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THE Open Reading Frame

Newsletter of the
Genetics Section of the American Fisheries Society

In this issue

Fishing in -14°C along the Credit River, Mississauga, Ontario.

President's Message

Dr. Jared Homola
AFSGS President

Season's Greetings Genetics Section members,

This time of year often brings reflections on the year that was and aspirations about the things a refreshed calendar may bring. For many in our profession, reflecting on 2025 evokes strong emotions, especially for those who have faced challenges to their careers, livelihoods, or witnessed similar struggles among colleagues and students. While these feelings remain present in my own reflections, I wanted to dedicate this column to expressing gratitude, which I am fortunate to also readily find.

Throughout the past year, I have been heartened to see individuals and institutions lend tangible support to students and colleagues affected by changes in the federal government. In our universities and professional societies, programs have been established or reenvisioned to support students affected by lost grant funding. In AFS, actions have been taken to extend support to disaffected federal employees through advocacy for people, institutions, and foundational ideas. AFS leadership has also proactively worked to strengthen the society's financial health by implementing cost-saving measures and enhancing member value, with the goal of raising revenue through membership growth.

I am grateful for time spent with colleagues at the AFS Annual Meeting in San Antonio in August. This past year, the Genetics Section took a new route for supporting our activities during the annual meeting by recruiting a sponsor. Illumina kindly stepped up to provide resources that the section's executive committee allocated for an off-site social with food and drink provided (see photos in this newsletter). The Genetics Section also hosted two great symposia, *Applications of Fisheries Genetics and Genomics* and *Highlighting the Cutting Edge: Graduate and Early Career Research in Genomics*, both of which were often standing room only as attendees packed the room to see talks.

Finally, I'm grateful for the opportunity to work with the Genetics Section's wonderful ExCom in support of our membership. We are investing our collective energy in building a more solid foundation for achieving current

President's Message cont'd

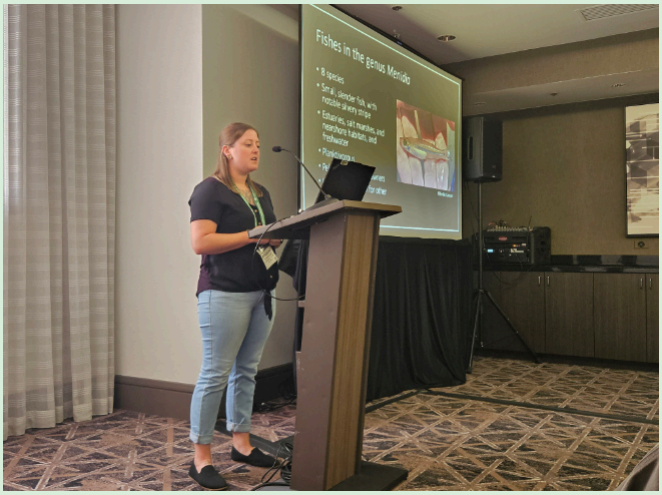
and future goals of the Genetics Section by updating bylaws, generating a procedures manual, and instituting new means of ensuring information continuity. We are also identifying ways the section can better serve our membership through catalyzing tangible deliverables, such as publishing best scientific practices for fisheries genetics procedures and facilitating information sharing for graduate and undergraduate courses related to our discipline.

I hope the holiday season brought time for rest and grateful reflection to you all as well.

Jared Homola
President, AFS Genetics Section

Reflections on the AFS Genetics Section Symposium

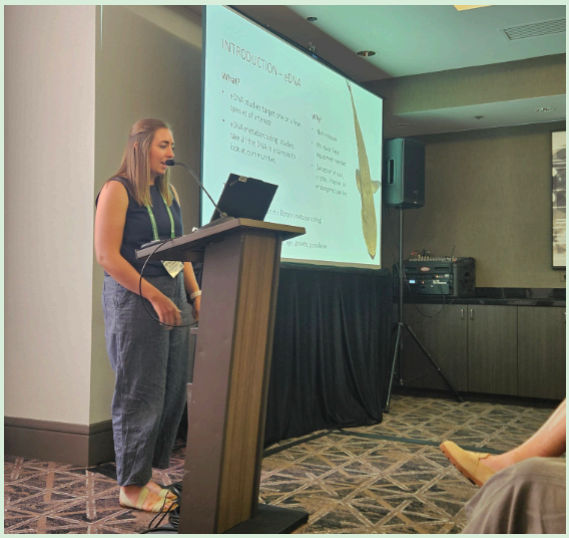
Applications of Fisheries Genetics and Genomics



This was an excellent two-day symposium that highlighted research that utilized genetic or genomic tools in fisheries applications focusing on species from both freshwater and marine ecosystems across 25 presentations. Studies included genetics approaches to estimate population structure and diversity, to identify hybridization and adaptation, state of the art genomic methods and analyses, and eDNA monitoring. Most studies included aspects of conservation and preservation of genetic diversity for species of concern or those in need of further data for fisheries management. While presentations spanned watersheds and coastlines across North America, there were also several contributions that placed focus on the southwestern USA, emphasizing regional studies. This symposium included researchers at all career stages, ranging from agency scientists, academic faculty, students, and post-docs with opportunities to interact across various paths. The symposium was led by Guilherme Caeiro-Dias (U. of New Mexico) who coordinated abstracts and moderators for the session.

This symposium will be continued in future years, including the upcoming 2026 meeting in Columbus, Ohio. If you or your colleagues are interested in assisting with coordinating this symposium, please reach out to Shawn Narum (nars@critfc.org).

Dr. Shawn Narum



Sights from the AFSGS Social!

On Tuesday evening of the AFS Annual Meeting in San Antonio, Genetics Section members gathered for a social event at Prost Riverwalk Patio and Alchemy Bar in downtown San Antonio. The social drew forty-five conference attendees from across academia, agencies, and industry. Guests enjoyed a buffet-style dinner, reconnecting with familiar faces, and forging new connections in a vibrant atmosphere featuring live music and scenic views of boats gliding along the San Antonio River.

A highlight of the night was the recognition of the 2025 Genetics Section award winners. Students were celebrated for receiving travel support through the Wright Award, and a distinguished career was honored with induction into the Hall of Excellence. The Executive Committee looks forward to bringing section members together again at the next social event during the 2026 Annual Meeting in Columbus.

Jared Homola

AFSGS President












James E. Wright Award Winners

The James E. Wright Graduate Award is given in the memory of Jim Wright, one of the founders of fish genetics research and education in North America. This award is presented annually to recognize excellence in graduate-level work in fisheries genetics, as well as assist graduate students with travel to the national meeting. For 2025, our student winners were Emily Tryc, Allison Weber, Emily Bierer, and Erik Pawelski. Last issue we met Emily T. And Erik, and for this issue Emily B. and Allison introduce themselves and their research below.

Emily Bierer, Duquesne University

I am a sixth-year PhD candidate in Duquesne University's Biology Department working with Dr. Brady Porter. My dissertation project focuses on the evolution of pigmentation in a diverse group of darters (*Etheostomatinae*). Coloration is crucial to fish for communication, sexual selection, and camouflage. Amongst darters, males of select subspecies express a blue-green coloration particularly during mating varying in blue to green hues depending on species. Current research has shown that a protein is producing the pigmentation within these darters rather than a structural feature of the fish. To evaluate some of the protein differences I have explored both the structure as well as the genetic composition of the protein. To compare structures, I have evaluated size differences, light absorption profiles, fluorescence emissions, and compared the ligand binding to the protein that produces color. To analyze the genetic composition of the protein, we have taken a dual approach where I have used mass spectrometry to determine an amino acid sequence for 3 of my 7 target species that is then compared to Sanger sequencing data for the target gene that was amplified from genomic DNA. This research plays an important role in understanding the underlying genetic and biochemical structure differences between chromoprotein pigments responsible for producing either a blue, green, or bluish-green coloration in diverse male darters.

Emily Bierer

I am honored and grateful to have received the James E. Wright Award in 2025 as it aided in covering the cost for me to attend the Annual AFS Meeting in San Antonio. This opportunity allowed me to network with others working in the fisheries field and attend interesting talks ranging in topics from management to population surveys. It was wonderful to be surrounded by like minded people and to hear of all the amazing fisheries research being done across the country.

Allison Weber

Allison Weber, Texas A&M University-Corpus Christi

I am a third-year marine biology Ph.D. student at Texas A&M University-Corpus Christi, working with Dr. Christopher Hollenbeck in the Marine Genomics Lab on eastern oyster (*Crassostrea virginica*) genetics. Part of my dissertation research focuses on investigating the fine-scale population genetics of a region along the Texas coast where two genetically distinct eastern oyster populations overlap and admix. Oysters contribute numerous environmental and economic benefits, and this region holds particular importance for the Texas oyster fishery and aquaculture industry. However, wild reef abundance is in decline due to anthropogenic and environmental stressors, and genetic research is needed to guide long-term monitoring and management. The ultimate goal of my work is to determine current population structure and level of admixture at the reef level, and to investigate potential mechanisms of reproductive isolation between the two genetically distinct populations. Findings will enhance our overall understanding of eastern oyster population dynamics and connectivity, supporting more informed, targeted, and sustainable strategies for conservation/restoration, aquaculture, and fishery management.

James E. Wright Award Winners cont'd

I am honored to have received the James R. Wright Award, and would like to thank the AFS Genetics Section for the opportunity and support to present my current work at the annual AFS meeting in San Antonio, TX. Presenting this research to fellow fisheries scientists in the state where it is being conducted is a great opportunity, and I look forward to engaging with other students and researchers from diverse research backgrounds.

2025 Genetics Section Hall of Excellence

Dr. Marlis Douglas

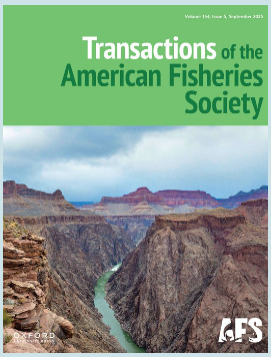
Dr. Douglas is a Professor at the University of Arkansas and has been prolific in her contributions to evolutionary, conservation and population genetics, fisheries conservation, public outreach and mentoring the next generation of fisheries biologists. Her research program in conservation science and conservation genetics is expansive and has spanned an impressive array of taxa and ecosystems ranging from endemic suckers in the Colorado River, Desert Pupfish in the American southwest, to Alpine Whitefish in lakes of central Europe. She has published eighty-six papers in the the peer reviewed literature in a diversity of journals that target a variety of audiences. Marlis has been a tremendous mentor for many students and early career researchers over the years, working with several dozen people to advance their knowledge, broaden their perspective, and develop careers in the fisheries community. Dr. Douglas' involvement with the American Fisheries Society has been extensive, and her engagement spans involvement at all societal levels—committee and leadership roles, student mentoring, organization of networking events, workshops, and cosponsored symposia. Her past positions within the society include a 6-year commitment to the Genetics Section as 2018–2024 President-Elect/President/Past-President, and Executive Committee leadership roles in the parent society. Marlis has embraced the role of science communicator, and is an incredible advocate of science, the fisheries community, and the American Fisheries Society.

Dr. Marlis Douglas

In case you missed it...

Recent genetics papers from AFS journals and beyond

Click citations for link to papers



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Calendar

Click listings for more info

To find dates and information for AFS chapter meetings, visit fisheries.org/about/units/

January 2026

25–28: 86th Midwest Fish & Wildlife Conference, Fort Wayne, IN.

February 2026

16–19: Aquaculture America 2026, Las Vegas, NV.

22–26: 11th World Recreational Fishing Conference, Eastern Cape, South Africa.

22–27: Ocean Sciences Meeting, Glasgow, Scotland.

May 2026

4–8: International Fish Passage Conference 2026, Davis, CA.

12–16: ASLO-SIL 2026 Joint Meeting, Montreal, QC.

17–21: Society for Freshwater Science 2026, Spokane, WA.

25–29: IAGLR & SCAS-SCSA Joint Conference, Winnipeg, MB.

Save-the-Date! September 2026

21–25: 16th International Symposium on Biology and Management of Coregonid Fishes, Port Elgin, ON.

22–24: National Indigenous Fisheries & Aquatic Forum, Kjipuktuk (Halifax), NS.

Newsletter Co-Editor Volunteer Opportunities!

We are seeking two new co-editors to carry on the Open Reading Frame! Please contact Jared Homola (homolaj1@msu.edu) if you are interested. We're happy to provide a smooth transition and walk you through how we put this newsletter together. - Ellie & Paige

Job Postings

Click ads for more info

Senior Research Associatte - Cornell University
The College of Agriculture and Life Sciences is seeking an individual with the ability to develop and lead a strong research program in fish ecology and fisheries management with funding from NYSDEC. The Sr. Research Associate will be expected to work with NYSDEC fisheries managers and with scientists at Cornell to develop and conduct research projects on Oneida Lake and potentially other fisheries across New York State and contribute to scientific-based management of New York's warmwater fisheries resources. Open until filled.

Seasonal Aquatic Ecology Field & Lab Technician - Lake Michigan Biological Station
The Lake Michigan Biological Station is looking for Seasonal Technicians to participate in monitoring sport fish harvest dynamics along the Illinois shoreline of Lake Michigan, as well as assist with research activities related to monitoring yellow perch population dynamics, nearshore fish assemblages, benthic invertebrate and zooplankton prey resources, quantifying the biological community on artificial reefs, and acoustic telemetry of sport fish in Lake Michigan and connecting waters. Successful candidates will be responsible for detailed record keeping and professionally interacting with the public. They will assist with field sampling of nearshore fishes, benthic invertebrates, and zooplankton, as well as with laboratory sample processing and gear maintenance. Field work will be done from small boats on a large body of water using a variety of gears. Laboratory work entails substantial time spent at microscopes, sorting and identifying organisms, as well as fish dissections and processing structures for aging. Open until filled.

Postdoctoral Research Fellow in Comparative Animal Biomechanics - Chapman University
The Comparative Biomaterials Lab at Chapman University invites applications for a Postdoctoral Fellow position beginning January 2026 or later. The position is funded by a National Science Foundation grant that aims to understand the biophysics of hagfish defensive slime deployment and how this unique material expands by 10,000 times in less than 0.4 seconds. We also aim to characterize how this material varies among hagfish species that differ in phylogeny, body size, depth range, habitat, and lifestyle. The postdoctoral research fellow will contribute to a collaborative, interdisciplinary project and will focus on a set of experiments that will make use of high-speed videomicroscopy, a custom-built turbulence tank, and particle image velocimetry methods. This assignment is set to begin February 2, 2026.

Summer Internships - Flathead Lake Biological Station
The summer internship program at the Flathead Lake Biological Station provides undergraduate students (both UM and non-UM) the opportunity to work at an internationally recognized research facility with world-class scientists. Interns gain relevant work experience while living and working on the shores of beautiful Flathead Lake. Internship opportunities are available from a range of academic disciplines including: chemistry, aquatic ecology, microbiology, technology, data modeling, website development, and educational outreach. Internships run for 8 weeks from mid-June through mid-August, in parallel with the FLBS summer session. Internships are paid positions and include room and board. Deadline to apply varies, between February 7–22.

A fish-eye view of the forest surrounding the Crooked River, BC. C. Emmel.

Section Officers

Committees