






RESOURCES

Exploring Sustainable Seafood

How Science and Innovation are Improving Seafood Farming

SPEAKERS

David Fredriksson, PhD
US Naval Academy

Christopher Oakes*
NovoNutrtients

Tyler Sclodnick*
Innovasea

**See attached for bio.*

KEY TERMS AND CONCEPTS

Technology and Innovation

- Innovasea**
  See:
  - *Submersible Aquaculture Systems*
  - *Aquaculture Intelligence*
- NovoNutrients: How it Works**

Designing for Specific Conditions

- Hydrodynamic characteristics of a full-scale kelp model for aquaculture applications *(Fredriksson et al, 2020)*
- Basis-of-design technical guidance for offshore aquaculture installations in the Gulf of Mexico *(Fredriksson et al, 2019)*
- Aquaculture farms as nature-based coastal protection: Frequency dependent analytical solutions for random wave attenuation by suspened and submerged canopies *(Zhu et al, 2020)*
- A containment barrier structure of in-situ setting of Crassostrea virginica for aquaculture and restoration applications *(Fredriksson et al, 2016)*
- An aquaculture net finite element modeling technique with laboratory bench-top measurement validation *(Fredriksson et al, 2014)*

Fish Feed

- Five Major Challenges Facing the Global Aquafeed Sector *(The Fish Site, 2020)*
- Demand and Supply of Feed Ingredients for Farmed Fish and Crustaceans *(FAO, 2011)*

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Wildlife Interactions

- Southern California Offshore Aquaculture Gear and Protected Species Interactions Workshop Report *(NOAA Fisheries, 2019)*

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SPEAKER BIOS

Christpher Oakes

Christopher Oakes is the Vice President of Product and Market Development at NovoNutrients, a biotechnology firm making feed from CO_2. Chris is a proud alumnus of SynBioBeta and the Sustainable Ocean Alliance, where he served as General Manager and Chief Operating Officer respectively. Today he is focused on leveraging industrial and synthetic biology to develop solutions to some of the ocean's greatest challenges. He also serves as a judge and industry advisor with F3, Future of Fish Feed and is excited to be a part of the movement to inspire new frameworks of thinking to co-create a better future. Chris is a marine scientist, biotechnologist and professional scuba diver with an academic background in both marine biology and immunology. Chris received his bachelor and masters degrees from Occidental College in Los Angeles, California.

Tyler Sclodnick

Tyler Sclodnick is the senior scientist for Innovasea, a company that is revolutionizing aquaculture and advancing the science of fish tracking to make our oceans and freshwater ecosystems sustainable for future generations. His work focuses on the development of sustainable fish farming technology and optimizing the site selection process and farm operations.

Tyler's career in aquaculture began managing the Cape Eleuthera Institute's open ocean aquaculture research project in The Bahamas. From there he spent four years at the University of Miami, earning a master's degree under the tutelage of Dr. Daniel Benetti, working in the University's Experimental Hatchery and providing consulting services to several companies and fish farms including Ocean Farm Technology, a predecessor company of Innovasea. After Ocean Farm Tech merged to form Innovasea, Tyler was brought on as a field scientist, spending extended time at both of their R&D sites in La Paz, Mexico and Costa Arriba, Panama. Innovasea has since relocated their headquarters to a new office in Boston where Tyler is now based, managing their scientific research program, supporting engineering efforts and developing their open ocean aquaculture consulting arm.

With a strong belief in sustainability and conservation, Tyler sees aquaculture as a tool to help feed the world with healthy protein sources while reducing the resources used and the impact on supporting ecosystems.