research Posters

- Larson, P., Hohenstein, S., **Seigel, A.**, DeVriendt, I., Thompson, T., Cook, K., Sullivan, K., Hillers, L. (2019-2020) Marine Ecology Lab.

- **Seigel, A.**, DeVriendt, I. Hohenstein, S., Lueders, M. (2019-2020) Tone Deaf: Specificity in Auditory Conditioning of Zebrafish (*Danio rerio*). Minnesota State University Moorhead: Student Academic Conference. (April 2021)
- **Seigel, A.**, DeVriendt, I., Strand, M. (2021) Croak or be croaked: Alarm calls from a vocalizing fish. Minnesota State University Moorhead: Student Academic Conference. (April 2021)
- **Seigel, A.**, DeVriendt, I. Hohenstein, S., Lueders, M. (2019-2020) Tone Deaf: Specificity in Auditory Conditioning of Zebrafish (*Danio rerio*). Animal Behavior Society Research Conference. (August 2021)
- **Seigel, A.**, DeVriendt, I., Strand, M. (2021) Croak or be croaked: Alarm calls from a vocalizing fish. Animal Behavior Society Research Conference. (August 2021)
- **Seigel, A.**, DeVriendt, I. Hohenstein, S., Lueders, M. (2019-2020) Tone Deaf: Specificity in Auditory Conditioning of Zebrafish (*Danio rerio*). Northern Plains Biological Symposium, North Dakota State University. (October 2021)
- **Seigel, A.**, DeVriendt, I., Strand, M. (2021) Croak or be croaked: Alarm calls from a vocalizing fish. Northern Plains Biological Symposium, North Dakota State University. (October 2021)
- **Seigel, A. R.** The hidden benefits of restoration: using eDNA to assess fish diversity as a measure of the health of restored estuaries. USF Graduate Studies Research Symposium. (March 2022)

Research Presentations

- Larson, P., Hohenstein, S., **Seigel, A.**, DeVriendt, I. Marine Ecology Lab. Minnesota State University Moorhead: Friday Research Education and Explanation Seminar. (February 2020)
- **Seigel, A.**, DeVriendt, I., Hohenstein, S., Lueders, M. (2019-2020) Tone Deaf: Specificity in Auditory Conditioning of Zebrafish (*Danio rerio*). Minnesota State University Moorhead: Friday Research Education and Explanation Seminar. (September 2020)
- **Seigel, A.** Summer 2020 Internship/Research Course, Minnesota State University Moorhead: Friday Research Education and Explanation Seminar. seminar (October 2020)
- **Seigel, A.**, DeVriendt, I., Strand, M. (2021) Croak or be croaked: Alarm calls from a vocalizing fish. Minnesota State University Moorhead: Friday Research Education and Explanation Seminar. (March 2021)
- Strand, M. C., DeVriendt, I. G., **Seigel, A. R.**, Merkord, C. L., & Wisenden, B. D. Hypoxia constrains behavioral responses to chemical alarm cues by fathead minnows (*Pimephales promelas*). Minnesota State University Moorhead: Friday Research Education and Explanation Seminar. (December 2021)

Internships/Experiences

- Internship as a research assistant under Dr. Ryan Schloesser in the Fisheries Ecology & Enhancement department at Mote Marine Laboratory. January 04, 2022 through May 29, 2022. Learned field skills including seining, tagging, eDNA sampling, and more. Learned lab/data skills such as R Studio analysis, preserved fish sampling, and more.
- Internship as Aquarist at the Butterfly House and Aquarium in Sioux Falls, SD. Summer 2020. Learned about animal husbandry for both freshwater and saltwater species, learned valuable teamwork and public speaking skills. Did a research project on coral identification.
- Field School Miami: Intro to Shark Research Course. Summer 2020. Learned about all the aspects of shark research from equipment maintenance, shark ecology/biology, workups, catches/releases, and more.

Work Experience

- Lab Teaching Assistant – University of South Florida – Genetics and Ecology – Conducted solo lab activities covering a wide range of topics related to genetics and ecology. Included both in-lab and outdoor lessons. Grading and student issue management were also key aspects of my responsibilities.

- Petco – Aquatic Specialist – July 2022 to Present. In-store care and maintenance of aquatic (saltwater, freshwater and semi-aquatic) animals, as well as teaching/advising customers on the proper care of saltwater and freshwater aquariums and semi-aquatic terrariums.
- Grading Assistant – University of South Florida Department of Integrative Biology – Animal Behavior Spring 2022 – Helped to grade assignments and occasionally run the class if needed.
- Lecture Teaching Assistant – Minnesota State University Moorhead Biosciences Department – Organismal Biology Fall 2021 – Helped to teach the lecture, prepare students for exams, answer questions
- Marine Lab/Oceanarium Project Leader - Minnesota State University Moorhead, Fall 2019 through Fall 2021 - Feed, lead tours, general maintenance, website and social media development, live feeds.
- Marine Lab/Oceanarium President – Minnesota State University Moorhead, Spring 2020 through Fall 2021 – Run operations in the Oceanarium, monitor the organization members and display tanks, give tours.
- Marine Lab/Oceanarium Web Developer – Minnesota State University Moorhead, Fall 2019 through Fall 2021, monitor and maintain the live feeds of the displays and website.
- Marine Lab/Oceanarium Learning Assistant – Minnesota State University Moorhead, November 2019 – Class: Organismal Biology - Answer student questions about the Marine Ecology Lab.
- Office Assistant - MSUM Office of Undergraduate Admissions, August 2019 through December 2019 - Worked with prospective students and families to welcome them to the MSUM campus, kept records through Excel Spreadsheets, and made sure people got to where they needed to be on time for any meetings of phone calls
- Student Specialist - MSUM Academic Support System, January 2020 to Present – Worked with current students and families to help them with any academic needs, kept records through Excel Spreadsheets, and Made sure people got to where they needed to be on time for any meetings of phone calls
- Dragon Ambassador/Lead Dragon Ambassador - August 2020 through Graduation December 2021. Give campus tours and promote campus life, builds public speaking skills. Was promoted to Lead Dragon Ambassador starting January 2021.

Memberships

- Animal Behavior Society Membership – Minnesota State University Moorhead
- The Wildlife Society Membership – Minnesota State University Moorhead
- TriBeta Biological Honor Society Membership – Minnesota State University Moorhead

Honors, Scholarships, and Awards

- Guy Harvey Scholarship Recipient – 2023
- USF St. Petersburg Graduate Assistantship – Fall 2022, Spring 2023 and Fall 2023
- Mote Internship Stipend Award – Spring 2022 (Two-time recipient)
- University Scholarship – Fall 2019 through Fall 2021
- POET Never Satisfied Scholarship Recipient – Fall 2021
- MSUM Genevieve King Memorial Scholarship Recipient – Fall 2021
- MSUM Jennie Johnson Scholarship Recipient – Fall 2021
- Selected to be the Student Commencement Speaker for Fall 2021 commencement ceremony
- Dean’s List (MSUM) – Every semester during undergrad (Fall 2019, Spring 2020, Fall 2020, Spring 2021, and Fall 2021)

Skills

- Shark Research Field Training/Experience

- Knowledgeable of Microsoft Office Programs and Excel Spreadsheets
- In Field Sampling Skills – Teleosts and Chondrichthyes – Fresh and Saltwater
- In Field Seine Netting, Long Lining, Drum Lining, Cast Netting
- eDNA Field Sampling
- Fish Tagging (CWT and PIT)
- Pick-up of Key Fish Species from Anglers at Boat Docks
- Fish Identification (Marine and Freshwater)
- Antenna Ray Assemblage and Set-Up/Tuning Both in Field and in Lab
- RStudio Coding
- Care for Both Saltwater and Freshwater Life
- Science Lab Skills
- Public Speaking and Social interaction
- Leadership Skills

Extracurricular Activities

- MSUM Undergraduate Scientists in Research Funding Committee (President) – Fall 2021
- MSUM Marine Ecology Lab/Oceanarium Group (President) Spring 2020 through Fall 2021, (Member) Fall 2019 through Fall 2021
- Daily Care and Maintenance of the MSUM Oceanarium and Fish Research Room, Fall 2019 through Fall 2021
- Student Senate Senator (Senator At-Large), Fall 2019 through Spring 2020
- Snarr Complex Area Council (President), Fall 2019 through Spring 2020
- Sustainable Students Committee (Public Relations Coordinator), Fall 2019 through Spring 2020
- Public Relations Committee, Fall 2019 though Spring 2020

Volunteer Activities

- Led Marine Ecology Lab tours for visiting school groups
- Community Outreach activities through MSUM
- Coach/Judge for Moorhead High School Speech Team (2020)

References/Letters of Recommendation Available Upon Request

- Dr. Brian Wisenden – Professor in the Biosciences Department/Current Professor of Biosciences – MSUM (Undergraduate Faculty/Research Advisor) – Academic/Research
- Michelle Coley – Lead Aquarist - Butterfly House and Aquarium in South Falls, SD – (Advisor) – Internship
- Dr. Deby Cassill – Professor at the University of South Florida – USF (Masters Faculty/ Advisor) – Academic/Research
- Dr. Ryan Schloesser – Staff Scientist & Program Manager for Fisheries Ecology & Enhancement – Mote Marine Laboratory (Advisor) – Research/Internship