

# Women of the Water – Gulf Regional Event

## Presentation Abstracts

### **My Journey in Aquaculture: What Brought Me Here and What Comes Next**

*Ana Beatriz de Sena Farias*

In this presentation, I will share my personal and professional journey in aquaculture, beginning with the experiences that first drew me to this field and the early research opportunities that helped shape my interests. I will talk about some of the aquatic species I have worked with since I began my career in aquaculture and how these experiences helped me better understand the diversity and challenges of the field. I will also reflect on how my academic and research path started in Brazil and later brought me to the United States, where I continued to grow through new opportunities, challenges, and collaborations. In addition, I will discuss the work I am doing now and how it has contributed to my development as a researcher. Through this presentation, I hope to share how my background, experiences, and research journey have shaped my goals and my vision for the future of my career in aquaculture.

### **Across Waters, Women Building Futures in Aquaculture**

*Bianca Narvaez, Ifeoluwa Durowaiye*

Aquaculture is a global field shaped by diverse experiences, environments, and cultural perspectives. This presentation brings together two women from Nigeria and Belize who are now working in aquaculture at Kentucky State University. Although we come from different backgrounds, our paths into this field are rooted in early connections to water, food systems, and community. In this session, we share how each of us found our way into aquaculture, from where we started to the decisions and challenges that led us to pursue this work in the United States. Our experiences reflect different entry points into the field, but a shared commitment to learning, contributing to something larger than ourselves. We also speak about our current roles as Graduate Research Assistants at Kentucky State University, where we are involved in research, extension, and hands-on work within aquaculture systems. These roles have strengthened both our technical skills and our understanding of how aquaculture can support local and global communities. Looking ahead, we reflect on where we see ourselves and how we hope to apply what we are learning to support sustainable aquaculture in our home countries and beyond. By sharing our stories, we aim to highlight the many ways women enter this field and the value of diverse perspectives in shaping its future.

## **Escar-go Away! Local Adaptation to Low Salinity in Oyster Drill Snails**

*Christa M. Russell, Abigail Halterman, Delbert L. Smee*

Oyster drills (*Stramonita* sp.) are marine gastropods and the primary predators of oysters in the northern Gulf of Mexico. Drill predation is generally considered salinity dependent, and loss of entire oyster reefs has been documented following salinity facilitated drill outbreaks. However, field observations of drills in frequently freshwater-inundated areas suggest that some populations may tolerate lower salinities than expected.

We exposed drills from three regions characterized by high, intermediate, and low ambient salinity regimes to a gradient of salinity stress and monitored their behavior and feeding on *Crassostrea virginica* spat. Salinity was reduced from ambient conditions (20 ppt) to stressful levels (5–7 ppt and 2–5 ppt), and drills were observed for changes in activity and foraging rate. Treatments included both constant and pulsed low-salinity exposure. Genetic structure among populations was examined using qPCR analyses.

Although the three populations were genetically panmictic, they exhibited distinct behavioral responses to low-salinity stress. Only one population responded to severe low salinity in a manner likely to result in drill mortality. These findings suggest that some oyster drill populations may be regionally adapted to exploit low-salinity habitats previously considered predation refuges for oysters, with important implications for oyster reef resilience under changing freshwater regimes.

## **Utilizing Oyster Feeding Physiology to Inform Aquaculture, Restoration, and Education**

*Randi Cannon, Jessica Lunt, Delbert L. Smee*

Oysters (*Crassostrea virginica*) are critical foundation species in estuaries, providing numerous ecological and economic benefits. However, oyster populations have diminished worldwide. Effective oyster restoration and aquaculture require a mechanistic understanding of the physiological and environmental factors that govern oyster feeding, growth, and resilience under changing coastal conditions. We investigated how oyster ploidy and environmental conditions influenced oyster feeding in Mobile Bay. To better understand feeding responses and behaviors we used in-situ filter feeding assays to determine if feeding differences existed amongst diploid and triploid oysters and gathered a baseline for growth and in-situ feeding rates of oysters across Mobile Bay in the Spring, Summer, and Fall. Our findings highlight the role of intrinsic genetic and physiological traits in shaping oyster performance and provide a baseline for interpreting responses to environmental variability. Across spatial and seasonal variation in oyster in-situ feeding and growth across three contrasting sites, results revealed strong spatial and seasonal variability

in feeding and growth. This was driven primarily by seston composition and salinity. Collectively, we found that oyster feeding, growth, and survival are shaped by both intrinsic traits, such as ploidy, and extrinsic factors including environmental variability. Understanding the interplay between physiological plasticity, seston quality, and abiotic conditions is essential for informing restoration and aquaculture strategies that sustain ecological function and the ecosystem services oysters provide. Utilizing this information to shape restoration, aquaculture, and education is key in the coming years to improve the health of Mobile Bay and the state of our oysters.

### ***Growing, Changing, and Navigating Career Paths: Overcoming Challenges Facing Women in Executive Roles in Research***

*Alyssa Dausman, PhD*

Women who go into water research fields face numerous challenges. From navigating career paths in an often male-dominated field, to deciding which path to take, and even steering salary negotiations, the field can seem daunting and overwhelming—particularly when an education in a field of science does not necessarily prepare one for entering the workforce. This presentation will cover what it's like to be a female executive in a water-related research organization, the pivotal decisions that women typically make in their careers and lives, and the challenges that must be overcome to get there. It will also highlight the strengths a "woman of the water" brings to any job. Ultimately, finding joy and purpose in life, and in work that scales impact in the world, will be what fulfills one no matter the career path. Regardless of the challenges, women do not have to do these things alone, finding support and mentorship is key to success.