



2018 AQUACULTURE INNOVATION WORKSHOP

December 4-6 • Miami, Florida

An International Summit on Fish Farming in Closed-Containment Systems

DoubleTree by Hilton Hotel Miami Airport & Convention Center
Royal Poinciana Ballroom

#AIW2018

— THE —
CONSERVATION FUND
FRESHWATER INSTITUTE

Keynote Speaker

Barton Seaver

**Founder and Chief Education Officer
Coastal Culinary Academy
Portland, Maine**

Barton Seaver's work as a celebrated chef, sustainability advocate, public health educator, and prolific writer has given him technical expertise in, developed personal relationships within, and acquired systemic knowledge of all of the processes by which a fish in water becomes seafood on a plate.

He began his career as an executive chef in Washington, DC where he was recognized with three Rising Culinary Star and two Best New Restaurant awards, and the 2009 Esquire magazine Chef of the Year designation. His restaurant, Hook, was named by Bon Appétit magazine as one of the top ten eco-friendly restaurants in America, serving nearly 100 unique species of seafood in its first year.

Since coming out from behind the stove to focus on sustainable seafood advocacy in 2010, Seaver has served as a National Geographic Fellow, a fellow at The New England Aquarium, a member of the United States Culinary Ambassador Corp., and the Director of the Sustainable Seafood and Health Initiative at the Center for Health and the Global Environment at the Harvard T.H. Chan School of Public Health.

Seaver is an internationally recognized speaker on the topic of seafood and the author of seven books. His most recent book, *American Seafood: Heritage, Culture & Cookery From Sea to Shining Sea*, is an essential guide to more than 500 species, as well as a riveting history of one of our country's most iconic industries.

He lives in coastal Maine, a stone's throw away from a working waterfront, with his wife, son and their 10 heritage chickens.



Workshop Agenda

Tuesday, December 4th

Breakfast

7:00 AM Royal Poinciana Ballroom - South

Welcome and Opening Remarks

8:00 Brian Vinci, The Conservation Fund's Freshwater Institute

Keynote Address

8:05 **Barton Seaver**, Coastal Culinary Academy
Seafood in America: its History, its Future, and Why it Matters

Marketing Sustainable Aquaculture **8:30 - 10:00 AM**

8:30 **Jacqueline Claudia**, LoveTheWild
Bringing Sustainable Aquaculture to Consumers

9:00 **Daisy Berg**, New Seasons Market
Sourcing and Marketing Sustainable Aquaculture

9:30 **Carrie Brownstein**, Whole Foods Market
Sourcing Responsibly Produced Seafood

Break

10:00 - 10:30 AM Royal Poinciana Ballroom - North Foyer

Industry Updates **10:30 AM - 4:00 PM**

10:30 **Johan Andreassen**, Atlantic Sapphire
Update on Atlantic Sapphire Denmark and USA

11:00 **Steven Summerfelt**, Superior Fresh
Atlantic Salmon, Steelhead, and Lettuce Production at Superior Fresh LLC

11:30 **Thomas Hofmann**, Swiss Alpine Fish
Salmon from the Swiss Alps and RAS2020

Lunch

12:00 - 1:00 PM Royal Poinciana Ballroom - South



Workshop Agenda

Tuesday, December 4th (continued)

Industry Updates (continued)

- 1:00 Rögvaldur Gudmundsson, Akvafuture
EcoSalmon: Fishfarming in Closed Cages at Sea
- 1:30 Árni Páll Einarsson, Matorka
Matorka - Building and Operating a Salmonid Farm on Land
- 2:00 Richard Buchanan, AgriAsia
A Decade Of Lessons Learned - Salmon Aquaculture In China
- 2:30 Eric Pedersen, Ideal Fish
Saltwater RAS: Opening the Doors to Raising Marine Species on Land

Break

3:00 - 3:30 PM Royal Poinciana Ballroom - North Foyer

- 3:30 Kees Kloet, Kingfish Zeeland
Kingfish Zeeland's Land-based Yellowtail RAS Project

Finance and Investing 4:00 - 5:00 PM

- 4:00 Tone Bjørstad Hanstad, DNB Markets
The Value of Land-Based Salmon Farming - An Equity Research Analyst's Perspective
- 4:30 Monica Jain, Fish 2.0
Innovations and Changes in the Investor Landscape for Aquaculture

Reception 6:00 PM Royal Poinciana Ballroom - North Foyer

Dinner 7:00 PM Royal Poinciana Ballroom - South



Dinner Speaker: Frode Mathisen, Grieg Seafood
Tomorrow's Aquaculture...

Frode Mathisen

Frode Mathisen has a Master in Biology/Aquaculture from University of Bergen. He has worked with land-based smolt production for 20 years and has experience from Norway, Scotland, Canada and Chile. Frode is a leader implementing RAS and post-smolt strategy at Grieg Seafood since 2007. He is currently chairman of the board for CtrlAQUA (Centre for Research-Based Innovation in Closed-Containment Aquaculture) and the Director of Freshwater Production Grieg Seafood BC.



Workshop Agenda

Wednesday, December 5th

Breakfast

7:00 AM Royal Poinciana Ballroom - South

Technological & Biological Challenges

8:00 - 12:00 PM

8:00 Caird Rexroad, USDA, Agricultural Research Service
USDA ARS Research in Salmonid Aquaculture

8:30 Åsa Maria Espmark, CtrIAQUA/Nofima
CtrIAQUA - New Knowledge About Closed and Semi-Closed Containments

9:00 Christopher Good, The Conservation Fund's Freshwater Institute
Assessing Photoperiod Manipulation to Reduce Atlantic Salmon Maturation

9:30 John Davidson, The Conservation Fund's Freshwater Institute
Evaluating the Effects of Ozone on Steroid Hormones and Post-Smolt Atlantic Salmon Growth, Performance, and Maturation in Freshwater Recirculation Aquaculture Systems

Break

10:00 - 10:30 AM Royal Poinciana Ballroom - North Foyer

10:30 Alex Obach, Skretting Aquaculture Research Centre
New Developments in Feeds for Recirculating Aquaculture Systems

11:00 Jelena Kolarevic, Nofima
Optimizing Light in Closed Containment Systems

11:30 Lill-Heidi Johansen, Nofima
Prevention, Detection and Control of Diseases in Closed Containment Systems - Results from Projects in CtrIAQUA SFI

Lunch

12:00 - 1:00 PM Royal Poinciana Ballroom - South

Mitigating Business Risks

1:00 - 4:00 PM

1:00 Heidi Kyvik, Krüger Kaldnes Veolia
Risk Mitigation by Turn-Key



Workshop Agenda

Wednesday, December 5th *(continued)*

- 1:30 Kari Attramadal**, Nofitech
Monitoring Microbes and Handling H₂S-Challenges in Norwegian Postsmolt RAS
- 2:00 Bill Keleher**, Kennebec River Biosciences
Managing Pathogen Risk in Aquaculture Operations
- 2:30 Aud Skrudland**, Norwegian Food Safety Authority
The Road from Open Cage Farming to Closed, Land Based Farms. Is There a Short Cut?

Break

3:00 - 3:30 PM Royal Poinciana Ballroom - North Foyer

- 3:30 Sigurd Stefansson**, University of Bergen
Educating Aquaculture Professionals for the Future

Biotechnology 4:00 - 5:00 PM

- 4:00 Yonathan Zohar**, UMBC Institute of Marine and Environmental Technology
Aquaculture Waste to Bioenergy: Conversion of Fish Solid Waste to Methane
- 4:30 Larry Feinberg**, KnipBio
Biotechnology for Sustainable Aqua Feeds

Wrap Up / Closing Remarks

- 5:00 Joe Hankins**, The Conservation Fund



Workshop Agenda

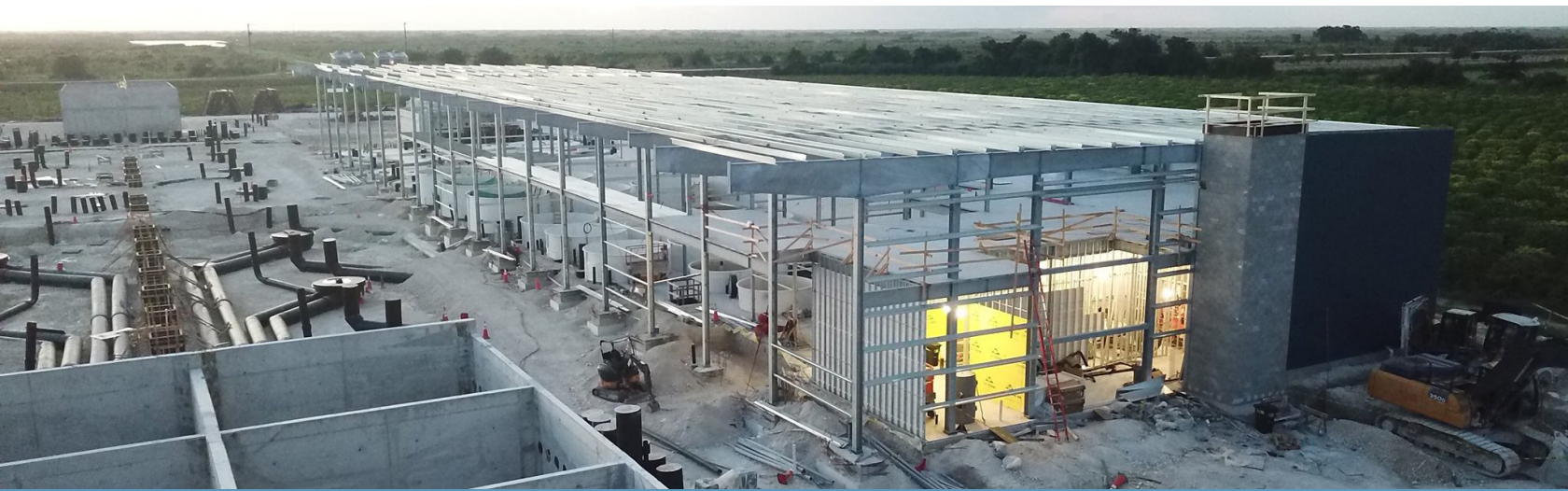
Thursday, December 6th

TOUR

Atlantic Sapphire's Miami Bluehouse™

7:30 AM	Tour bus <u>pickup</u> begins at DoubleTree by Hilton Hotel
7:45 AM	Tour bus <u>departs</u> DoubleTree by Hilton Hotel
9:00 - 11:00 AM	Tour of Miami Bluehouse™
11:00 AM	Tour bus <u>departs</u> Miami Bluehouse™ for arrival at DoubleTree by Hilton by 12 PM

Atlantic Sapphire is pioneering Bluehouse™ (land-raised) salmon farming, locally, and transforming protein production, globally. Atlantic Sapphire has been operating its innovation center in Denmark since 2011 with a strong focus on innovation to equip the company with technology and procedures to commercially scale up production in end markets close to the consumer. In the US, the company has spent over 7 years to identify and permit the ideal location for Bluehouse™ farming in Miami, Florida. The company is well underway with construction of its Phase 1 build out which will enable approximately 10,000 tons of salmon production annually. The company has also secured the key water permits to produce up to 90,000 tons onsite, annually.



For more information on past AIW, including presentations, program, summary notes, and attendee lists, visit:

<https://www.conservationfund.org/our-work/freshwater-institute/aquaculture-innovation-workshop/past-aiws>

- AIW 1: January 17-18, 2011; Shepherdstown, WV, USA
- AIW 2: September 26-27, 2011; Campbell River, BC, Canada
- AIW 3: May 15-16, 2012; Seattle, WA, USA
- AIW 4: November 5-6, 2012; Comox, BC, Canada
- AIW 5: September 4-6, 2013; Shepherdstown, WV, USA
- AIW 6: October 27-28, 2014; Vancouver, BC, Canada
- AIW 7: October 13-15, 2015; Shepherdstown, WV, USA
- AIW 8: August 19-21, 2016; Roanoke, VA, USA
- AIW 9: November 29-30, 2017; Vancouver, BC, Canada



Speaker Biographies

Johan Andreassen

Johan Andreassen is the founder, Chairman and CEO of Atlantic Sapphire. They are currently building a large land based salmon facility (Bluehouse™) in Florida and have an existing pilot project in Denmark. Johan has a long history in salmon farming in Norway, having co-founded organic salmon farming pioneer Villa Organic and managed it as the CEO from 1995 to 2010.

Kari Attramadal

Kari has a Ph.D. in water treatment for microbial control in marine aquaculture from the Norwegian University of Science and Technology, where she has worked as a researcher and currently holds a position as Associate Professor II. She recently left her job as a researcher in SINTEF Ocean to work as Head of Research in Nofitech, which is a Norwegian contractor of postsmolt RAS modules.

Daisy Berg

Daisy is the Seafood Program & Category Manager for New Seasons Market in Portland and Seattle and New Leaf Community Markets in Northern California. Her history in the seafood industry runs deep, starting at the early age of 9 in her family's seafood business, Nantucket Shoals New Mexico. Her father supplied fresh seafood to high-end restaurants in the Albuquerque area and later opened several seafood markets. Daisy spent a few years in Atlanta, working with a small distributor specializing in sushi grade tuna, before relocating to the Pacific Northwest. There she joined the New Seasons team in 2006 and has overseen the seafood program since 2013, sourcing and building relationships with small, local, eco-safe fishing and farming operations. Daisy's commitment to sustainable fisheries extends beyond New Seasons and New Leaf; she serves on the Fisheries Advisory Council for Fair Trade Seafood and sits on the board of the Salish Center for Sustainable Fishing Methods.

Carrie Brownstein

In the big picture, Carrie's work focuses on creating a model for the seafood industry that supports healthier oceans and communities. Working together with stakeholders and partners—fish farmers, fishermen, environmental groups, scientists and skilled seafood buyers—she aims to create a seafood market that supports responsible aquaculture production, reverses trends in overfishing and bycatch, and puts us on the right track toward greater sustainability. Day to day, her work involves developing sourcing policies, and the programs to implement them, for seafood sold at all Whole Foods Market stores. She treks from desk, to farms, fishing docks, and conferences to research, develop, and speak about these industry leading standards. Most recently, she developed a sourcing policy for canned tuna that requires all fisheries to use pole-and-line, troll or handline catch methods. That means fishermen catch tuna one fish at a time, which prevents bycatch and creates more fishing jobs. The Whole Foods Market canned tuna policy also requires tracking of canned tuna back to the source, utilizing electronic traceability software. Carrie has a Masters degree in Environmental Management from Duke University, where she studied marine ecology and fisheries management. She has worked on seafood sustainability for the past 18 years, but her roots in seafood go farther back: her great-grandfather started a seafood business in 1909.

Richard Buchanan

Mr. Buchanan is the CEO of AgriAsia, a Hong Kong based private company engaged in salmon aquaculture. Through his 35-year career he has been involved in salmon fisheries and aquaculture in Canada. Since 2010, he has pursued the development of the salmon aquaculture industry in China where his company owns a salmon hatchery and a closed containment trout farm in a power generation reservoir in Benxi County, Liaoning Province and is a Joint Venture partner in a land-based salmon farm employing Mixed-Cell RAS technology in Dongying, Shandong Province. He served on the Board of the Vancouver Public Aquarium Association and Board of the Vancouver Aquarium Research & Conservation Foundation for 25 years. Mr. Buchanan obtained his Bachelor of Science in Engineering (Civil) Degree from McMaster University.

Jacqueline Claudia

Jacqueline Claudia, CEO and Founder of LoveTheWild, is a lifelong fish nerd who thought she was going to be a marine biologist when she grew up. Instead, after graduating from Wharton, she spent 15 years working in corporate strategy and innovation before finding her way back to the fish. She fell in love with the potential for sustainable aquaculture, and founded LoveTheWild to de-demonize great farmed fish, make it easier for people to cook great fish at home, and is passionately building a company that has a real shot at saving the world. She is an Intrafish 40 under 40 and Fish 2.0 award winner.



Speaker Biographies

John Davidson

John Davidson is a Research Scientist at the Conservation Fund's Freshwater Institute in Shepherdstown, West Virginia, where he has been employed for more than 18 years. John oversees aquaculture research projects, collects and analyzes biological, water quality, and engineering data, and reports the findings through peer-reviewed publications. John has authored numerous science-based articles focused on fish production in RAS with specific topics including: water quality, sustainable diets, salmonid product quality, off-flavor, ozone, and the effects of accumulating nitrate on salmonids, among others. John holds a B.S. in Biology from Shepherd University and an M.S. in Wildlife and Fisheries Resources from West Virginia University.

Árni Páll Einarsson

Árni has been in the seafood industry all his professional career and has over 20 years' experience of running international seafood and aquaculture companies. He is the CEO of Matorka, which is building one of the world's biggest land-based salmonid farms in Iceland. Árni has extensive understanding and in-depth knowledge of international sales and marketing of high value aquaculture products. He was on the European Business Council in Japan and chaired the Icelandic Chamber of Commerce in Japan for many years. Árni has a masters degree in economics from Japan, and a BA. in International Affairs from Northern Arizona University. He lives with his wife and two kids in Iceland.

Åsa Maria Espmark

Dr. Åsa Maria Espmark is a senior scientist in Nofima, Norway. For the last 17 years, her scientific interests have been related to welfare, welfare indicators and stress, both in Atlantic salmon and the cleaner fish species lump fish and Ballan wrasse. Regarding welfare, most work has been about defining good welfare indicators in commercial production and how to measure stress in suboptimal production situations. The last years, welfare questions with new technologies have been increasing. She is interested in handling procedures such as crowding and pumping, and optimizing husbandry practices to maintain welfare and ensuring research quality. She has been coordinating several large national and international projects, e.g., The EU projects OrAqua and FutureEUAqua. Since October 2017, she has spent the majority of her time as Center Director for CtrlAQUA. CtrlAQUA is a center for research based innovation, funded by the Research Council of Norway, aiming at developing technological and biological innovations to make closed containment a reliable and economically sustainable technology.

Larry Feinberg

Larry Feinberg, Ph.D., is an entrepreneurial industrial biotechnologist and the CEO/co-founder of KnipBio. He has deep expertise in early-stage technology ventures and bio-product discovery. Previous professional appointments include leading an Organism Discovery group and New Business Opportunities for emerging commercial applications. Larry completed his doctoral studies at the University of Massachusetts where he focused on biogeochemistry, physiology and genetics of hyperthermophilic microbes. Before that, he ran a small family business and was a high school teacher.

Christopher Good

Christopher M. Good is the Director of Aquaculture Research at The Conservation Fund's Freshwater Institute (Shepherdstown, WV). Chris is a certified aquatic veterinarian with a Ph.D. in aquatic epidemiology from the University of Guelph (Canada); he is also a diplomate of the American College of Veterinary Preventive Medicine. His research focuses on improving the sustainability of the aquaculture industry through enhanced health and welfare of farmed fish, with emphasis on Atlantic salmon grown to market size in land-based, closed-containment water recirculation facilities.

Rögnvaldur Gudmundsson

Rögnvaldur ("Rock") Gudmundsson is Project Manager at AkvaDesign AS in Norway and CEO of AkvaFuture, an AkvaDesign affiliate in Iceland. His responsibilities include communication and marketing for the parent company and managing applications for fish farming in closed sea cages in Iceland. Rock graduated with MBA degree from the University of Iceland in 2011. In his studies, he specialized in implementing sustainability into corporate strategic planning; negotiation and change management. In addition to the MBA degree, he holds a Diploma in business administration from the University of Iceland and has studied Fisheries Science at the University of Akureyri. Rock has an extensive experience in various fields such as seafood (sales, production and logistics); banking (retail and investment). Rock is a native Icelander but has substantial international experience, having lived and worked in USA (New Jersey and Massachusetts) and now in Norway.



Speaker Biographies

Tone Bjørnstad Hanstad

Tone is an Equity Research Analyst in Seafood at DNB Markets. She worked as a management consultant for Accenture Strategy before DNB Markets. She started in the Investment Banking Division at DNB Markets, working primarily with seafood. As a seafood equity research analyst she has used a lot of her time performing research and analysis on the development within land-based salmon production. Together with Alexander Aukner she covers salmon farming companies listed on Oslo Stock Exchange, including Marine Harvest and Lerøy Seafood Group. This spring the coverage list was expanded with Atlantic Sapphire in addition to Salmones Camanchaca as DNB Markets listed the Chilean salmon farmer on the Oslo Stock Exchange. Tone has bachelor's and master's degrees from Norwegian School of Economics (NHH), including an exchange semester to University of California, San Diego and courses taken at London School of Economics.

Thomas Hofmann

Originally from France, Thomas obtained a B.Sc. of Marine and Environmental science and further specialized in aquaculture with a M.Sc. in Marine Hatchery Management both from Murdoch University, Australia. Over the last 10 years, Thomas has been successfully working in the aquaculture industry, learning and developing his skills with Clean Seas Tuna (pioneer in Seriola and tuna farming) and at a R&D level with the department of fisheries in Western Australia. Back in Europe, Thomas worked as hatchery manager for Futuna Blue in Spain, a RAS marine hatchery using copepod technology and aiming at producing Seriola and Blue Fin Tuna. Thomas was then appointed assistant manager of the first land-based salmon farm in Denmark (Danish Salmon) to produce 2000 mt of Atlantic Salmon per year. Since 2015, Thomas has been the farm manager of Swiss Alpine Fish, a land-based farm using the RAS 2020 technology and aiming at producing 600 mt of salmon in freshwater.

Monica Jain

Monica Jain, founder and executive director of Fish 2.0 and Manta Consulting Inc., is dedicated to growing networks that bring together her top passions: fisheries and the oceans, finance, and impact investment. She launched Fish 2.0 in 2013 to create a network of quality entrepreneurs and investors who could grow the sustainable seafood sector. Since then, she has worked with over 500 entrepreneurs, 400 investors, and 45 sponsors to expand Fish 2.0. Monica was named a White House Champion of Change for Sustainable Seafood in October 2016 for her achievements with Fish 2.0 and her long-standing work advancing ocean conservation and sustainable seafood. Her career spans 30 years and 4 continents, encompassing marine biology, philanthropy, venture capital, banking, and international development in such far-flung locales as New Zealand, Madagascar, Latin America, and Spain, as well as in the United States. Alongside Fish 2.0, she continues her work as a strategic advisor and consultant to foundations, investors, and corporations, helping them launch initiatives and build partnerships. She has supported the development of corporate sustainability strategies, spawned philanthropic initiatives, and helped dozens of companies find aligned investment. Monica holds degrees from Stanford University and the Wharton School of Business.

Lill-Heidi Johansen

Educated at University of Tromsø, Norway, Lill-Heidi is a research scientist at Nofima. In February 2017 she joined the Centre for Research-Based Innovation in Closed-Containment Aquaculture (CtrlAQUA) as leader of the Department for Preventive Fish Health. She has a background in fish health, specifically pathogen-host interactions and immunology. Her main focus of research has been on viral diseases in Atlantic salmon and effects of smoltification and environmental conditions on immunological status and fish robustness at seawater transfer. In recent years she has also worked with fish health related issues in ballan wrasse and lumpfish, species used as cleaner fish to control salmon lice.

Bill Keleher

Bill is CEO and co-founder of Kennebec River Biosciences, an aquatic animal health company based in Maine. A microbiologist by training, he has worked over the past two decades to develop critical solutions for the aquaculture industry including farm specific vaccines and a range of diagnostic testing assays. Bill has also worked to improve aquatic animal health regulations within the US and is a key advisor to a number of state and national organizations that support aquaculture.



Speaker Biographies

Kees Kloet

Kees Kloet is co-founder and COO of Kingfish Zeeland, a marine RAS operation in the Netherlands. He holds a masters in aquaculture from Wageningen University, and is a pioneer in the land-based RAS field. Kees has a wealth of hands-on experience in most aspects of marine RAS aquaculture: RAS-design, technical production, marketing & sales and corporate management. He gathered his expertise partly from consultancy and research activities, but mainly as co-founder, shareholder and director of a RAS turbot farm and of the world's first RAS enterprise for sustainable production of Yellowtail Kingfish. Prior to establishing the two aforementioned farming enterprises, he was involved in the start-up of approximately 30 RAS fish farms worldwide, and was responsible for the training of staff and for the first production of a range of different species.

Jelena Kolarevic

Jelena Kolarevic has a Ph.D. degree from the Faculty of Biology, University of Bergen. She is a research scientist at Nofima and the leader of Department for Technology and Environment in the Centre for Research-Based Innovation in Closed-Containment Aquaculture (CtrlAQUA). She has background in population ecology, fish physiology, molecular biology and fish reproduction biology. Since 2008, she has been working with the topics related to the recirculating aquaculture systems and since 2013 with semi-closed containment systems in the sea, with the focus on fish welfare and performance, the environment and fish monitoring and equipment testing in above mentioned systems.

Heidi Kyvik

Heidi Kyvik was educated within industrial process design and water chemistry. All previous working experience comes from different projects within water and waste treatment from mainly the industrial markets (oil, food and beverage). Since 2013 she has been working with land-based aquaculture systems, and is now responsible for all business development and sales for Krüger Kaldnes in this market. The Krüger Kaldnes team, with their civil partner, TotalBetong, is now the market leader in the supply of turnkey facilities for smolt production. As proud partners they are currently working on the process design for the 10th largest turnkey production in Norway.

Alex Obach

Alex Obach holds the position of Managing Director at Skretting Aquaculture Research Centre (ARC) since May 2007. Originally from Barcelona, he is a veterinarian with a Master in Aquaculture from the University of Girona (Spain) and a Ph.D. in fish pathology and immunology from the University of West Brittany (France). He started working at Skretting Aquaculture Research Centre in 1993 as a researcher, initially within fish health then as a nutritionist. Between 1993 and 1995, he was engaged as lecturer at the University of Barcelona, and worked as the Managing Director of the Marine Harvest Technical Centre between 2005 and 2007. Skretting ARC is the central R&D unit for the global fish feed company Skretting. The research centre is based in Stavanger, Norway, and has further units in China, Italy and Japan. Skretting ARC employs an international team of highly skilled specialists, with 130 employees from 26 nationalities, including more than 40 researchers.

Eric Pedersen

Eric is the President and founder of Ideal Fish, a RAS-based producer of European Seabass (aka Branzino) located in Waterbury, CT. Ideal Fish raises its Branzino in salt water and is developing game-changing processes to raise fresh water produce in a decoupled aquaponics system. Prior to founding the company in 2013, Eric lead several venture stage companies focused on developing disruptive water filtration products and systems for industrial markets. He began his career on Wall Street, working for many years in the investment banking division of Dillon Read & Co. Inc. before forming his own private banking firm that focused on providing financial advisory services to industrial companies, specifically those in the water and environmental services sectors. Eric received an MBA from The Wharton Graduate School of Business in 1987 and graduated from Princeton University with a BA degree in 1982.



Speaker Biographies

Caird Rexroad

Dr. Caird Rexroad leads the USDA ARS National Program for Aquaculture whose mission is to conduct high quality, relevant, fundamental and applied aquaculture research to improve the systems for raising domesticated aquaculture species and develop and transfer technologies that enhance the productivity and efficiency of U.S. producers and the quality of seafood and other aquatic animal products. The ~\$30 million portfolio includes freshwater and marine research conducted at 10 laboratories across the nation including research activities in Alabama, Arkansas, Idaho, Louisiana, Maine, Mississippi, Montana, Oregon, Rhode Island, West Virginia, and Wisconsin. Primary species of interest include catfish and their hybrids, striped bass and their hybrids, rainbow trout, Atlantic salmon, Pacific and eastern oysters. Forty one scientists use state of the art approaches in genetics, genomics, physiology, nutrition, fish health, product quality and aquatic engineering to improve genetic stocks and develop scientific information on biotechnologies and management practices that ensure a high quality, safe supply of healthful seafood.

Aud Skrudland

Aud Skrudland has a DVM, specializing in fish diseases. She has been a special inspector with the Norwegian Food Safety Authority, with a focus on fish health, fish welfare and seafood safety since 2004. Career highlights include her work building up the first private fish health service in Norway (1984 to 1989); her work at Skretting on production, marketing and development of medicated fish feeds (1989-1999); her time with the Fish Health Service (1999-2004); and her time as member of, and head of, the Norwegian Research Council board of Aquaculture for many years. She has further education in public law and marketing.

Sigurd Stefansson

Professor Sigurd O. Stefansson has long-term research experience in fish growth and development, reproduction and adaptation to the environment, both in salmonids and marine species, using a wide range of tools. Central in Stefansson's research is the process of salmon smoltification, and his research includes both basic research and collaboration with the aquaculture industry. Research topics include the environmental, genetic and endocrine control of smoltification and basic mechanisms of adaptation to seawater. Sigurd is in charge of the new programme for aquaculture education at the University of Bergen, which started in 2016 and has had good recruitment over the last three years. The programme was developed in collaboration with the aquaculture industry and gives the students a degree as engineers and a master degree. Sigurd will present the programme, its background, the structure of the programme and its integration with ongoing research and education centres in Bergen and nationally.

Steven Summerfelt

Steve is Chief Science Officer at Superior Fresh LLC in Hixton, Wisconsin. He manages the scientific research and technological designs of Superior Fresh, promoting efficiency and profitability at the company's current and future facilities. Superior Fresh is an industry-leading aquaponics facility specializing in producing Atlantic salmon and steelhead trout in state-of-the-art recirculation aquaculture facilities in conjunction with premium, organic produce grown in ultra-modern hydroponics glass greenhouses. Steve is passionate about expanding controlled-environment farming systems that have minimal environmental impact. He was formerly Director of Aquaculture Systems Research at the Freshwater Institute, where he worked for 26 years. He has authored or co-authored over 100 refereed journal papers. He is a professional engineer and has B.S., M.S., and Ph.D. degrees in engineering. In 2014, Steve received the Aquacultural Engineering Society Award of Excellence.

Yonathan Zohar

Yonathan Zohar is Professor at the Institute of Marine and Environmental Technology, Chair of the Department of Marine Biotechnology and Head of the Aquaculture Research Center at the University of Maryland Baltimore County. His expertise covers the application of biotechnology in sustainable aquaculture and fisheries. He has led a multidisciplinary program on the development of land-based, recirculating marine aquaculture systems that biologically remove both nitrogenous and organic/solid waste. He is also well known for his research on basic and applied aspects of fish reproductive physiology and endocrinology. He uses endocrine, biochemical and molecular approaches to study mechanisms leading to reproductive development and spawning. He builds upon his basic research to develop applied technologies for broodstock management, spawning induction and for generating reproductively sterile fish. Professor Zohar published over 230 peer-reviewed papers and book chapters and is the inventor of 10 issued international patents in aquaculture and biotechnology. He received many prestigious honors and awards.



Event Participants

Will Allen, The Conservation Fund
Johan Andreassen, Atlantic Sapphire
Jón Andreasson, Stofnfiskur
Thomas Andrews, Searen, LLC
Jon Anson, Dyne Aquaculture
Dmitry Arshavskiy, BioMar Group A/S
Steve Atkinson, Taste of BC Aquafarms Inc.
Kari Attramadal, Nofitech AS
Aasne Austgulen, DNB Bank ASA
Bjorn Abraham Bache, Scanship AS
Steve Backman, Skretting
Laura Bailey, Freshwater Institute
Olav Bang, Total Betong
Juan Pablo Barrales Ruiz, Pentair Chile SPA
Jacob Bartlett, Pranger Enterprises
Constance Beaulaton, Pentair Aquatic Ecosystems
Michael Bech, Krüger Kaldnes AS
Ned Bell, Ocean Wise / Blue Tide Aquaculture
Daisy Berg, New Seasons Market
Solveig Berge, University of Bergen
Ronetta Blackburn, AMNH-NYC
Chuck Blumenschein, Veolia
rocky Boschman, Grieg Seafood BC
Deborah Bouchard, Aquaculture Research Institute
Jim Bowker, Riverence LLC
Emmanuel Briquet, Searen, LLC
Xena Brooks, Hudson Valley Fish Farms
Carrie Brownstein, Whole Foods Market
Richard Buchanan, AgriAsia Inc.
Susan Burgess, Prime Harvest
Gary Burr, USDA, ARS, NCWMAC
David Cahill, Pure Salmon
Jon Carr, Atlantic Salmon Federation
Alex Castro, Atlantic Sapphire USA, LLC
Brian Catanzaro, Pentair Aquatic Eco-Systems
Gary Chapman, NATI Inc.
Alan Cheng, Praxair Inc.
Woochang Choi, Woo Chang Corporation
Jacqueline Claudia, LoveTheWild
Julian Connor, Swiss Alpine Fish AG
Sarah Cook, Skretting North America
Jack Corey, Corey Nutrition Company
Kasha Cox, Merck Animal Health
Neville Crabbe, Atlantic Salmon Federation
Steven Craig, Prairie AquaTech
Curtis Crouse, Freshwater Institute
Gabriel Cuellar, JX Nippon ANCI, Inc.
Carter Cyr, Nordic Aquafarms
John Davidson, Freshwater Institute
Chandra Davis, Seafood People
Matt Dawson, Ideal Fish
Mari-Len De Guzman, Hatchery International
Ryan Deetz, WMI
Mikkel Detz, BioMar Group A/S

Tom Drury, Pentair Aquatic Eco-Systems
Meggan Dwyer, Aquaculture Research Institute
Eva Ebstein
Árni Einarsson, Matorka Holdings AG
Matt Epp, Ecodrum Composter
Åsa Espmark, Nofima
Larry Feinberg, KnipBio
Paulo Fernandes, Skretting ARC
Alejandro Fernandez, LAGO SOFIA SPA
Gregory Fischer, UWSP-NADF
Philip FitzPatrick, The Renaissance Performance Group Inv
Nelson Fonseca, SUEZ Water Technologies Solutions
J Andrew Forsythe, NIWA
Jennifer Fortier, Whole Oceans
Jim Franklin, Blue Ridge Aquaculture
Marius Gaard, Sparebank 1 Markets
Matthew Gabrielli, Cargill
Rupert Gale, Ritchie Foundation
Michael Gammelgaard, BioMar Group A/S
Martin Gardner, Blue Ridge Aquaculture
Kathryn Garvey
Henning Gatz, Aquacare Environment Inc
Frederic Gaumet, Krüger Kaldnes AS
Christopher Good, Freshwater Institute
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