

Day/Time	AUD 10	AUD 11	AUD 12	AUD 15	MR 5/6/7	MR 18	MR 19	MR 173	MR 180	F5 -Hall	Day/Time
Tue Aug 27 08:30 - 10:00	Plenary 1 and AQUA 2024 Student Spotlight Award (Aud 10/11/12) STARTS 08:30										Tue Aug 27 08:30 - 10:00
10:30 - 12:30	Climate Change Impacts	Welfare	Nutritional Requirements	Footprint of Aquafeed (BIOMAR)	Precision Farming	Ecosystems, Escapes & Non-native	Quantitative Atlantic Salmon Health Assessment	Crustaceans	Value Chain Economics (Uni Stavanger)	AQUA 2024 Industry Forum	10:30 - 12:30
14:00 - 17:30				Managing Feed Intake (BIORIGIN)		Sustainability Indicators, Energy Use & Certification		Crustaceans / EURO Shrimp Forum	Markets & Consumers		14:00 - 17:30
17:30 - 18:30	Student Reception (19:00-21:00)			Happy Hour				EAS General Assembly (F5)			17:30 - 18:30
Wed Aug 28 09:00 - 10:45	Microbiome & Health Management	Diseases	Environmental Impact	Alternative Ingredients & Raw Material Processing - A (AQUASOJA)	Cage Culture - Exposed & Multi-use	Early Life	ASC Workshop	Risk Assessment for Operations	Host Resistance to Sea Lice	AQUA 2024 Innovation Forum	Wed Aug 28 09:00 - 10:45
11:15 - 12:30				Alternative Ingredients & Raw Material Processing - B (USSEC)		Eels	BIORIGIN Workshop	Reproduction, Broodstock Management			11:15 - 12:30
14:00 - 17:30							EAS Student Workshop				14:00 - 17:30
17:30 - 18:00	Happy Hour										17:30 - 18:00
Thu Aug 29 09:00 - 10:45	Selective Breeding	Alternative Feeds and Nutrition	Health - Drugs and Therapeutants	RAS	Parasitic Diseases (incl. Lice and Cleaner Fish)	Contributed Session - Food Systems and Research	Light and Fish	Society, Community and Gender	Governance, Policy, and Regulations		Thu Aug 29 09:00 - 10:45
11:15 - 12:30			Behaviour		Biosecurity, Disease Prevention	Macro- and Micro-algae	Light and Other Organisms	Workshop: IMTA & Low Trophic Aquaculture (NORCE)	Plastics & Nano Particles		11:15 - 12:30
14:00 - 17:30											14:00 - 17:30
Fri Aug 30 09:00 - 11:00	Feed Additives	Circular Approach	Aquaculture in Food Systems and Food Security	IMTA	Bivalve Molluscs	Genomics	Health - Immunology and Pathology	RAS continued	Contributed Session - Economics, Marketing, Education		Fri Aug 30 09:00 - 11:00
11:30 - 12:30	Plenary 2 & Poster Awards (Aud 15)										11:30 - 12:30
14:00 - 17:00	Feed Additives	Circular Approach	Food Safety and Health Attributes	Pond Aquaculture	Bivalve Molluscs	Genomics	Contributed Session - Climate, Welfare, Others	Education, Training & Transfer	Contributed Session - Species and Production		14:00 - 17:00

# AQUA 2024

**TUESDAY, August 27**

**TUESDAY**

## **PLENARY 1 & STUDENT SPOTLIGHT**

Tuesday, August 27 08:30 - 10:00 AUD 15

Chairs: Luisa Valente, Kjell Maroni

**Welcome EAS and WAS**

**Plenary: Dag Sletmo**

Analysing the Future

**Student Spotlight**

## **ECOSYSTEMS, ESCAPES & NON-NATIVE**

Tuesday, August 27 10:30 - 12:30 MR 18

Chairs: Koushik Roy, Marie Lillehammer

- 10:30** **Thomas Lecocq**, Joël Aubin, Marielle Thomas  
COMBINATION MUST MAKE STRENGTH: A WORKFLOW TO DESIGN NEW FISH POLY CULTURES
- 10:45** **Joao G. Ferreira**, Leonard Bernard-Jannin, Joao Lencart e Silva, Alhambra M. Cubillo, Gerhardus Diedericks, Morten Holtegaard Nielsen, Flemming Gertz, Helle Møller Holm, Helle Borum, Lene Moth  
TOP-DOWN CONTROL OF EUTROPHICATION AND PROVISION OF ECOSYSTEM SERVICES BY THE SOFTSHELL CLAM *Mya arenaria* IN A DANISH COASTAL LAGOON
- 11:00** **Christian Riisager-Simonsen**, Louise Flensborg, Jens Kjerulf Petersen, David Lusseau  
WHICH ENVIRONMENTAL MINIMUM REQUIREMENTS COULD QUALIFY CERTAIN AQUACULTURE ACTIVITIES AS LEGITIMATE NATURE-BASED SOLUTIONS?

- 11:15** **Martin Ubertini**, Myriam Callier, Théo La Piana, Thierry Laugier, Mélina Grouazel, Sébastien Triplet, Jean-Claude Falguière, Thibault Geoffroy, Nicolas Desroy, Killian Chary, Louis Le Grand, Annie Fiandrino  
DEVELOPMENT AND VALIDATION OF A MODEL TO EVALUATE THE ENVIRONMENTAL IMPACT OF FINFISH FARMING IN METROPOLITAN FRANCE AND OVERSEAS TERRITORIES: THE MOCAA PROJECT
- 11:30** **Kevin Glover**, Øystein Skaala, Alison Harvey, Francois Besnier, Abdullah Madhun, Vidar Wennevik, Monica Solberg, Marine Brieuc, Fernando Ayllon, Geir Dahle, Sofie Knutar, Kaja Andersen, Per-Tommy Fjeldheim  
THE RIVER ETNE FIELD STATION: A GLOBALLY UNIQUE SYSTEM TO STUDY INTERACTIONS BETWEEN DOMESTICATED AND WILD CONSPECIFICS
- 11:45** **Monica Favneboe Solberg**, Øystein Skaala, Kjell R. Utne, Kevin A. Glover  
NATURAL SELECTION QUANTIFIED: REVERSING DIRECTIONAL SELECTION IN A DOMESTICATED SPECIES
- 12:00** **Koushik Roy**, Lubos Zabransky, Eva Petraskova, Zdenka Machova, Ales Tomcala, Jan Mraz  
DYNAMICS OF AMINO AND FATTY ACIDS IN POND PELAGIC PLANKTON CONSORTIA: LINKS TO TEMPERATURE, PHOTOPERIOD, NUTRIENTS AND CONSUMER GRAZING PRESSURE
- 12:15** **Kevin Glover**, Marco Castellani, Francois Besnier, Mikko Heino  
UPGRADED FEATURES IN THE IBSEM-MODEL PROVIDE NEW INSIGHTS INTO POPULATION-DEMOGRAPHIC AND INDIVIDUAL-ADMIXTURE-PHENOTYPIC CONSEQUENCES OF DOMESTICATION INTROGRESSION

## FOOTPRINT OF AQUAFEED

Tuesday, August 27 10:30 - 12:30 AUD 15

Chairs: Wendy Sealey, Kyla Zatti

Sponsor:



- 10:30** **Kyla Zatti**, Erik O. Gracey  
NAVIGATING THE COMPLEXITY: CHALLENGES AND SOLUTIONS IN IMPLEMENTING SUSTAINABLE RAW MATERIALS IN COMMERCIAL AQUAFEEDS
- 10:45** **Valeska Weymann**  
AQUA FEED – CHALLENGES AND SOLUTIONS LEARNED FROM 20 YEARS OF IMPLEMENTED CRITERIA
- 11:00** **Anders Haubjerg**  
MAPPING COMPONENTS FOR SUSTAINABLE AQUAFEED PRODUCTION

- 11:15 Erik Olav Gracey**  
RESTORATIVE AQUAFEED SUPPLY CHAINS WITH REGENAG
- 11:30 Javier Cantillo**, Paritosh Deshpande, Sepideh Jafarzadeh  
*Calanus finmarchicus* AS AN ALTERNATIVE FEED INGREDIENT FOR NORWEGIAN SALMON AQUACULTURE: ENVIRONMENTAL SUSTAINABILITY AND FUTURE CHALLENGES AND BARRIERS
- 11:45 Maja Erichsen**, S.M. Majharul Islam, Simon Leigh Wadsworth, Viviane Verlhac-Trichet, Mette Sørensen, Aleksei Krasnov, Saad Zah, Ioannis N. Vatsos  
TORULA YEAST CAN BE USED AS AN ALTERNATIVE INGREDIENT IN DIETS FOR POST-SMOLT ATLANTIC SALMON *Salmo salar* TO REDUCE THE RELIANCE ON SOY PROTEIN CONCENTRATE
- 12:00 Anders Haubjerg**  
ADVANCEMENTS IN TWIN SCREW TECHNOLOGY FOR AQUAFEED PRODUCTION – A COMPARATIVE STUDY
- 12:15 Terhemba Ambe-Uva**  
UNRAVELING THE BLUE TRANSFORMATION: THE CONTESTED DEPOLITICIZATION OF THE FISHMEAL AND FISH OIL INDUSTRY

## CRUSTACEANS

Tuesday, August 27 10:30 - 15:30 MR 173

Chairs: Shaun Moss, Lorenzo Juarez

- 10:30 Harriet Nketiah Birikorang**, Eric De Muylder, Annelies Declercq  
STRATEGIES TO REDUCE *VIBRIO* CONTENT IN THE GUT OF PACIFIC WHITE SHRIMP *Litopenaeus vannamei*
- 10:45 David S. Peñaranda**, Tatiana Cascales, Silvia Martínez-Llorens, Wilson Wasielesky, Javier Gómez-Aguilera, Ana M. Marhuenda, Pablo Sánchez-Jerez, Yosu Candela, Mikol Giroto, Joao Rito, Jessica Brol, Miguel Jover, Ana Tomás-Vidal  
COMPARATIVE STUDY OF MICROALGAE VERSUS PROBIOTIC BACTERIA ADDITION ON *Penaeus vannamei* PERFORMANCE IN BIOFLOC TECHNOLOGY (BFT)
- 11:00 Evelien De Swaef**, Luc Roef, Peter Bossier, João J. Dantas-Lima  
TACKLING THE SHRIMP HATCHERY BOTTLENECKS FOR EUROPEAN SHRIMP AQUACULTURE AND ASSESSING THE DEVELOPMENT OF A MULTISPECIES HATCHERY IN EUROPE (BLEUMARINE3.COM)

- 11:15** **Isabela Pinheiro**, Elisa Prates, Mirko Bögner, Wilson Wasielesky, Matthew Slater  
UNDERSTANDING THE EFFECT OF TEMPERATURE IN DIFFERENT STOCKING DENSITIES ON *Litopenaeus vannamei* REARING IN BIOFLOC TECHNOLOGY SYSTEM
- 11:30** **Vitor Carneiro**, Sina Tönges, Frank Lyko  
HIGHLY EFFICIENT PRODUCTION OF MARBLED CRAYFISH IN A NOVEL CLOSED AQUACULTURE SYSTEM
- 11:45** **Ricardo Gálvez**, Francisco A. Guardiola  
CHARACTERIZATION OF IMMUNE PARAMETERS IN ACELLULAR AND CELLULAR FRACTION IN MALE AND FEMALE OF ATLANTIC BLUE CRAB *Callinectes sapidus*
- 12:00** **Thiago Raggi**, Guillermo Bardera, Bill Roy, Sofia Morais  
FEEDING BEHAVIOUR RESPONSE OF PACIFIC WHITE SHRIMP *Litopenaeus vannamei* TO A PALATABILITY ENHANCER ASSESSED BY AN AUTOMATED VIDEO TRACKING SOFTWARE
- 12:15** **Sara Ferrando-Juan**, Sara Ferrando-Juan, Javier Gómez-Aguilera, Silvia Falcó, Silvia Martínez-Llorens, Ana Tomás-Vidal, Miguel Jover, Yosu Candela, Wilson Wasielesky, Miguel Rodilla, David S. Peñaranda  
FORMULATING OF SUSTAINABLE DIETS FOR *Penaeus vannamei* BY THE INCLUSION OF BY-PRODUCTS AS FISHMEAL SUBSTITUTE IN BIOFLOC TECHNOLOGY
- 12:30** **LUNCH**
- 14:00** **Dean Jerry**, Phoebe Arbon, Mostafa Rahmi Azghadi, Alzayat Saleh, Gopala Krishna Guddani, Cecile Massault, Kelly Condon, David Jones, Kyall Zenger  
THE NEW TECHNOLOGY HORIZON – ADVANCED GENOMICS, ARTIFICIAL INTELLIGENCE, AND PATHOGEN DIAGNOSTICS TO ASSIST FARMED SHRIMP PRODUCTION
- 14:15** **Kyle Martin**, Elena Facchini, Alastair Hamilton, Robbert Blonk  
IMPROVED SURVIVAL TO ACUTE HEPATOPANCREATIC NECROSIS DISEASE (AHPND) IN WHITE LEG SHRIMP *Litopenaeus vannamei* DUE TO GENOMIC SELECTION
- 14:30** **Marcela Salazar**, Kahsay Nirea, Edna C. Erazo, Andres Suarez, Carolina Peñaloza, Ross D. Houston, Carlos Lozano  
GENETIC SELECTION FOR RESISTANCE TO *Enterocytozoon hepatopenaei* AND WHITE FECES DISEASE IN WHITELEG SHRIMP *Penaeus vannamei*

- 14:45** **Dustin Moss**, John Buchanan, Klara Verbyla, Alejandro Gutierrez, Peter Kube, Jeffrey Prochaska, Corrie Wong  
INVESTIGATING LOW SALINITY PERFORMANCE OF PACIFIC WHITE SHRIMP *Litopenaeus vannamei* USING A GENOMIC APPROACH
- 15:00** **John Buchanan**, Adirana Artilles, Carlos Pulgarin, Marcos de Donato, Jeff Prochaska, Klara Verbyla, Peter Kube, Simon Hill  
HARNESSING EFFICIENT GENETIC IMPROVEMENT IN SHRIMP BREEDING
- 15:15** **Daniel Fegan**, Chotitat Luengchaichawange, Craig L. Browdy  
A QUESTION OF BALANCE – MOVING BEYOND THE BASICS

## CRUSTACEANS / EURO SHRIMP FORUM

Tuesday, August 27 16:00 - 18:00 MR 173

Chair: Gregor Jähne

- 16:00** OPENING - INTRODUCTION TO EUROSHRIMP  
Mirko Bögner, Aquaculture Research Group of the Alfred Wegener Institute (AWI), Helmholtz Centre for Polar and Marine Research; Germany
- 16:15** An update on the application of biofloc technologies for sustainable shrimp production.  
Dr. Craig Browdy, Representative of SyAqua; Thailand
- 16:30** The future of shrimp farming  
Dr. Bert Wecker; Scientist and Managing Director at Oceanloop, Germany
- 16:45** Fundamentals of Brown shrimp farming in development (TBC)  
Dr. Isabela Pinheiro
- 17:00** Title TBC  
Dr. Helena Galasso R&D Manager, Llsaqu, France
- 17:15** Shrimp welfare in the spotlight  
Prof. Dr. Sven Würtz, Scientist the IGB Institute for Freshwater Research in Berlin; Germany
- 17:30** Surveying shrimp producers, the practice overview  
Paolo Gamberoni, Docotral Candidate, Aquaculture Research Group of the Alfred Wegener Institute (AWI), Helmholtz Centre for Polar and Marine Research; Germany
- 17:45** Workshop – Workshop and exchange - an index for shrimp welfare and performance  
Mirko Bögner / Paolo Gamberoni / Gregor Jähne Aquaculture Research Group of the Alfred Wegener Institute (AWI), Helmholtz Centre for Polar and Marine Research; Germany

## VACCINES

Tuesday, August 27 10:30 - 12:30 MR 181

Chair: William Keleher

- 10:30 Sarah Turner**, Jeongwhui Hong, Jacob Holbrook, Michael Mason, Deborah Bouchard  
CELLULOSE NANOMATERIALS: A NOVEL ADJUVANT AND DELIVERY SYSTEM FOR AQUACULTURE VACCINE APPLICATIONS
- 10:45 Nils O. Steine**, Bjørn E. Brudeseth, Knut E. Løkling, Svein Alexandersen  
DEVELOPMENT OF SMALLER DOSE VOLUME VACCINES FOR FARMED FISH
- 11:00 Uun Yanuhar**, Heru Suryanto, Gunanti Mahasri, Gian Hartawan, Muh. Abiyyu, Mochamad Athoillah, Nico Caesar  
RECOMBINANT NANOVACCINE BASED ON HYBRID CHITOSAN-AGNPS NANOPARTICLES AGAINST VIRAL NERVOUS NECROSIS IN GROUPER
- 11:15 Hanchang Sohn**, Qiang Wan, Hyangju Kang, Eun-Ju Sohn, Jehhee Lee  
DEVELOPMENT OF A VACCINE AGAINST VIRAL NERVOUS NECROSIS IN GROUPER AQUACULTURE USING VIRUS-LIKE PARTICLES PRODUCED BY PLANT EXPRESSION SYSTEM
- 11:30 Ane Sandtrø**, Monica Gausdal Tingbø, Hege Hardersen, Mats Sekkelsten-Kindt, Fredrik Bjørnestad, Børge Nilsen Fredriksen  
VACCINATION AND CHALLENGE AGAINST *Yersinia ruckeri*
- 11:45 Marte Follesø Sønnervik**, Marius Karlsen, Hooman Moghadam, Ingunn Thorland, Ane Sandtrø, Rudi Ripman Seim, Ross Houston, Øyvind Jakobsen Brevik  
EFFECT OF VACCINATION AND SELECTIVE BREEDING AGAINST INFECTIOUS SALMON ANAEMIA IN ATLANTIC SALMON *Salmo salar* IN TWO DIFFERENT CHALLENGE MODELS

TUESDAY

# VALUE CHAIN ECONOMICS

Tuesday, August 27 10:30 - 12:30 MR 180

Chair: Ragnar Tveterås

Sponsor:  University  
of Stavanger

- 10:30** **José L. Fernández Sánchez**, Ignacio Llorente, José M. Fernández-Polanco, Ladislao Luna Sotorrió  
ECONOMIC EVALUATION OF FISH MISLABELING IN EUROPE
- 10:45** **Hans-Martin Straume**, Frank Asche, Atle Oglend  
THE IMPORTANCE OF QUALITY IN NORWEGIAN SALMON EXPORTS
- 11:00** **Frank Asche**, James Anderson, Taryn Garlock  
UNDERSTANDING FACTORS INFLUENCING THE ENVIRONMENTAL, ECONOMIC AND SOCIAL SUSTAINABILITY OF AQUACULTURE SYSTEMS
- 11:15** **Fabian Rocha Aponte**, Meron Assefa Arega  
ASSESSING THE IMPACT OF EXTERNAL SHOCKS ON THE FINANCIAL PERFORMANCE OF NORWEGIAN SEAFOOD FIRMS: A COMPREHENSIVE ANALYSIS FROM 2005 TO 2020
- 11:30** **Md Takibur Rahaman**, Md Akhtaruzzaman Khan, Mohammad Sabbir Hossain  
DIVERSIFICATION ECONOMIES AND EFFICIENCY IN PRAWN GHER FARMING: A STUDY IN BANGLADESH
- 11:45** **Md Takibur Rahaman**, Md Akhtaruzzaman Khan, Mohammad Sabbir Hossain  
UNVEILING THE LINK: UNDERSTANDING THE RELATIONSHIP BETWEEN EFFICIENCY AND FINANCING GAPS
- 12:00** **Md Takibur Rahaman**, Md Akhtaruzzaman Khan  
IMPACT OF CREDIT CONSTRAINT ON FINANCIAL PERFORMANCE OF PRAWN FARMS: INSIGHTS FROM A PRIMARY SURVEY
- 12:15** **Dengjun Zhang**, Ragnar Tveterås  
UNVEILING THE TRENDS: GOOGLE SEARCH INSIGHTS ON SHIFTING PREFERENCES IN SALMON CONSUMPTION
- 12:30** **Anup Kumar Mandal**, Badiuz Zaman, MA Sattar Mandal  
VALUE CHAIN AND EFFICIENCY ANALYSIS OF PANGAS AND TILAPIA MARKETING IN SELECTED AREAS OF BANGLADESH

TUESDAY



# QUANTITATIVE ATLANTIC SALMON HEALTH ASSESSMENT

Tuesday, August 27 10:30 - 17:30 MR 19

Chair: Karin Pittman

TUESDAY

- 10:30 Introduction to QASH - Aquaculture is not agriculture under water**  
QASH Team
- 10:40 From lab to global scale**  
Dave Cockerill – Bakkafrøst
- 11:00 The importance of feed for fish health**  
Jesper Clausen – Aller Aqua DK
- 11:20 Genetic development and health**  
TO BE CONFIRMED
- 11:40 Science – industry working together**  
Oskar Nyberg – SeaBOS Science team Stockholm Resilience Center
- 12:00 Aquaculture health economy**  
Bård Misund – University of Stavanger
- 12:20 Risk management and insurance**  
Arild Stormer – AXA XL
- 12:30 LUNCH**
- 14:00 SEAS (Shaping European Research Leaders for Marine Sustainability)**  
Virginie Comorge – University of Bergen
- 14:20 Collecting and activating industry data**  
Kristian Blom – AquaCloud
- 14:40 Environmental management of RAS**  
TO BE CONFIRMED
- 15:00 Certifying fish and taking the place of (missing) public management bodies**  
Morten Berntsen – Global GAP/ASC
- 15:15 PAUSE**
- 15:30 Global health in fish**  
Meritxell Díez-Padrisa – Patogen

- 15:50 Blood and Barrier health**  
Karin Pittman – Quantidoc, Mark Braceland – WellFish
- 16:10 A framework for holistic decision making**  
Bjorgolfur Havvardsson – NCE Seafood
- 16:30 Summary and discussion**  
**How do available health and welfare tools fit into certification?**  
QASH team

## CLIMATE CHANGE IMPACTS

Tuesday, August 27 10:30 - 17:30 AUD 10

Chair: Lynne Falconner

- 10:30 Massimo Milan**, Carmen Tucci, Giulia Dalla Rovere, Ilaria Bernardini, Serena Ferraresso, Rafaella Franch, Massimiliano Babbucci, Mattia Panin, Tomaso Patarnello, Luca Bargelloni, Luca Peruzza  
USING THERMAL PRIMING TO MITIGATE THE LETHAL EFFECTS OF MARINE HEATWAVES ON THE MANILA CLAM *Ruditapes philippinarum*
- 10:45 Ana Rato**, Broderick J. House, Marisa Castro, Sandra Joaquim, David F. Willer, David C. Aldridge, Domitília Matias  
PHYSIOLOGICAL PERFORMANCE OF *Magallana gigas* JUVENILES UNDER A WARM AND NATURALLY ACIDIFIED ENVIRONMENT
- 11:00 Lauriane Vilmin**, Lisa Schneider, Sonia Heye, Pauline Kamermans, Luca van Duren  
MODELLING LARGE-SCALE LOW-TROPHIC AQUACULTURE IN THE DUTCH NORTH SEA UNDER CLIMATE CHANGE SCENARIOS
- 11:15 Sonia Heye**, Lauriane Vilmin, Lisa Schneider, Francesca Di Paola, Pauline Kamermans, Jeroen Wijsman, Luca van Duren  
ENVIRONMENTAL EFFECTS OF AQUACULTURE AND OYSTER RESTORATION IN THE NORTH SEA UNDER DIFFERENT CLIMATE CHANGE SCENARIOS
- 11:30 Socorro Toxqui Rodriguez**, E. Ytteborg, L.H. Johansen, A. Sitjà-Bobadilla, J. Pérez-Sánchez, M.C. Piazzon, C.C. Lazado  
CLIMATE CHANGE RELATED STRESSORS IN AQUACULTURE: MODULATION OF GILL MICROBIOTA AND TRANSCRIPTOME IN ATLANTIC SALMON
- 11:45 Malene Soleng**, Thinh Nhan, Hanne Brenne, Lill-Heidi Johansen, Marianne Iversen, Elisabeth Ytteborg, Carlo C. Lazado  
THERMAL EXPOSURE HISTORY INFLUENCES THE NASAL RESPONSES OF ATLANTIC COD TO BIOLOGICAL STRESSORS

- 12:00** **Elisabeth Ytteborg**, Lynne Falconer, Aleksei Krasnov, Lill-Heidi Johansen, Torstein Tengs, Carlo C. Lazado  
MULTIPLE STRESSORS RELATED TO CLIMATE CHANGE HAVE COMPOUNDING EFFECTS ON FISH HEALTH
- 12:15** **Suleiman O. Yakubu**, Elisabeth Ytteborg, Lynne Falconer  
SYSTEM DYNAMICS MODELLING TO UNDERSTAND IMPACTS OF CLIMATE CHANGE ON SALMON PRODUCTION
- 12:30** **LUNCH**
- 14:00** **Megan Rector**, Lynne Falconer  
ADAPTIVE CAPACITY IN THE SALMON FARMING INDUSTRY: RESPONSES TO SYSTEM STRESSORS AND IMPLICATIONS FOR CLIMATE CHANGE
- 14:15** **Debbie Murphy**, Sophie Armitage, Hannah Tidbury, Mickael Teixeira Alves  
DEVELOPING AN INNOVATIVE RAPID RISK ASSESSMENT FRAMEWORK TO ADDRESS THREATS FROM AQUATIC DISEASES IN A CHANGING WORLD
- 14:30** **Mahmuda Nasrin**, Rakibul Hasan  
LIVELIHOOD ASSET OWNERSHIP AND VULNERABILITY TO CLIMATE CHANGE OF SHRIMP FARMERS: EVIDENCE FROM SOUTHWEST COASTAL REGIONS OF BANGLADESH
- 14:45** **Mohammad MR Jahangir**, Kurchi Luba, Harunur Rashid  
ASSESSING AND MITIGATING GREENHOUSE GAS EMISSIONS IN BANGLADESH'S FRESHWATER AQUACULTURE: A COMPREHENSIVE STUDY ON FEED IMPACT AND SPECIES COMPARISON
- 15:00** **Bruna Guterres**, Marcelo Pias, Gilles Orazi, Paulo Drews, Vinicius Oliveira, Nelson Duarte, Silvia Botelho, Luis Poersch, Wilson Wasielesky, Marcelo Malheiros, Thiago Teixeira, Cristiana Dora, Paula Barros, Everson Flores, Elisa Ravagnan  
PLANKTOSCOPE-BASED TECHNOLOGY: ADDRESSING MICRO-SCALE MONITORING NEEDS IN IMTA SYSTEMS

# AQUA 2024 INDUSTRY FORUM

Tuesday, August 27 10:30 - 17:30 Hall F5

Chair: Local Organizing Committee

- 10:00** Welcome remarks by anchor  
Moderator Lise Walbom, CEO, Food Nation Denmark

## **GREEN SOLUTIONS FOR BLUE FOOD**

Is the aquaculture industry fit for the future? Is the ambition of 'circular economy' and 'sustainability' embedded well in the aquaculture industry, and what can be done to improve? Adapting to climate, rising temperatures, and growing populations calls for new approaches to aquaculture – Is the aquaculture industry ready to meet growing demands and address external factors out of their hands?

Followed by: **PANEL DISCUSSION 1: RESOURCE MANAGEMENT**

- 11:15** **PANEL DISCUSSION 2: RESOURCE MANAGEMENT**

- 12:30** **LUNCH**

- 14:00** **PANEL DISCUSSION 3: ENVIRONMENTAL FOOTPRINT**

Climate smart management, food security, environmental footprint, and sustainability requirements in the aquaculture value chain. How and why are these parameters crucial for running of business going onwards?

- 15:15** **PANEL DISCUSSION 4: OPTIMIZATION OF FISH FARMING OPERATIONS**

Energy efficiency, energy optimization, optimal planning of labour, feed usage and effective operations are dominant topics in the industry. Which efforts are made to ensure that these parameters are met?

- 16:15** **WRAP UP AND TAKE AWAY MESSAGES**

Lise Walbom, CEO, Food Nation Denmark

TUESDAY

## PRECISION FARMING

Tuesday, August 27 10:30 - 17:30 MR 6

Chairs: Astrid Buran Holan, Jelena Kolarevic

- TUESDAY**
- 10:30** **Evelina Berntsson**, Tor Kristian Stevik  
ANALYZING QUALITY OF MONITORING DATA ON DISSOLVED OXYGEN AND SEA TEMPERATURE FROM MULTIPLE NORDIC OPEN SEA CAGE FARMERS
- 10:45** **Monica F. Solberg**, Per Tommy A. Fjeldheim, Kim Halvorsen, Alison Harvey, Sjur Ringheim Lid, Ketil Malde, Øystein Skaala, Tonje K. Sjørdalen, Vidar Wennevik, Bjørnar Neteland, Patrick Gimmestad Emblem, Bjørn Florø-Larsen, Eva Thorstad, Kurt Urdal, Harald Sægrov  
IDENTIFISH: DIGITAL TOOLS FOR PRECISE IDENTIFICATION OF ESCAPED AND WILD SALMON
- 11:00** **Maxime Paris**, Pierrick L'Heveder, Arthur Tré-Hardy, Samira Amraoui, Coraly Soto, Charlotte Dupont  
BEST/WORST FEEDING WINDOW ANTICIPATION THANKS TO AI AND PHYSICO-CHEMICAL PREDICTION
- 11:15** **Jan Urban**, David Lastovka, Pavla Urbanova  
FISH ACOUSTIC TELEMETRY: CAUSAL STOCHASTIC SYSTEM AND MARKOV MODEL ANALYSIS
- 11:30** **Alaa Jamal**, Ahmed Nasser, Jaap van Rijn  
REAL-TIME AMMONIA ESTIMATION IN RECIRCULATING AQUACULTURE SYSTEMS: A DATA ASSIMILATION APPROACH
- 11:45** **Mohammad Mehdi Ziaei**, Prtr Cisar, Jacob Günther Schmidt, Massimo Orioles  
CAMERA TECHNOLOGY FOR EARLY STAGE DETECTION AND PREDICTION OF RED MARK SYNDROME IN RAINBOW TROUT *Oncorhynchus mykiss*
- 12:00** **Linda Tschirren**, Kanwal Aftab, Luca Regazzoni, Mathias Sigrist, Boris Pasini, Nathalie Pfister, Peter Zeller, Muhammad Moazam Fraz  
FISH BIOMASS MODELING IN 3D: AUTOMATING BODY WEIGHT ESTIMATION FROM UNDERWATER VIDEOS FOR BETTER FISH HEALTH
- 12:15** **Aditya Gupta**, Morten Goodwin, Kristian Muri Knausgård, Paul Valle  
AUTOMATIC WEIGHT IDENTIFICATION OF SALMON USING 2-D IMAGE-BASED CONVOLUTIONAL NEURAL TECHNIQUES
- 12:30** **LUNCH**

- 14:00** **Mohammad Mehdi Ziaei**, Petr Cisar  
ADAPTING CNN-BASED INDIVIDUAL IDENTIFICATION TO IDENTIFY FISH INDIVIDUALS UNDER REAL CONDITIONS
- 14:15** **Hilla Fred**, Mogens Agerbo Krogh, Paw Petersen, Tapio Kiuru, Laura Ruotsalainen, Matti Pastell  
AUTOMATIC VISUAL SEGMENTATION AND TRACKING OF RAINBOW TROUT *Oncorhynchus mykiss* AND ATLANTIC SALMON *Salmo salar* IN RAS ENVIRONMENT
- 14:30** **Santhosh Kumaran**, David Izquierdo-Gomez, Lars Solberg, Jelena Kolarevic, Gaute Helberg, Nabil Belbachir, Lars Ebbesson, I-Hao Chen, Chris Noble  
A COMPUTER-VISION-BASED BEHAVIOUR ANALYSIS OF LARGE NUMBERS OF ATLANTIC SALMON *Salmo salar* HELD IN RECIRCULATING AQUACULTURE SYSTEM (RAS) TANKS
- 14:45** **Luiz Claudio Navarro**, Lucas Nogueira, Anibal Matos, Anderson Rocha, Rodrigo Ozório  
MEASUREMENT OF EUROPEAN SEABASS *Dicentrarchus labrax* IN THE REARING ENVIRONMENT BY IMAGES TAKEN BY CAMERAS ABOVE RAS TANKS
- 15:00** **Madhav Karthikeyan**  
*ZiD-AI*: A MOBILE AI TOOLS FOR THE AUTOMATIC MORPHOMETRIC AND BEHAVIORAL ANALYSIS OF ADULT ZEBRAFISH *Danio rerio*
- 15:15** **Bruna Guterres**, Marcelo Pias, Gilles Orazi, Maxime Paris, Paulo Drews, Vinicius Oliveira, Silvia Botelho, Nelson Duarte, Luis Poersch, Wilson Wasielesky, Charlottes Dupont, Marié Smith, Katy Michalek, Lisl Lain, Iheb Khelifi,, Ahmed Abid, Arthur Tré-Hardy, Elisa Ravagnan  
ASTRAL POOL OF TECHNOLOGIES: A TECHNOLOGY VALIDATION PERSPECTIVE WITHIN THE ATLANTIC AREA
- 15:30** **Ramon Filgueira**, Antonio Agüera, Morten Skogen, Paul Gatti, Øivind Strand, Tore Strohmeier  
COMPARATIVE ANALYSIS OF ECOSYSTEM- AND FARM-SCALE MODELS IN BIVALVE AQUACULTURE: IMPLICATIONS OF SPATIAL AND TEMPORAL RESOLUTION
- 15:45** **Joao G. Ferreira**, Jon Grant, Ramón Filgueira, Ian Gardner, Gregor Reid, Leah Lewis-McCrea, Kiersten Watson, Anne McKee, Alexander van Oostenrijk  
MODELLING NEAR- AND FAR-FIELD EFFECTS OF AQUACULTURE: APPLICATION OF THE FINS MODEL TO PARTICLE DEPOSITION, DISSOLVED NUTRIENTS, AND PATHOGEN CONNECTIVITY

- 16:00 Jagan Gorle**, Akhila Gorle  
BACK TO BASIC: IS MY TANK SELF-CLEANING? A SYSTEMS APPROACH TO SUSTAINABLE AQUACULTURE 4.0
- 16:15 Aya Saad**, Mats Mulelid, Finn Olav Bjørnson, Sveinung Johan Ohrem  
VISUALIZING OPERATIONS AND IMPACT ON FISH PRODUCTION THROUGH GRAPH DATABASES
- 16:30 Jessica Hintzsche**, Lorenzo Bertola, Kyall Zenger, Dave Jones, Dean R. Jerry, Ben Hayes  
LEVERAGING GENOMICS FOR PRECISION FARMING: BUILDING SEX-SPECIFIC HIGH-DENSITY LINKAGE MAPS OF BARRAMUNDI *Lates calcarifer* FOR ACCURATE BREEDING PROGRAM SIMULATIONS
- 16:45 João Rito**, Ana P. L. Costa, Nuno Leite, Diogo Alves, Patrícia Canhão, Pedro Pousão-Ferreira, Cátia Marques, Andreia Raposo, Filipe Soares  
NOVIFEED - NEW TOOLS FOR PRECISION FEEDING OF CORVINA IN RAS *Argyrosomus regius*

## WELFARE

Tuesday, August 27 10:30 - 17:30 AUD 11

Chairs: Chris Noble, Nikos Papandroulakis

- 10:30 Maria Filipa Castanheira**  
ASC SUSTAINABLE AQUACULTURE: LEADING HEALTH AND WELFARE CERTIFICATION IN THE GLOBAL MARKET
- 10:45 Jack Jarvis**, Rod Wilson  
IMPACT OF GEOLOGY, FARM MANAGEMENT STRATEGIES AND SYSTEM DESIGN ON WATER CHEMISTRY CONDITIONS EXPERIENCED BY RAINBOW TROUT *Oncorhynchus mykiss*
- 11:00 Siri Kristine Sollien Gåsnes**, Britt Bang Jensen, Marit Stormoen, Kristine Størkersen, Kristine Gismervik  
A QUALITATIVE APPROACH TO IDENTIFY RISK FACTORS FOR REDUCED FISH WELFARE AND MORTALITY IN NORWEGIAN ATLANTIC SALMON SMOLTS
- 11:15 Heidi S. Mortensen**, Amanda Vang, Elin Egholm, Lucas A. Zena, Helene Wisløff, Ida B. Johansen, Albin Gräns, Erik Sandblom  
PREVALENCE AND SEVERITY OF CORONARY ARTERIOSCLEROSIS IN FAROESE FARMED ATLANTIC SALMON *Salmo salar*

- 11:30 Lucas Zena**, Ida Beitnes Johansen, Albin Gräns, Erik Sandblom  
THE USE OF THE ELECTROCARDIOGRAM AS A FIRST-LINE DIAGNOSTIC TOOL FOR MONITORING CARDIAC HEALTH IN FARMED SALMONIDS
- 11:45 Manuel Gesto**  
WATERBORNE CORTISOL: TOWARDS A KEY FISH-BASED OPERATIONAL WELFARE INDICATOR IN FISH FARMING?
- 12:00 Yanran Cao**, Jingwen Ding, Ernestine Fanjara, Grete Hansen Aas, Lars Christian Gansel, Bengt Finstad, Anne Stene  
DETERMINING THE APPROPRIATE SAMPLING TIMEFRAME FOR MEASURING FECAL CORTISOL AND ITS METABOLITES IN FARMED ATLANTIC SALMON
- 12:15 Harriet Romstad**, Alf S. Dalum, Christine Klykken, Silje Stensby-Skjærvik, Simen F. Nørstebø, Torstein Kristensen  
EVALUATION OF BLOOD SAMPLING FROM THE CAUDAL VASCULATURE AS A NON-LETHAL METHOD IN ATLANTIC SALMON *Salmo salar*
- 12:30 LUNCH**
- 14:00 Jonathan Roques**, Sofia Kamperin, Eric Metsmaa, Lizeth Alcocer, M. Iranzu Calocany Aramendia, Erika Sundell, Ida Hedén, Niklas Warwas, Joana Henze  
VALIDATION OF THE HEMOCUE HB 801 PORTABLE HEMOGLOBIN ANALYZER FOR FISH BLOOD
- 14:15 Maria Giulia Ferrari**, Sabrina Fasoli, Silvia Natale, Martina Baldin, Francesco Dondi, Elisa Benini, Alessio Bonaldo, Luca Parma  
EXPLORING BLOOD COAGULATION IN EUROPEAN SEABASS *Dicentrarchus labrax* VIA AUTOMATED ANALYSIS
- 14:30 Valery Ravelo**, Silvia Torrecillas, Félix Acosta, Daniel Montero  
WELFARE IMPROVEMENTS IN SEA BASS *Dicentrarchus labrax* THROUGH ADAPTOGEN AND ENVIRONMENTAL ENRICHMENT
- 14:45 Nuria Ruiz**, Irene Garcia-Meilan, Lluís Tort  
IMMUNOENDOCRINE GENE EXPRESSION RESPONSE OF RAINBOW TROUT SUBJECTED TO REPEATED HYPOXIA
- 15:00 Paolo Gamberoni**, Mirko Boegner, Sven Wuertz, David Bierbach, Matthew James Slater  
IMPACT OF DIFFERENT STOCKING DENSITIES ON GROWTH PERFORMANCE AND WELFARE OF *Penaeus vannamei* IN RAS



- 15:15 Manuel Blonç**, Nuria Ruiz, Asta Tvarijonaviciute, Debes Christiansen, Petra Petersen, Dhiraj Krishna, Maria Dahl, Mariana Teles, Lluís Tort  
EFFECT OF FISH PUMPING ON THE ATLANTIC SALMON *Salmo salar*
- 15:30 Orestis Stavrakidis-Zachou**, Dimitra Georgopoulou, Nikos Papandroulakis  
EFFECT OF REPEATED STRESS ON EUROPEAN SEABASS WELFARE MONITORED VIA ESTABLISHED AND NOVEL TECHNOLOGIES
- 15:45 Dimitra Georgopoulou**, Ahmed Janati, Nikos Papandroulakis  
EFFECT OF ENVIRONMENTAL VARIATION ON THE SWIMMING PERFORMANCE OF EUROPEAN SEABASS
- 16:00 Meredith Burke**, Dragana Nikolic, Pieter Fabry, Hemang Rishi, Trevor Telfer, Sonia Rey Planellas  
INVESTIGATING ATLANTIC SALMON BEHAVIOURAL RESPONSE TO GILL HEALTH FOR IMPROVED WELFARE IN COMMERCIAL FARMS
- 16:15 Jenny Bouwsema**, Maureen Ellis, Amaya Albalat, Jeff Lines, Jimmy Turnbull  
IN-WATER ELECTRIC STUNNING FOR TILAPIA: FROM LABORATORY TO INDUSTRY
- 16:30 Hans van de Vis**, Henny Reimert, Nghe Van Dat, Jan Verkaik, Han Meijer, Marien Gerritzen  
TWO METHODS FOR ELECTRICAL STUNNING OF FARMED PANGASIOUS
- 16:45 Sandra Ljósá Østerø**, Jessica Di Toro, Eydna í Homrum, Esbern Patursson, Kirstin Eliassen  
USING A LENGTH-WEIGHT RELATIONSHIP BASED ON WILD LUMPFISH *Cyclopterus lumpus* L. FOR ESTIMATION OF BODY CONDITION OF LUMPFISH IN AQUACULTURE

## NUTRITIONAL REQUIREMENTS

Tuesday, August 27 10:30 - 17:30 AUD 12

Chairs: Johan Schrama, Jamie Hooft

- 10:30 Abel Roijackers**, Marit Nederlof, Gijs Vreeke, Peter Wierenga, Fotini Kokou, Johan Schrama  
THE EFFECT OF MAILLARD REACTION AND PROTEIN CROSSLINKING ON PROTEIN DIGESTIBILITY IN JUVENILE NILE TILAPIA *Oreochromis niloticus*
- 10:45 Anna Simon**, Jonas Nowaczek, Sebastian Lippemeier, Carsten Schulz  
A FATTY FATE: HOW DIETARY FATTY ACID PROFILES MODIFIED BY MICROALGAE INCLUSION INFLUENCE FATTY ACID METABOLISM IN RAINBOW TROUT *Oncorhynchus mykiss*

- 11:00** **Andy Jordan**, Andrew Jeffs, Brad Skelton, Maria Mugica  
A SWEET SOLUTION TO AN AGE-OLD PROBLEM: THE UPTAKE OF DISSOLVED GLUCOSE AND SUCROSE BY JUVENILE GREENSHELL MUSSELS *Perna canaliculus*
- 11:15** **Sudip Debnath**, Marit Nederlof, Saravanan Subramanian, Johan Schrama  
DIETARY POTASSIUM REQUIREMENT OF *Litopenaeus vannamei* UNDER DIFFERENT SALINITY CONDITIONS
- 11:30** **Ramon Fontanillas**, Silvia Natale, Luca Parma, Maria Giulia Ferrari, Francesco Dondi, Bonaldo Alesio, Elisa Benini  
VITAMIN K REQUIREMENT FOR EUROPEAN SEA BASS *Dicentrarchus labrax*
- 11:45** **Lucia Drábiková**, P. Eckhard Witten, Saskia Kröckel, Guido Riesen, Paul Morris, Per Gunnar Fjelldal  
SEASONAL VARIABILITY IN DIETARY PHOSPHORUS REQUIREMENTS IN FARMED ATLANTIC SALMON *Salmo salar*
- 12:00** **Emilie Cardona**, Matthew Sprague, Emilien Segret, Claire Vigor, Cécile Heraud, Pauline Riou, Nicolas Turonnet, Patrick Maunas, Jérôme Bugeon, Jérôme Roy, Camille Oger, Anaëlle Durbec, Justine Bertrand-Michel, Jean-Marie Galano, Geneviève Corraze, Yoann Cachelou, Thierry Durand, Frédéric Cachelou, Yann Marchand, Sandrine Skiba-Cassy  
LOW LEVEL OF ARACHIDONIC ACID IMPROVES REPRODUCTIVE PERFORMANCES AND EGG QUALITY IN RAINBOW TROUT
- 12:15** **Pauline Wischhusen**, Kristin Hamre, Philip Antony Jesu Prabhu, Anne-Catrin Adam, Kaja Skjærven, Sofie Remø, Ingunn Staubhaug, Nini Sissener  
VITAMIN E REQUIREMENT IN ATLANTIC SALMON *Salmo salar* DURING SMOLTIFICATION AND ENVIRONMENTAL CHALLENGE
- 12:30** **LUNCH**
- 14:00** **Nataly Gómez Gómez**, Vincent Vermeylen, Jessica Knoop, Jorg Desmyter, Paula Moreno Sánchez, Martina Todorova Bobeva, Annelies M. Declercq  
INFLUENCE OF MACROALGAE INCLUSION IN THE FEED ON THE GROWTH PERFORMANCE AND GUT MICROBIOME OF *Litopenaeus vannamei*
- 14:15** **Kristin Hamre**, Kristin Hamre, Peng Yin, Takaya Saito, Bjorn Thrandur Bjornsson, Sofie Remø, Rolf Erik Olsen, Sandeep Sharma, Per Gunnar Fjelldal  
HIGH GROWTH RATE OF ATLANTIC SALMON *Salmo salar* IS LINKED TO TISSUE OXIDATION, CONSUMPTION OF ANTIOXIDANTS AND RISK OF OXIDATIVE STRESS

- 14:30** Øystein Sæle, Antony J.P. Philip, Kristin Hamre, Katerina Kousoulaki  
SCREENING FOR VITAMIN AND MINERAL REQUIREMENTS IN THE ATLANTIC HALIBUT DIET
- 14:45** **Claudia Figueiredo-Silva**, Jorge Dias  
CHROMIUM-METHIONINE COMPLEX IMPROVES PERFORMANCE AND RETENTION OF PROTEIN AND PHOSPHORUS IN ATLANTIC SALMON
- 15:00** **Patrik Tang**, Kristine O. Rostad, Marius Nilsen, Simon Menanteau-Ledouble, Marie Bø-Randulff, Dagne Røise, Valentina Tronci, Marnix Gorissen, Lars Ebbesson, Naouel Gharbi, Neda Gilannejad  
DIETARY SUBSTITUTION OF SOY WITH A NOVEL MIX OF INSECTS AFFECTS OSMOREGULATORY AND STRESS-COPING CAPACITIES IN FARMED ATLANTIC SALMON
- 15:15** **Tone-Kari Knutsdatter Østbye**, Bente Ruyter, Gerd Marit Berge, Marta Bou, Odd Helge Romarheim, Thomas Larsson  
DIETARY INCLUSION OF NORTH ATLANTIC FISH OILS AFFECTS THE UTILIZATION OF OMEGA-3 FATTY ACIDS IN FARMED ATLANTIC SALMON IN THE SEAWATER PHASE
- 15:30** **Bente Ruyter**, Nini Sissener, Trygve Sigholt, Tone-Kari Østbye, Marta Mira Bou, Thomas Larsson, Gerd Marit Berge  
EFFECT OF DIFFERENT DIETARY LEVELS OF FAT, FATTY ACIDS, AND ZN ON GROWTH, HEALTH, AND FILLET QUALITY OF SALMON IN SEA CAGES
- 15:45** **Sophie Hiscocks**, Gilson Gomes, Ingrid Lupatsch  
EVALUATION OF THE NUTRIENT MATRIX VALUES FOR PHYTASE IN TILAPIA *Oreochromis niloticus*
- 16:00** **Igo Guimarães**, Ludmila Menezes, Vânia Machado, Cristielle Souto, Danilo Proença, Guilherme Bueno  
DIETARY PHOSPHORUS LEVELS AFFECTS NUTRIENT METABOLISM BUT NOT THE GROWTH OF TAMBAQUI *Colossoma macropomum* IN THE GROW-OUT PHASE
- 16:15** **Laura Ciriminna**, Arnold Rakaj, Geraldina Signa, Giovanna Cilluffo, Salvatrice Vizzini  
FORMULATION OF SUSTAINABLE FEEDS FOR EUROPEAN SEA CUCUMBERS: A SHORT-TERM FEEDING TRIAL WITH *Holothuria forskali*
- 16:30** **Igo Guimarães**, Cristielle Nunes Souto, Ludmila Menezes, Danilo Cintra Proença, Guilherme Wolff Bueno  
PIRARUCU REQUIRES TAURINE TO MAXIMIZE GROWTH AND ANTIOXIDANT STATUS WHEN FED DIETS HIGH IN PLANT-BASED INGREDIENTS

**16:45 Claudia Figueiredo-Silva, Frederik Kaiser, Michael Schlachter, Carsten Schulz**  
DIETARY SUPPLEMENTATION WITH CHROMIUM-METHIONINE COMPLEX  
ENHANCES GROWTH PERFORMANCE OF AFRICAN CATFISH



## **SUSTAINABLE BREEDING AND CONSERVATION OF FRESHWATER CHALLENGES AND TRENDS IN THE CONTEXT OF STURGEON SPECIES**

Tuesday, August 27 11:00 - 17:30 The Treehouse

Chair: Agnieszka Napiórkowska-Krzebietke

Sponsor: Polish Organization of Sturgeon Fish Producers

Sustainability and traceability of sturgeon and caviar from European aquaculture - 2024 update by Andrea Fabris, API Atlantic sturgeon (*Acipenser oxyrinchus* Mitchill 1815) - from breeding to hatching

dr hab. inż. Agnieszka Napiórkowska-Krzebietke

Method for estimating the genetic variability of Atlantic sturgeon (*Acipenser oxyrinchus* Mitchill 1815) stocks and the possibility of its application in aquaculture of this species

dr hab. Dariusz Kaczmarczyk

Storing sturgeon semen in refrigerated conditions - an overview of the methods used and application possibilities

dr hab. Beata Irena Cejko, prof. IRS-PIB

Acidification as a method of improving the quality of fish feed. Is it also for sturgeons?

dr hab. inż. Rafał Kamiński, prof. IRS-PIB

Hematological markers of fish health, with particular emphasis on sturgeon fish

dr inż. Maciej Rożynski

Effects of the use of probiotics in aquaculture of sturgeon fish and other species

mgr inż. Sylwia Rożynska

Bioactive compounds in the diet - distribution from feed to caviar and sturgeon meat

dr hab. inż. Agata Cejko, prof. IRS-PIB

Are sturgeons threatened by predators? Competition and coexistence of piscivorous animals and protected fish species

dr inż. Andrzej Kapusta

Fish Ecology Unit – from complex assessment of wild fish communities to tracking fish behaviour for aquaculture purposes

dr Marie Prchalová

TUESDAY

## MARKETS & CONSUMERS

Tuesday, August 27 14:00 - 17:30 MR 180

Chairs: Julia Bronnmann, Frank Asche

- 14:00** **Atle Oglend**, Hans-Martin Straume  
TRADE IN FRESH SEAFOOD: ECONOMICS OF SCALE AND QUALITY
- 14:15** **Miho Maezono**, Julia Bronnmann, Rasmus Nielsen, Max Nielsen  
DANISH CONSUMER PREFERENCES AND WILLINGNESS-TO-PAY FOR SEAFOOD TREATED WITH BACTERIOPHAGES
- 14:30** **Olawumi Fapohunda**  
CHANGES IN QUALITY OF CULTURED AND WILD ADULT AFRICAN CATFISH *Clarias gariepinus* UNDER FROZEN STORAGE
- 14:45** **Badiuz Zaman**, Shah Mohammad Sumon, Max Nielsen, Rasmus Nielsen, Afjal Hossain  
THE VALUE OF QUALITY: IMPLICIT PRICES FOR CONSUMER GROUPS PURCHASING PRAWN AT BANGLADESH FISH MARKETS
- 15:00** **Sezgin Tunca**, Mausam Budhathoki, Karen Brunsø  
CONSUMERS' INTENTION TO BUY LOW TROPHIC AQUACULTURE PRODUCTS: AN EXPLORATORY STUDY OF EUROPEAN FOOD-RELATED LIFESTYLE SEGMENTS
- 15:15** **Akhtaruzzaman Khan**, Imtiaz Khan, Ali Shahaab, Rasmus Nielsen, Max Nielsen  
AN OVERVIEW OF SHRIMP AND PRAWN SECTOR IN BANGLADESH: WAY TO ENTRY INTO INDUSTRY 4.0
- 15:30** **Themistoklis Altintzoglou**, Ragnhild Aven Svalheim  
FROM CATCH WELFARE INDICATORS TO CERTIFICATION AND COMMUNICATION; WHAT IS RELEVANT FOR CONSUMERS?
- 15:45** **Mausam Budhathoki**, Danny Campbell, Wenbo Zhang, Saihong Li, Richard Newton, Hao Xu, Zixuan Ma, David Little  
CONSUMERS' PREFERENCES TOWARDS FARMED SALMON IN CHINA: INTEGRATING SENSORY AND CHOICE EXPERIMENTS
- 16:00** **Martina Magnani**, A. Claret, S. Busti, A. Badiani, M. Silvi, F. Brambilla, P.P. Gatta, L. Parma, E. Gisbert, L. Guerrero, A. Bonaldo  
ASSESSING SENSORY EVALUATION AND CONSUMER PERCEPTION OF FISH FEED INSECT MEAL-BASED MEAL

TUESDAY

- 16:15 Afjal Hossain**, Badiuz Zaman, MA Sattar Mandal, Anup Kumar Mandal  
PERCEPTUAL DIFFERENCES IN TWO FARMED FISH FROM BANGLADESH:  
LOGIT MODEL INFERENCES FOR CONSUMER PREFERENCES
- 16:30 Themistoklis Altintzoglou**, Maurizio Canavari, Giulia Maesano, Pirjo Honkanen  
BUILDING TRUST: CONSUMER AWARENESS, ACCEPTANCE AND ATTITUDES  
RELATED TO EUROPEAN AQUACULTURE AND THE POTENTIAL EFFECTS OF  
GREENWASHING
- 16:45 Nuno Leite**, Ana Costa, Diogo Alves, Patrícia Canhão, Ana Cabado, Mafalda Rangel,  
Cristina Pita, Rita Sá, Sebastien Gaïde, Jean-Claude Rousseaux, Juanita Zorrilla,  
Ioanna Argyrou, Carlos Espinal, Laura Reyes, Elisabeth Vallet, Ana Hristova,  
Carlos Mazorra, João Rito  
SEA2SEE – TRACEABILITY FROM FARM TO PLATE IN MEAGRE *Argyrosomus*  
*regius* RAS AQUACULTURE
- 17:00 Evmorfia Athanasopoulou**, Francesco Bigi, Enrico Maurizzi, Theofania Tsironi  
COMPARATIVE EFFECT OF DIFFERENT PLASTICIZERS ON PHYSICO-CHEMICAL  
PROPERTIES OF HYDROXYPROPYL METHYLCELLULOSE (HPMC)-BASED  
FILMS AND APPLICATION IN GILT-HEAD SEABREAM
- 17:15 Philip James**, Tor Evensen, Xinxin Wang, Birthe Wang, Anna Mjøen Holstad,  
Alexandra Kinnby  
WHATS IN A SEA URCHIN? COMPARATIVE BIOCHEMICAL PROFILES  
AND NUTRIENT STATUS OF WILD AND ENHANCED GREEN SEA URCHIN  
*Strongylocentrotus droebachiensis*

## PREBIOTICS AND PROBIOTICS

Tuesday, August 27 14:00 - 17:30 MR 181

Chairs: Kiron Viswanath, Mariana Ferreira

- 14:00 Valentina Romboli**, Fotini Kokou, Lionel Degremont, Detmer Sipkema  
NATURE'S ARSENAL UNLOCKED: NEXT-GENERATION SCREENING OF  
AQUACULTURE-DERIVED BACTERIA TO PREVENT OYSTER DISEASES
- 14:15 Sherilyn T. Abarra**, Benjamin Eynon, Mark Rawling, Daniel L. Merrifield  
EFFECTS OF LIVE AND INACTIVATED BACTERIAL FEED ADDITIVES ON THE  
GROWTH PERFORMANCE AND MUCOSAL HEALTH OF MIRROR CARP *Cyprinus*  
*carpio* UNDER A LOW FEEDING REGIME
- 14:30 Fabrizio Caruso**, Jorge Dias, Geronimo Leonardi, Andrea Piva, Ester Grilli  
THYMOL, VANILLIN AND ORGANIC ACIDS PROMOTE GUT HEALTH  
MODULATING MUCOSAL MICROBIOTA IN *Salmo salar*

- 14:45** **Stephane Frouel**  
A FUNCTIONAL FEED SOLUTION TO COMPENSATE FISH MEAL REDUCTION AND ASSOCIATED NUTRITIONAL STRESS IN SEABREAM *Sparus aurata*
- 15:00** **Ghasem Rashidian**, Mahyar Zare, Hamidreza Tabibi, Vlastimil Stejskal, Caterina Faggio  
THE SYNERGISTIC EFFECTS OF FOUR MEDICINAL PLANT SEEDS AND CHELATED MINERALS ON THE GROWTH, IMMUNITY, AND ANTIOXIDANT CAPACITY OF RAINBOW TROUT
- 15:15** **Sefti Heza Dwinanti**, Po-Tsang Lee, Anisha Anand, Chih-Ching Huang  
EUGENOL SELF-ASSEMBLED NANOPARTICLE AS AN ALTERNATIVE TO TREAT AHPND-INFECTED SHRIMP *Litopenaeus vannamei*
- 15:30** **Edwin Pei Yong Chow**  
IMPROVING SURVIVAL AND PERFORMANCE – FUNCTIONAL LIPIDS AS ANTIBACTERIAL AND ANTIVIRAL TREATMENT IN AQUACULTURE
- 15:45** **Fabrizio Caruso**, Patricio H. Dantagnan, Alex Romero, Adrian J.A. Hernandez, Joceline Ruiz, Geronimo Leonardi, Andrea Piva, Ester Grilli  
BOTANICAL BLEND INCLUSION IN FEED STIMULATES *Salmo salar* CELLULAR MEDIATED IMMUNITY (CMI) IN *EX VIVO* STUDY
- 16:00** **Wanderley P. Oliveira**, Sarah C. Campanharo, Gabriela A. Gil, Inácio M. Assane, Daniel A.R. Ferreira, Fabiana Pilarski, Susanne Rath, Jonas A.R. Paschoal  
NANOENCAPSULATED *Lippia sidoides* ESSENTIAL OIL AS AN ANTIMICROBIAL AGENT AGAINST FISH-PATHOGENIC *Aeromonas* spp.
- 16:15** **Farhana Ahmed**, Walter Luyten, Jan Paeshuyse  
*IN VITRO* ANTIBACTERIAL ACTIVITY AGAINST FISH PATHOGENS OF SELECT MEDICINAL PLANTS FROM BANGLADESH
- 16:30** **Jose F. Cabello-Gómez**, Iria Folgueira López, Carmen García de Lomas del Cid, María del Mar Agraso Martínez, Alberto Baños  
ANTIBACTERIAL ACTIVITY OF PROPYL-PROPANETHIOSUFINATE (PTS) AND PROPYL-PROPANE-THIOSULFONATE (PTSO) FROM ALLIUM CEPA AGAINST EUROPEAN SEABASS *Dicentrarchus labrax* PATHOGENS – *IN VITRO* AND *IN VIVO* EVALUATION
- 16:45** **Sarah Chagas Campanharo**, Wanderley Pereira de Oliveira, Gabriela Alberto Gil, Inácio Mateus Assane, Daniel de Abreu Reis Ferreira, Fabiana Pilarski, Susanne Rath, Jonas Augusto Rizzato Paschoal  
LIPID FORMULATIONS TO ENHANCE ERYTHROMYCIN'S ANTIMICROBIAL EFFICACY IN AQUACULTURE

- 17:00 Srinivas Rayaprolu**  
EFFECT OF PROBIOTICS ON PATHOGENIC *Vibrio* BACTERIAL POPULATIONS IN CULTURE PONDS OF *Litopenaeus vannamei* AT MOPHUS BANDER, SRIKAKULAM DISTRICT, ANDHRA PRADESH, INDIA
- 17:15 Phelly Vasilaki**, Maria Chiara Cascarano, Kiranpreet Kaur, Virginie Claeysens, Evgenia Gourzioti, Vasiliki Sonia Papaioannou, , Pantelis Katharios  
FIELD BASED OBSERVATIONS ON THE POTENTIAL IMPACT OF KRILL MEAL ON INTESTINAL RESILIENCE IN ORGANIC EUROPEAN SEABASS *Dicentrarchus labrax*

## MANAGING FEED INTAKE TECHNOLOGIES

Tuesday, August 27 14:00 - 17:30 AUD 15

Chairs: Erik-Jan Lock, Joao Fernando Albers Koch

Sponsor: **Biorigin**  
Arte em Ingredientes Naturais

- 14:00 Oddrun Elise Olsen**, Shruti Gupta, Martine Kjellså, Silje Karlsen, Ingrid Heggnes, Marte Skog, Chris André Johnsen, Obibi Onyekachi  
EFFECTS OF FEEDING VARIABILITY ON SALMON FILLET QUALITY AND HEALTH IN NORTHERN NORWAY
- 14:15 Charline Pichon**, Pierrick Kersanté, Guillaume Le Reste, Anne-Sophie Darmaillacq, Christelle Jozet-Alves  
EFFECT OF PRIOR FAMILIARISATION WITH THE TEST ARENA ON FEEDING BEHAVIOUR ASSESSMENT IN THE PACIFIC WHITE SHRIMP *Penaeus vannamei*
- 14:30 Rocio Robles-Arozarena**, L. Bermúdez, W.G. Nuez-Ortín  
MARINE PEPTIDE CONCENTRATES BOOST GROWTH PERFORMANCE AND FEED INTAKE IN GILTHEAD SEA BREAM *Sparus aurata*
- 14:45 Sara Magalhães**, Tiago Aires, Maria Mota, Rocio Robles  
FROM CAGE TO TABLE: ASSESSING A NOVEL NUTRITIONAL AND FEEDING STRATEGY DURING PRE-HARVEST ON EUROPEAN SEABASS *Dicentrarchus labrax* STRESS INDICATORS AND MEAT QUALITY
- 15:00 Sebastien Rider Rider**, Louise Buttle, Christian Schaefer, Raffaella Aureli  
SIZE MATTERS – ASTAXANTHIN PARTICLE SIZE INSIDE PRODUCT FORMULATIONS DETERMINES PIGMENTATION EFFICACY
- 15:15 Vikas Kumar**, Krishna P. Singha, Michael Phelps, Ken Overturf, Da Chen, Ron Hardy  
A NOVEL FEEDING STRATEGY BASED ON MUSCLE FIBRE RECRUITMENT TO MAXIMIZE THE PERFORMANCE OF RAINBOW TROUT *Oncorhynchus mykiss*



- 15:30** **Silvia Martínez-Llorens**, Ruben Olivares-Perona, Jessica Brol, Ignacio Jauralde, Miguel Jover, Ana Tomás-Vidal, David S. Peñaranda  
ASSESSMENT OF INTESTINAL HEALTH THROUGH OMICS-BASED ANALYSIS OF WITH HIGH FISHMEAL SUBSTITUTION IN *Liza aurata*
- 15:45** **Baba Usman Ibrahim**, Balogu Dennis Odionyenfe, Abdu Yunusa  
FOOD AND FEEDING HABITS OF THE CICHLIDAE IN TAGWAI RESERVOIR, NIGER STATE, NIGERIA
- 16:00** **Vikas Kumar**, Ali Hamidoghli, Brian Small, Ken Overturf  
A NUTRITIONAL AND GENETIC APPROACHES ENHANCING THE FEED EFFICIENCY OF SOY PROTEIN BASED DIETS IN RAINBOW TROUT

## SUSTAINABILITY INDICATORS, ENERGY USE AND CERTIFICATION

Tuesday, August 27 14:00 - 17:30 MR 18

Chairs: Marit Schei Olsen, Øyvind Hilmarsen

- 14:00** **Richard Newton**, Wesley Malcorps, Sonia Rey Planellas, Remi Panicz, Piotr Eljasik, David C. Little  
DEVELOPING ONE HEALTH SUSTAINABILITY INDICATORS FOR AQUACULTURE
- 14:15** **Akhtaruzzaman Khan**, Nayeema Akter, Sajjad Hossain, Md. Takibur Rahman, Max Nielsen, Rasmus Nielsen  
RESILIENCE CAPACITY AND SUSTAINABILITY OF PRAWN FARMING IN BANGLADESH
- 14:30** **Roberto Cardenas**, Adams Ceballos, Frank Asche  
SALMON AQUACULTURE IN CHILE: PRODUCTION GROWTH AND SOCIO-ECONOMIC IMPACT
- 14:45** **Andrea Viken Strand**, Shraddha Mehta, Hans Tobias Slette, Elisabeth Fugger, Cristina Maria Jordan, Marit Schei Olsen, Bård Misund, Ellie Johansen  
SALMON FARMING IN 2050: WHAT WILL THE SUSTAINABILITY PERFORMANCE OF THE EMERGING TECHNOLOGIES FOR SALMON FARMING BE?
- 15:00** **Badiuz Zaman**, Md. Sazedul Hoque, Max Nielsen  
REESTABLISHING SUSTAINABLE GROWTH OF SHRIMP PRODUCTION AND EXPORT FROM BANGLADESH BY HANDLING CLIMATE CHALLENGES AND THROUGH THE IMPROVEMENT OF QUALITY

- 15:15 Daniel Checa**, Inmaculada Sánchez, Kati Michalek  
MATERIAL CIRCULARITY INDICATOR FOR INFRASTRUCTURE IN IMTA SYSTEMS IN THE CONTEXT OF THE ASTRAL PROJECT
- 15:30 Joel Perez Osses**, Esteban Patroni Serrano  
THE FIRST GREEN SHIPPING CORRIDOR FOR THE AQUACULTURE INDUSTRY IN SOUTH AMERICA – A CASE STUDY OF THE SALMON INDUSTRY IN CHILE
- 15:45 Robert Parker**, Jackie Ireland  
ENERGY USE AND GREENHOUSE GAS EMISSIONS AQUACULTURE: THE ROLE OF CERTIFICATION
- 16:00 Stephanie Horn**, Richard W. Newton, Dave C. Little  
ASSESSING THE ENVIRONMENTAL IMPACTS AND NUTRITIONAL OUTCOMES OF TILAPIA FARMING IN BANGLADESH
- 16:15 Richard Newton**, Malcorps Wesley, Björn Kok, Anneli Lofstedt, Baukje de Roos, David Willer, James Robinson, David C. Little  
DEVELOPING AN INDICATOR TO MEASURE AND IMPROVE NUTRITIONAL RETENTION OF MARINE INGREDIENTS IN AQUACULTURE
- 16:30 Javier Cantillo**, Paritosh Deshpande, Tone Moe Samdahl  
FINDING SYNERGIES BETWEEN FISH FARMERS AND FISH FEED MANUFACTURERS TO FACILITATE MORE SUSTAINABLE CHOICES
- 16:45 Karl D. Shearer**  
AQUAFEED GREENWASHING: CERTIFICATION, SUSTAINABLE AND RESPONSIBLE
- 17:00 Ragnhild Dragøy**, Lena Burri, Pål Skogrand, Thomas Røkke, Viktor Ananiev, Stig Grafsrønningen  
CHARTING SUSTAINABLE PATHWAYS: A REAL-LIFE CASE STUDY OF GREEN INITIATIVES IN A CHALLENGING INDUSTRY
- 17:15 Wesley Malcorps**, Richard Newton, Piotr Eljasik, Remigiusz Panicz, John Bostock, Stephanie Horn, Dave Little  
ENHANCING RESILIENCE OF THE EUROPEAN SEAFOOD MARKET THROUGH A SUSTAINABLE GROWTH FRAMEWORK FOR AQUACULTURE

# WEDNESDAY, August 28

## EARLY LIFE

Wednesday, August 28 09:00 - 12:30 MR 18

Chairs: Sebastian Politis, Fotini Kokou

- 09:00** **Rossella Debernardis**, Katarzyna Palinska-Zarska, Sylwia Judycka, Abhipsa Panda, Taina Rocha de Almeida, Sylwia Jarmolwicz, Piotr Hliwa, Christophe Klopp, Daniel Zarski  
“LIKE MOTHER, LIKE LARVAE”: MATERNAL CONTRIBUTION TO OFFSPRING PERFORMANCE AND MOLECULAR PROFILE
- 09:15** **Mirko Pierantozzi**, Jessica Teske, Giulia Franchi, Pieter Joos, Thomas Raynaud  
USE OF A SINGLE-CELL PROTEIN IN A MARINE FISH LARVAL DIET: EFFECTS ON GROWTH PERFORMANCE OF GILTHEAD SEABREAM *Sparus aurata* LARVAE
- 09:30** **Paul-Daniel Sindilariu**, Daniella Acevedo, Aurelio Ortega Garcia, Amanda Miras, Ramon Fontanillas  
WEANING OF ATLANTIC BLUEFIN TUNA *Thunnus thynnus* WITH COMMERCIAL AVAILABLE DIETS IN EUROPE
- 09:45** **Ning Zhang**, Katerina Grabicová, Pavel Horký, Zuzana Toušová, Karel Douda, Zuzana Linhartová, Jan Turek, Martin Pšenicka, Klára Hilscherová, Roman Grabic, Tomáš Randák  
EFFECT OF SEWAGE TREATMENT PLANT'S EFFLUENT ON EARLY LIFE STAGES DEVELOPMENT AND SEX DETERMINATION OF BROWN TROUT *Salmo trutta m. fario*
- 10:00** **Marcus Stüeken**, Jelena Stanivuk, Stefan Heidemann, Stefan Pohlmeier, Kevin Kelsey, Ferenc Zoltán Demény, Uroš Ljubobratovic  
EFFECTS OF “GREEN WATER” TECHNIQUE, DIFFERENT STOCKING DENSITIES, FEEDING PROTOCOLS, AND PHOTO REGIME ON PIKEPERCH *Sander lucioperca* LARVAL REARING PERFORMANCES UNDER COMMERCIAL CONDITIONS
- 10:15** **Evan Durland**, Synne Spjelkavik, Maren Gagnat, Anna Sonesson, Andreas Hagemann  
SELECTIVE BREEDING OF COPEPODS FOR HIGH FECUNDITY

- 10:30 Maxim Batalin**, Zoltan Gorocs, Dhruvin Naik, Jessica Keszey  
 AQUSENS: AI-POWERED PLATFORM FOR AUTOMATED QUANTIFICATION OF LIVE FEED
- 10:45 BREAK**
- 11:15 Patricia Diogo**, Sara Castanho, Inês Costa, Gonçalo Bastos, Catarina Anjos, Filipa Pinheiro, Maria C. Ribeiro, Marcelo Livramento, Ana Candeias-Mendes, João S. Varela, Cátia Lourenço-Marques, João Cruz, António Vieira, Alexandre Rodrigues, Florbela Soares, Victória del Pino, Pedro Pousão-Ferreira, João Navalho  
 BEYOND CONVENTIONAL SOLUTIONS: VITABLOOM® NEW PRODUCTS RANGE COMBINES MICROALGAE AND PROBIOTICS FOR GREEN WATER TECHNIQUE, ROTIFERS NUTRITION, AND LIVE FEED ENRICHMENT
- 11:30 Casiano Choresca**, Princess Taberna, Fiona Pedroso, Faith Loraine Magbanua, Ma Jodecel Danting  
 INDUCED SPAWNING AND MESOCOSM-BASED STRATEGIES FOR ENHANCING LARVAL SURVIVAL OF THE PHILIPPINE NATIVE FISH, CLIMBING PERCH *Anabas testudineus*
- 11:45 Per M. Jepsen**  
 ORGANIC COPEPODS AS LIVE FEED FOR MARINE FISH LARVAE – A NEW PROMISING CONCEPT
- 12:00 Prince Ofori-Darkwah**, Daniel Adjei-Boateng, Regina Esi Edziyie, Nelson Winston Agbo, Ivar Lund  
 ENHANCING THE SURVIVAL OF THE AFRICAN BONY-TONGUE *Heterotis niloticus* FRY THROUGH TRANSPORT AND HUSBANDRY TECHNIQUES
- 12:15 Graham Akurah**, Kwame Ofori  
 EMBRACING COPEPODS FOR SUSTAINABLE AQUATIC FARMING IN GHANA

## RISK ASSESSMENT FOR OPERATIONS

Wednesday, August 28 09:00 - 12:30 MR 173

Chair: Kristine Størkersen

- 09:00** **Marie E. Smith**, Sarah Halse  
SATELLITE-BASED INFORMATION SERVICES SUPPORTING OPERATIONAL ENVIRONMENTAL RISK MITIGATION IN THE SOUTHERN AFRICAN MARINE AQUACULTURE SECTOR
- 09:15** **Eivind Lona**, Hans Tobias Slette, Kristbjörg Edda Jónsdóttir  
IMPACT OF VESSEL THRUSTER OPERATIONS ON ATLANTIC SALMON IN OPEN NET PENS
- 09:30** **Siri Holen**, Ingunn Marie Holmen, Trine Thorvaldsen, Trond Kongsvik, Cecilie Salomonsen  
INTERORGANIZATIONAL ACCIDENTS IN NORWEGIAN SALMON FARMING
- 09:45** **Per Arild Åland**  
OVERALL RISK PERSPECTIVE FOR OCEAN AQUACULTURE
- 10:00** **Trine Thorvaldsen**, Trond Kongsvik, Ingunn Marie Holmen, Kristine Størkersen, Cecilie Salomonsen, Siri Holen  
OCCUPATIONAL HEALTH AND SAFETY (OHS) IN NORWEGIAN SALMON FARMING – AN EMPLOYEE SURVEY
- 10:15** **Hans Tobias Slette**, Cecilie Salomonsen, Andreas Misund, Kristine Størkersen, Guro Tveit, Eivind Lona  
BIOSAFETY IN SMOLT PRODUCTION AND TRANSPORT – RISKS IN HATCHERIES AND WELL BOATS
- 10:30** **Kristine Vedal Størkersen**, Cecilie Salomonsen, Trond Kongsvik, Trine Thorvaldsen  
NEW TECHNOLOGY, NEW WORKPLACES, NEW CONFLICTING OBJECTIVES FOR PERSONNEL IN NORWEGIAN FISH FARMING
- 10:45** **Hanne-Grete Alvheim**, Eleni Kelasidi, Martin Føre, Stian Mjelde Jakobsen  
FISH BEHAVIOR IDENTIFICATION BASED ON COMPUTER VISION

WEDNESDAY

# ALTERNATIVE INGREDIENTS & RAW MATERIAL PROCESSING

## PART A

Wednesday, August 28 09:00 - 17:30 AUD 15

Chairs: Monica Betancor, Tiago Aires

Sponsor:  **AQUASOJA**  
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- 09:00** **Adriana Alves-de-Oliveira**, Marta Monteiro, Tiago Sá, André Almeida, Fotini Kokou, Luísa M.P. Valente  
BOOSTING GROWTH AND STRESS RESILIENCE OF GILTHEAD SEABREAM THROUGH INNOVATIVE PROTEIN HYDROLYSATE SUPPLEMENTATION IN AQUAFEEDS
- 09:15** **Luciano E. Santos**, Ana Basto, Marta Monteiro, Carla António, Ana M. Rodrigues, Tiago Sá, Lilly MacKenzie, Andreia Filipa-Silva, Cristina Velasco, Manuela Pintado, André Almeida, Luísa M.P. Valente  
DIETARY INCLUSION OF HYDROLYSATES FROM AGRI-FOOD BY-PRODUCTS: EFFECTS ON GROWTH PERFORMANCE, MUSCLE QUALITY, AND METABOLOME OF EUROPEAN SEABASS
- 09:30** **Antigoni Vasilaki**, Petros Chronopoulos, Chrysanthi Nikoloudaki, Ioannis Karapanagiotidis, Eleni Fountoulaki, Panagiotis Andreou, Aikaterini Katouni, Anna Tampou, Dimitra Kogiannou, George Rigos, Elena Mente, Ioannis Nengas  
USE OF SOLID STATE FERMENTATION TO IMPROVE THE NUTRITIONAL VALUE OF FORAGE LEGUMES AS FEED INGREDIENTS IN EUROPEAN SEA BASS NUTRITION – *IN VIVO* EVALUATION
- 09:45** **Linn Haug Eide**, Byron Morales-Lange, Sergio Rocha, Raoul Kuiper, Ole Bendik Dale, Margareth Øverland  
FERMENTED SUNFLOWER MEAL PROMOTES GUT LACTIC ACID BACTERIA AND IMPROVES GUT HEALTH OF FARMED ATLANTIC SALMON UNDER COMMERCIAL-LIKE FIELD CONDITIONS
- 10:00** **Shujuan Xing**, Xiaofang Liang, Peter Wierenga, Hao Wang, Anhui Hou, Jie Wang, Johan Schrama, Min Xue  
EFFECTS OF PROTEIN SOURCES AND EXTRUSION PROCESSING CONDITIONS VIA PELLET PHYSICAL QUALITY ON THE FEED INTAKE, GASTROINTESTINAL EMPTYING AND DIGESTION OF SPOTTED SEABASS *Lateolabrax maculatus*
- 10:15** **Sandrine Skiba-Cassy**, Elisabeth Plagnes-Juan, Frédéric Terrier, Anne Surget, Ricardo Ekmay  
INTRODUCTION OF TORULA YEAST IN RAINBOW TROUT DIET IMPROVED THE EFFICIENCY OF PLANT-BASED DIET AND INFLUENCED IMMUNITY

WEDNESDAY

- 10:30 André Sture Bogevik**, Marialena Kokkali, Tor Andreas Samuelsen, Katerina Kousoulaki  
BLACK SOLDIER FLY LARVAE MEAL IN FEEDS TO ATLANTIC SALMON IN FRESHWATER AND SEAWATER
- 10:45 BREAK**
- 11:15 Sahya Maulu**, Benjamin Eynon, Mark Rawling, Daniel L. Merrifield  
BLACK SOLDIER FLY *Hermetia illucens* LARVAE MEAL IMPROVES GROWTH, FEED UTILIZATION, AND INTESTINAL HEALTH IN MIRROR CARP *Cyprinus carpio* JUVENILES
- 11:30 Ana Basto**, Daniel Acebes, Tiago Sá, Paula Canada, Ricardo Sousa, Sara Magalhães, Daniel Murta, Luisa M.P. Valente  
BLACK SOLDIER FLY LARVAE OIL AS LIPID SOURCE IN DIETS FOR *Dicentrarchus labrax* AND *Sparus aurata* JUVENILES: A COMPARATIVE APPROACH
- 11:45 Monica Betancor**, Pauline Wischhusen, Angelico Madaro, Karla Fernandez Quiroz, Rolf Erik Olsen, Malthe Hvas, Stéphanie Fontagné-Dicharry  
TRANSGENIC OMEGA-3 AND CAROTENOID-ENRICHED CAMELINA OIL ON FILLET QUALITY OF RAINBOW TROUT *Oncorhynchus mykiss*
- 12:00 Sissel Albrektsen**, Trond M. Kortner, Mads Martinsen, Birthe Vang, Gerd M. Berge  
MUELLER'S PEARLSIDE *Maurolicus muelleri* AS ALTERNATIVE PROTEIN RESOURCE IN FEED FOR ATLANTIC SALMON *Salmo salar*
- 12:15 Sofie Charlotte Remø**, Malin Kleppe, Harald Sveier, Friederike Ziegler, Markus Langeland, Yannic Wocken, Øivind Strand  
BLUE FEED INGREDIENTS FOR BLUE FOOD – CAN BLUE MUSSELS BE A SUSTAINABLE RAW MATERIAL IN FISH FEED?

## ENVIRONMENTAL IMPACT

Wednesday, August 28 09:00 - 17:30 AUD 12

Chair: Renate Johansen

- 09:00 Björn Kok**, Wesley Malcorps Malcorps, David Little, Richard Newton  
SUSTAINABLE AQUAFEED INGREDIENTS? THE DEVIL IS IN THE DETAIL
- 09:15 Sergio Nates**  
THE CASE OF NOVEL INGREDIENTS IN THE FEED AND FOOD INDUSTRY: HOW TO APPROACH NOVELTY

- 09:30 Ezhil Subbian**, Ravi Babu, Sreedevi Padmanabhan, Ravi Ganesan, Sachi Kaushik  
FERMENTED PROTEIN AS A SUSTAINABLE, CLEAN AND SCALABLE PROTEIN SOURCE IN ANIMAL NUTRITION
- 09:45 Chris Haacke**, Douglas Martin  
EMBRACING MICROALGAE: A SUSTAINABLE SHIFT FROM FISH OIL TO CIRCULAR ECONOMY CO-PRODUCTS FOR OMEGA-3 FATTY ACIDS IN AQUACULTURE
- 10:00 Michele Zoli**, Lorenzo Rossi  
IMPROVING RAINBOW TROUT *Oncorhynchus mykiss* ENVIRONMENTAL FOOTPRINT THROUGH INSECT MEAL USE IN AQUAFEED
- 10:15 Nurhayati Br Tarigan**, Marc Verdegem, Karel Keesman, Julie Eka Sari  
NITROGEN, PHOSPHORUS, AND CARBON RETENTION USE EFFICIENCY IN BIOFLOC SYSTEM OF NILE TIPALIA *Oreochromis niloticus* FED WITH HIGH NON-STARCH POLYSACCHARIDES DIET
- 10:30 Natalie Rizzo**, Olivier Jolliet  
LIFE-CYCLE ASSESSMENT OF NEARSHORE VERSUS RECIRCULATING AQUACULTURE SYSTEM (RAS) FOR SEA BREAM FARMS
- 11:15 Michele Zoli**, Lorenzo Rossi, Joël Aubin, Christophe Jaeger, Aurelie Wilfart, Jacopo Bacenetti  
A NEW APPROACH TO HOLISTIC SUSTAINABILITY ASSESSMENT IN AQUACULTURE: A CASE STUDY OF AN ITALIAN LAND-BASED FARM
- 11:30 Uri Yogev**, Or Ohayon, Yuval Avni, Tanya Karginov, Noam Yogev, Iris Meiri, Rosa Stern  
REDUCING LAND-BASED MARICULTURE ENVIRONMENTAL RISK BY IN SITU ELECTRO-CHLORINATION FOR DISINFECTION OF EFFLUENT
- 11:45 Uri Yogev**, Or Ohayon, Yuval Avni, Tanya Karginov, Noam Yogev  
UPSCALING AND EVALUATION OF A COMMERCIAL-SCALE TREATMENT (DENITRIFICATION) FACILITY FOR LAND-BASED MARINE RAS EFFLUENTS
- 12:00 Flemming Thorbjørn Hansen**, Daniel Taylor, Jens Kjerulf Petersen, Pernille Nielsen, Thomas Uhrenholdt  
ENVIRONMENTAL IMPACT ASSESSMENT OF MUSSEL FARMING IN LIMFJORDEN, DENMARK
- 12:15 Lara Veylit**, Sepideh Jafarzadeh, Magnus Stoud Myhre  
RESILIENT SUPPLY CHAINS UNDER PRESSURE: INVESTIGATING HOW SHOCKS IMPACTED THE ENVIRONMENTAL FOOTPRINT OF NORWEGIAN SEAFOOD PRODUCTS



- 14:00 Nima Pahlevan**, William Wainwright, Navid Golpayegani, Akash Ashapure, Brandon Smith, Ryan O'Shea, Sakib Kabir, Arun Saranathan  
STREAM – A SATELLITE-BASED ANALYSIS TOOL FOR RAPID EVALUATION OF AQUATIC ENVIRONMENTS
- 14:15 Björn Kok**  
DEVELOPMENT OF LCA TOOLS FOR AQUACULTURE PRODUCTION SYSTEMS
- 14:30 Abdullah Al Masud**, Nynke Hofstra, Fulco Ludwig  
WATER FOOTPRINT ASSESSMENT OF THE SHRIMP INDUSTRY IN BANGLADESH
- 14:45 Badiuz Zaman**, Md. Takibur Rahman, Mas Mandal, Max Nielsen, Md. Akteruzzaman  
PERFORMANCE DIFFERENTIALS OF COASTAL AND NONCOASTAL POND AQUACULTURE FARMS IN BANGLADESH
- 15:00 Melina Grouazel**, Annie Fiandrino, Geoffroy Thibault, Sarah Nahon, Jean-Claude Falguière, Nicolas Desroy, Myriam Callier  
RESPONSE OF THE BENTHIC ECOSYSTEM TO FISH FARMING DISCHARGES IN A TROPICAL ENVIRONMENT: THE CASE STUDY OF RED DRUM FARMING *Sciaenops ocellatus* IN ROBERT BAY (MARTINIQUE)
- 15:15 Panagiotis Dimitriou**, Maria Lampa, Maria Rousou, Joachim Langeneck, Demetris Kleitou, Antonis Petrou, Ioannis Karakassis  
AQUACULTURE IMPACT ASSESSMENT USING BENTHIC ECOLOGICAL STATUS IN CYPRUS FISH FARMS OVER A DECADE: A MULTI-DEPTH MONITORING APPROACH
- 15:30 Awwal Bamanga**  
PRELIMINARY INVESTIGATION OF CHEMICAL COMPOSITION OF BALLAST WATER SEDIMENTS IN SELECTED SHIPS WITHIN THE LAGOS HARBOUR, NIGERIA FOR A SUSTAINABLE BLUE ECONOMY
- 15:45 Giorgos Chatzigeorgiou**, Maria Lampa, Sarah Faulwetter, Alexis Ramfos, Maria Maidanou, Maria Naletaki, Wanta Plaitis, Dimitris Podaras, Eleni Dafnomili, Stelios Darivianakis, Pavlos Avramidis, Manolis Tsapakis  
AQUACULTURE MONITORING WITH THE BQI-FAMILY INDEX: A RULE OF THUMB FOR UNDERSTANDING SOURCES OF VARIATION IN ECOLOGICAL STATUS CLASSIFICATION
- 16:00 Paul Mosnier**, Robert Wakeford, Adam Mytlewski, Marcin Rakowski, Sander van den Burg, Tamas Bardocz, Marnix Poelman, George Triantaphyllidis, Leire Arantzamendi, Neil Ruane  
ENVIRONMENTAL BENEFITS OF AQUACULTURE AND CHALLENGES AND OPPORTUNITIES IN PROMOTING THOSE BENEFITS

- 16:15 Sang-Eun Nam**, Somyeong Lee, Seong Duk Do, Dae-Yeul Bae, Jae-Sung Rhee  
GENOME RESOURCE-BASED MULTI-OMICS APPROACH IN NON-MODEL  
AQUATIC ANIMALS FOR ENVIRONMENTAL HEALTH ASSESSMENT
- 16:30 Johanne Dalsgaard**, Per Bovbjerg Pedersen  
MINIMIZING PHOSPHORUS DISCHARGE FROM AQUACULTURE
- 16:45 Mads Joakim Birkeland**, Mai-Britt Kronborg, Sophia Elisabeth Bardram Nielsen,  
José Antonio Arenas, Rikke Magrethe Closter, Ian Sehested Hansen  
APPLICATION OF ADVANCED BIOGEOCHEMICAL MODELS FOR THE  
ASSESSMENT OF IMPACT ON MARINE PROTECTED AREAS
- 17:00 Ellen Sofie Grefsrud**, Lasse Berg Andersen, Nina Sandlund, Terje Svåsand  
A NEW APPROACH TO ENVIRONMENTAL RISK ASSESSMENT IN MARINE  
AQUACULTURE
- 17:15 Monica F. Solberg**, Kevin A. Glover, Ingrid A. Johnsen, Rosa Maria Serra-Llinares,  
Øystein Skaala, Elisabeth Stöger, Kjell R. Utne, Vidar Wennevik, Ellen S. Grefsrud  
FROM SCIENCE TO ADVISE: RISK OF GENETIC IMPACT FROM ESCAPED  
FARMED ATLANTIC SALMON FROM A GIVEN FARMING LOCATION

## CAGE CULTURE - EXPOSED & MULTI-USE

Wednesday, August 28 09:00 - 17:30 MR 6

Chairs: Hans Bjelland, Tyler Sclochnik

- 09:00 Sarah Jørgensen Veillat**, Laurens Klerkx, Hilde Toonen, Simon Bush  
TOWARDS SUSTAINABLE OFFSHORE AQUACULTURE: A MULTI-COUNTRY  
POLICY REVIEW
- 09:15 Kristine Cherry**  
AQUACULTURE OPPORTUNITY AREAS: A NEW APPROACH TO U.S.  
AQUACULTURE DEVELOPMENT
- 09:30 Eldad Avital**, Shuo Mi, Ioannis Chatjigeorgiou  
OFFSHORE MOORED FISH CAGE FLUID-STRUCTURE INTERACTION  
MODELLING

- 09:45** **Bela H. Buck**, Hans Bjelland, Abigail Bockus, Michael Chambers, Barry Antonio Costa-Pierce, Tobias Dewhurst, Joao Ferreira, Heidi Moe Føre, David Fredriksson, Nils Goseberg, John Holmyard, Wolf Isbert, Gesche Krause, Till Markus, Nikos Papandroulakis, Tyler Sclodnick, Bill Silkes, Åsa Strand, Max Troell, Daniel Wieczorek, Sander van den Burg, Kevin Heasman  
UNPACKING “OFFSHORE AQUACULTURE”: THE IMPORTANCE OF DECOUPLING IT FROM “EXPOSED” AND “DISTANCE FROM THE COAST”
- 10:00** **Kevin Heasman**, Tyler Sclodnick, Nils Goseberg, Nicholas Scott, Michael Chambers, Tobias Dewhurst, Samuel Rickerich, Heidi Moe Føre, Bela Buck  
UTILISATION OF AN ENERGY RELATED INDEX FOR ASSESSING AQUACULTURE SITES IN EXPOSED WATERS
- 10:15** **Kevin Heasman**, Nicholas Scott, Tyler Sclodnick, Michael Chambers, Barry Costa-Pierce, Tobias Dewhurst, Bela H. Buck  
INFLUENCE OF INCREASING WAVE ENERGY ON AQUACULTURE STRUCTURES, OPERATIONS AND MAINTENANCE
- 10:30** **BREAK**
- 11:15** **Sander van den Burg**, Gesche Krause, Jenny Weitzman, Megan Rector, Ramon Filguira, Dorothy Jane Dankel, Marit Schei Olsen, Tonje Osmundsen  
SOCIAL SCIENCE OF OFFSHORE AQUACULTURE: UNCERTAINTIES, CHALLENGES AND SOLUTION-ORIENTED GOVERNANCE NEEDS
- 11:30** **Wolf Isbert**, Stephan Durst, Jochen Horstmann, Marius Cysewski, Bela H. Buck  
OFFSHORE AQUACULTURE – CHALLENGES AND CHANCES: WHAT HAS TO BE CONSIDERED FOR CULTIVATION OF SPECIES FAR OFFSHORE?
- 11:45** **Tyler Sclodnick**, Michael Chambers, Barry Costa-Pierce, Tobias Dewhurst, Nils Goseberg, Kevin Heasman, Wolf Isbert, Till Markus, Daniel Wieczorek, Bela Buck  
WHAT’S HOLDING BACK OPEN OCEAN AQUACULTURE?
- 12:00** **Michael Chambers**, Dave Fredriksson, Michael Coogan, Longhuan Zhu, Michael Doherty, Erich Berghahn, Igor Tsukrov  
AN OVERVIEW OF THE UNIVERSITY OF NEW HAMPSHIRE’S OFFSHORE AQUACULTURE ACTIVITIES IN THE GULF OF MAINE, USA
- 12:15** **Tord Ludvigsen**, Ragnar Tveterås, Bård Misund  
INTERACTIONS BETWEEN BIOPHYSICAL FACTORS, SCALE, PRODUCTION STRATEGIES AND ECONOMIC OUTCOMES IN OFFSHORE SALMON AQUACULTURE
- 12:30** **LUNCH**

- 14:00** **Chris G. Carter**, Lindsey White, Sarah Ugalde, Irene Penesis, Angela Williamson, John Whittington  
THE BLUE ECONOMY COOPERATIVE RESEARCH CENTRE PATH TO SUSTAINABLE INTEGRATED SYSTEMS FOR OFFSHORE AQUACULTURE: R&D BUILDING BLOCKS
- 14:15** **W. Lindsey White**, Chris G. Carter, Jeffrey T. Wright, Craig R. Johnson, Irene Penesis  
THE BLUE ECONOMY COOPERATIVE RESEARCH CENTRE: SUSTAINABLE OFFSHORE SEAWEED AQUACULTURE
- 14:30** **Øivind Bergh**, Solfrid Sætre Hjøllø, Marte Louise Strømme, Per Arne Horneland, Anne D. Sandvik, Øivin Aarnes, Bente Pretlove, Caryl Benjamin, Mari Vold Bjordal, Sigurd Solheim Pettersen  
TOWARDS SUSTAINABLE COEXISTENCE OF OFFSHORE WIND AND AQUACULTURE WITH FISHERIES AND OTHER MARINE ACTIVITIES
- 14:45** Øivind Bergh, Marie Maar, Annette Bruhn, Wolf Isbert, Marianne Thomsen, Jun She, Joanna Staneva, Dorothy Dankel, Emily Cowan, Giulia Dapuzo, Antonio Novellino, Beatrice Scotto, Rocio Castano Primo, Øivind Strand, Antonio Aguera Garcia, David Bassett, Pamela Ernstberger, Jonne Kotta, Georg Martin, Jack Royd Hall, Anita Jacobsen, Bela H. Buck  
MULTI-USE REALISATION OF LOW-TROPHIC AQUACULTURE WITH OFFSHORE WIND FARMING OR FISH FARMING IN THE NORTH SEA AND BALTIC SEA
- 15:00** **Andrea Viken Strand**, Trine Thorvaldsen, Andreas Misund, Thea Lurås Oftebro  
MATERIAL, ENERGY, AND INFRASTRUCTURE REQUIREMENTS OF NEW PRODUCTION SYSTEMS FOR SALMON AQUACULTURE
- 15:15** **Tyler Sclodnick**  
USING A SUBMERSIBLE PEN TO MANAGE CHALLENGING OCEAN CONDITIONS
- 15:30** **Astrid Buran Holan**, Torstein Kristensen, Martin Søreide, Terje Aasland, Bendik Fredriksen  
SUBMERGED FARMING FOR IMPROVED FISH HEALTH AND WELFARE
- 15:45** **Bjørn Bilberg**  
PRELINE'S EXTENDED SMOLTFARM AND PIPEFARM – (ENVIRONMENT) 4 SEMI-CLOSED/CLOSED TECHNOLOGY WITH ENVIRONMENTAL IMPACT IN 4 DIMENSIONS

- 16:00** **Lokman Ali**, S.S. Lima  
IDENTIFICATION OF SUITABLE SPECIES COMBINATION FOR POLY CULTURE OF PABDA *Ompok pabda* IN CAGE CULTURE SYSTEM
- 16:15** **Grégory Raymond**, Morgane Nédélec, Florent Spinec, Marie Lesueur, Sylvie Thoby, Hervé Le Bris, Bastien Sadoul  
DIVERSIFICATION AND AQUACULTURE: TESTING PATHS IN BRETON OYSTER FARMING
- 16:30** **Per Arild Åland**  
DESIGN AND OPERATION OF OCEAN AQUACULTURE INSTALLATIONS

## HOST RESISTANCE TO SEA LICE

Wednesday, August 28 09:00 - 17:30 MR 180

Chair: Nick Robinson

WEDNESDAY

The infestation and removal of sea lice is an intractable problem affecting Atlantic salmon welfare and aquaculture. No existing lice control measures are completely effective. However, genetic variation in host resistance to sea lice exists both within populations of Atlantic salmon and between different species of salmonids, with some species, such as coho, able to mount an effective immune response. This special session will draw together the latest results of research from major projects investigating the genetic basis for host resistance to sea lice. How this knowledge might be used to prevent sea lice infestation in Atlantic salmon, and the implications for epidemiology of the lice and disease prevalence along the coast, will be discussed.

### Introduction

- 9.00** **Nick Robinson**  
Introduction and summary of ongoing research on host resistance to sea lice
- 9.15** **Mark Fast**  
General overview on genetic mechanisms for sea lice resistance in salmon species

### Results from ongoing research

- 9.30** **Aleksei Krasnov**  
Chemical communication between the host and salmon louse
- 9.45** **Mike McGowan**  
Lice transcriptomic response to potential semiochemicals
- 10.00** **Gareth Gillard\***, Tomasz Podgorniak\*, Jacob Torgersen, Nicola Barson, Mark Fast, Matthew Kent and Sigbjørn Lien - Comparative genomics to explore differential responses to sea lice in Atlantic salmon and coho

- 10.15 Sarah Salisbury**  
Gene response of different cell types in the skin to sea lice infection in four salmon species
- 10.30 Mari Austad Brandt**, Jacob Torgersen and Guro Sandvik  
*In vitro* approaches to decode sea lice resistance mechanisms
- 10.45 BREAK**
- 11.15 Lene Sveen**  
Insights into lice resistance as evidenced by histology and spatial transcriptomics
- 11.30 Aina-Catherine Øvergård** and Helena Marie Doherty Midtbø  
Sea lice suppression of immune response
- 11.45 Luqman Aslam** and Clemence Fraslin  
Mapping genes for host resistance to sea lice
- 12.00 Nick Robinson**  
Prioritising genes to test further using CRISPR gene editing
- 12.15 Teshome Bizuayehu**  
Knockout and knockin of genes to test their role in host resistance
- 12.30 LUNCH**
- 14.00 Tone-Kari Knutsdatter Østbye** and Mette Wesmajervi Breiland  
Challenging CRISPR gene edited fish with sea lice, results so far
- 14.15 Binyam Sime Dagnachew** and Marie Lillehammer  
Strategies for implementing gene-edited assisted selection to improve lice resistance
- 14.30 Andrew Coates**  
How might the lice evolve to overcome host resistance and how could we suppress adaptation by the lice?
- 14.45 Open panel discussion- Ways forward using knowledge generated**  
Breeding, feeding, repellents, attractants and CRISPR gene editing

**EATiP / EC / EAS Innovation Forum**  
**Exploring Inter-Regional Collaboration & Innovation Transfer Vehicles**  
**for Aquaculture**

Wednesday, August 28 09:00 - 17:00 Hall F5

Chairs: Alexandra Neyts, David Bassett

**09:00 Introductions**

**Moderators: David Bassett (EATiP); Alistair Lane (EAS)**

**09:15 Session 1: Fostering regional synergies in Europe for innovation in aquaculture**

**Session chair: David Bassett (EATiP)**

To address: Developing a Sustainable European Aquaculture to 2030.

Blue Economy Strategy and Innovation transfer Strategy, covering the themes of the Strategic Guidelines for a Sustainable European Aquaculture Sector (including the Aquaculture Assistance Mechanism), the EU4Algae Strategy, EU MSP Platform, Mission Ocean and Smart Specialisation Blue Economy Thematic Area (including Cohesion Policy).

**09:20** Lorella de la Cruz Iglesias (DG MARE, Unit A2)

**09:40** Nikos Zampoukas (DG RTD, Unit Healthy Seas and Oceans)

**10:00** Els Van de Velde (DG REGIO / S3 Community of Practice, IDEA Consult)

**10:15 Plenary Discussion**

Having heard of European policy aspirations for innovation transfer, what blocks and barriers are there to inter-regional innovation transfer in aquaculture?

**10:45 BREAK**

**11:15 Session 2: Inter-Regional Innovation Landscape in Practice: case studies on how innovation transfer vehicles promote advances in aquaculture**

**Chair: Mieke Eggermont (EATiP Mirror Platform Working Group chair)**

To address: Session 1 considered policy intentions and aspirations. But how is this actually being delivered on the ground and in reality? Five different examples will be presented.

**11:20** Example 1: InterReg – Adriatic Interregional Collaboration - Francesca Perretta (IPA ADRION National Contact Point Marche Region)

**11:30** Example 2: TSSP for Smart and Circular Aquaculture - David Bassett (EATiP)

**11:40** Example 3: Innovation Transfer with Mission Ocean / Blue Mission Banos - Efthalia Arvaniti (Submariner Network)

**WEDNESDAY**

- 11:50** Example 4: EATiP Mirror Platform Working Group on Sludge - Ann Cecilie Hilling (NCE Aquaculture)
- 12:00** Example 5: The Nordic Research and Innovation Initiative for Sustainable Aquaculture - Kjell Maroni (Fisheries and Aquaculture Industry Research Fund / Nordforsk)
- 12:15** **Panel discussion among speakers**  
How do we overcome the micro / SME APBs innovation transfer challenge?
- 12:30** **LUNCH**
- 14:00** **Session 3: Innovation transfer within the aquaculture research community**  
To address: Academic and research networks lend themselves intrinsically to international innovation transfer, with existing well networked stakeholders and organisations operating at the European and international level.
- Session chair: Ana Hererro (Patogen / AQUAEXCEL3.0 IRAP)**
- 14:00** Example 1a: High impact AQUAEXCEL3.0 Knowledge Outputs
- 14:05** Introduction: Open experiment facilities as tools for knowledge exchange – Karla Corrales (ERINN Innovation)
- 14:15** CryoPlankton benefits in seabass aquaculture - Konstantinos Tzakris (Planktonic)
- 14:25** Transforming food industry and agriculture waste into nutrient-rich alternative feed for fish: A Case Study with Black Soldier Fly Larvae - Martin Kulma (Czech University of Life Sciences Prague)
- 14:35** Application of innovative and easy sustainable environmental enrichment on the behaviour and welfare of farmed trout - Georgina Lea Fazekas (MATE)
- 14:45** Mentimeter
- 14:55** Example 1b: European Marine Biological Resource Centre – Mery Pina (EMBRC)
- 15:05** Panel discussion
- 15:20** Example 2: EU-Asian international capacity building as a vehicle for future innovation transfer – Patrick Sorgeloos (EATiP International Cooperation Working Group)
- 15:30** Example 3: FAO Aquaculture Unit – case study of the Shanghai Ocean University. TBC



**15:45 Session 4 – Facilitation, funding models and future calls for inter-regional innovation transfer.**

To address: Innovation transfer works well as a concept, but how do we actually fund and facilitate this work. Budgets are tight and resourcing is becoming increasingly challenging. However, funding options do exist. In addition, examples such as the Mentoring and Accelerator Programme for Blue Growth, along with initiatives supported by the ECBF and BlueBio Alliance, demonstrate the innovation transfer infrastructures supporting the sector.

**Session chair: Damien Toner (BIM)**

- 15:50** BlueInvest: Funding as international support tool – Catherine Frideres (BlueInvest)
- 16:00** ECBF – European Circular Bioeconomy Fund – Mathias Brink Lorenz (European Circular Bioeconomy Fund)
- 16:10** EMFAF funds for the Flemish Aquaculture Cluster VAP – Stefan Teerlinck (Inagro)
- 16:20** Mentoring and Accelerator Programme for Blue Growth - *NN TBC*
- 16:30** Innovation and knowledge transfer support by Blue Bioeconomy CoLAB, a Portuguese case study - Taynara Franco (B2E)
- 16:40** International Innovation Transfer as development support – Paw Petersen (Oxyguard)
- 16:50** **Closing discussions**
- 17:00** **Networking Drink**

**MICROBIOME & HEALTH MANAGEMENT**

Wednesday, August 28 09:00 - 17:30 AUD 10

Chairs: Jaume Pérez-Sánchez, Terova Genciana

- 09:00** **Jacob Rasmussen**, Pia Kiilerich, Abdullah Madhun, Rune Waagbø, Erik-Jan R. Lock, Lise Madsen, Tom Gilbert, Karsten Kristiansen, Morten T. Limborg  
CO-DIVERSIFICATION OF AN INTESTINAL MYCOPLASMA AND ITS SALMONID HOST
- 09:15** **Neda Gilannejad**, Pablo Sánchez-Cueto, Marius Nilsen, Marcos Parras-Moltó, Radu Ghemis, Patrik Tang, Miriam Emilie Donovan, Harald Sveier, Naouel Gharbi, Lars Ebbesson, Simon Menanteau-Ledouble  
COMPARISON OF THE GUT MICROBIOME IN THE WILD AND FARMED ATLANTIC SALMON SMOLTS

- 09:30** **Ana Gonçalves**, Hugo Pereira, Rui Rocha, Soraia Santos, Luis Conceição, Jorge Dias  
TARGETING THE OPTIMIZATION OF GUT MICROBIOTA-HOST INTERACTION IN SALMONS: ASSESSING FUNCTIONAL INGREDIENTS IN AN *EX VIVO* APPROACH
- 09:45** **Ricardo Domingo-Bretón**, Paul G. Holhorea, Fernando Naya-Català, Álvaro Belenguer, Federico Moroni, Josep Calduch-Giner, Jaume Pérez-Sánchez  
RE-THINKING THE GUT CORE MICROBIOTA DYNAMICS IN GILTHEAD SEABREAM FED ALTERNATIVE DIETS ACROSS THE PRODUCTION CYCLE
- 10:00** **Federico Moroni**, Fernando Naya-Català, Ahmed Ibrahim Hafez, Carlos Llorens, Jaume Pérez-Sánchez  
BEYOND THE MICROBIAL TAXONOMY WITH SAMBA. DISCLOSING THE FUNCTIONALITY AND CORE GUT MICROBIOTA OF GILTHEAD SEA BREAM FROM A CAUSAL BAYESIAN NETWORK PERSPECTIVE
- 10:15** **Imam Hasan**, Simona Rimoldi, Ambra Rita Di Rosa, Marianna Oteri, Biagina Chiofalo, Marco Saroglia, Genciana Terova  
STUDYING THE EFFECTS OF *Hermetia illucens* MEAL ON GROWTH, GUT HEALTH, AND MICROBIOTA IN GILTHEAD SEABREAM *Sparus aurata*
- 10:30** **David Huyben**, Ilan Carmi Riesenbach, Cody Anderson, Junyu Zhang, Niel Karrow, Dominique Bureau, Grant Vandenberg, Nicolas Derome  
GUT MICROBIOME OF RAINBOW TROUT IS AFFECTED BY FEEDING PROTEIN, OIL AND CHITIN FROM
- 10:45** **BREAK**
- 11:15** **Karine Ricaud**, Karine Ricaud, Raphaël Defaix, Lokesh Jep, Laura Frohn, Mickaël Le Behec, Thierry Pigot, Vincent Véron, Anne Surget, Sandra Biasutti, Sandrine Skiba-Cassy, Jérôme Roy, Stéphane Panserat  
EFFECTS OF DIETARY CARBOHYDRATES/PROTEIN RATIO ON GUT MICROBIOTA AND METABOLISM OF RAINBOW TROUT FED A 100% PLANT-BASED DIET
- 11:30** **Ibon García-Gallego**, Cláudia Aragão, Ricardo Domingo-Bretón, Rita Teodósio, Rita Colen, Fernando Naya-Català, Federico Moroni, Josep Galduch-Giner, Maria Carla Piazzon, Ramón Fontanillas, Jaume Pérez-Sánchez, Sofia Engrola  
EFFECTS OF BUTYRATE AND TAURINE SUPPLEMENTATION ON GROWTH PERFORMANCE AND GUT MICROBIOTA COMPOSITION IN GILTHEAD SEABREAM *Sparus aurata* FED FISHMEAL FREE DIETS

- 11:45** **Ana Rodiles**, Mónica Juárez Ceballos, Florian Geay, Eric Leclercq, John W. Tinsley  
DIETARY SUPPLEMENTATION WITH *Bacillus pumilus* AND *Bacillus subtilis*  
IMPROVES PERFORMANCE, MICROBIOTA COMPOSITION AND FUNCTIONALITY  
IN WHITELEG SHRIMP *Litopenaeus vannamei* AND THE CULTURE WATER
- 12:00** **Elshafia Ali Hamid Mohammed**, Fehér Milán, Péter Bársony, Brigitta Csernus,  
Károly Pál  
EFFECTS OF *Pediococcus acidilactici*, *Saccharomyces cerevisiae* AND YANG ON  
GROWTH AND THE INTESTINAL MICROBIOTA OF THE COMMON CARP *Cyprinus  
carpio* L.
- 12:30** **LUNCH**
- 14:00** **Ahmed Elsheshtawy**, Benjamin Gregory James Clokie, Amaya Albalat, Are Nylund,  
Linda Andersen, Lindsey Jane Moore, Simon MacKenzie  
IMPACT OF FRESHWATER TREATMENT OF AMOEBIC GILL DISEASE ON  
ATLANTIC SALMON *Salmo salar* GILL HEALTH AND MICROBIOME DYNAMICS
- 14:15** **Jixu Tang**, Vincent Vermeylen, Brigitte Van Moffaert, Annelies M. Declercq  
ESSENTIAL OIL COMPONENTS FOR POSTLARVAL CRUSTACEAN HEALTH  
MANAGEMENT
- 14:30** **Luisa Villamil**, Javier Melo-Bolivar, Ruth Y. Ruiz Pardo, María X. Quintanilla-Carvajal,  
Luis E. Díaz, Juan F. Alzate, Howard Junca, Jorge Rodríguez, Diego Cárdenas,  
Yesica Rojas, Marcelo Valle, Carlos Montenegro, Stephania Aragón-Rojas  
ENHANCING NILE TILAPIA GROWTH AND HEALTH: HARNESSING PROBIOTIC  
CONSORTIA OR SINGLE STRAIN FOR IMPROVED PERFORMANCE, GUT  
HEALTH, AND IMMUNITY
- 14:45** **Jonas Mueller**, Marvin Suhr, Stéphanie C. Hornburg, Carsten Schulz, Henrike Seibel  
CHRONICALLY ELEVATED CORTISOL LEVELS AND ITS INTERACTION WITH A  
FUNCTIONAL FEED IN ATLANTIC SALMON
- 15:00** **Davide A. Machado e Silva**, António Louvado, Thaís Cavalheri, Rodrigo O.A. Ozório,  
Rui J.M. Rocha, Marina Casimiro, Benjamin Costas, Daniel F.R. Cleary,  
Newton C.M. Gomes  
BEYOND THE CULTURED ORGANISM: SHIFTING THE PARADIGM FROM A  
FISH-CENTERED MICROBIOME MODULATION APPROACH

- 15:15** **Sujan Khadka**, Fernando Fernando, Anna Aasen, Olav Vadstein, Ingrid Bakke  
THE ROLE OF THE BIOFILTER IN STRUCTURING THE WATER AND FISH MICROBIOMES IN RECIRCULATING AQUACULTURE SYSTEMS
- 15:30** **Ása Jacobsen**, Ása Johannesen, Kirstin Eliassen, Elin Egholm, Agnes Mols Mortensen  
EFFECT OF PLASTIC AND SEAWEED SHELTERS ON THE SKIN MICROBIOME OF LUMPFISH *Cyclopterus lumpus* USED AS CLEANER FISH IN AQUACULTURE PENS

## PHYSIOLOGY

Wednesday, August 28 09:00 - 17:30 MR 181

Chairs: Tillmann Benfey, Lluís Tort

- 09:00** **Christine Horne**, Mariann Eilertsen, Elsa Denker, Rita Karlsen, Ståle Ellingsen, Jon Vidar Helvik  
THE PHOTORECEPTIVE PINEAL ORGAN OF THE ATLANTIC SALMON
- 09:15** **Maud Martinat**, Elodie Baranek, Marie Lasserre, Karine Dias, Cécile Heraud, Anne Surget, Laurence Larroquet, Anthony Lanuque, Frédéric Terrier, Christine Belloir, Loïc Briand, Sandrine Skiba-Cassy, Jérôme Roy  
MECHANISMS OF FOOD DETECTION IN RAINBOW TROUT : EXPLORING THE ROLE OF OMEGA-3 FATTY ACIDS AND THEIR SENSING RECEPTORS ON FEEDING BEHAVIOR REGULATION
- 09:30** **Mariann Eilertsen**, Sissel Norland, David Dolan, Rita Karlsen, Ana Gomes, Charlotte Bolton, Herve Migaud, Ivar Rønnestad, Jon Vidar Helvik  
ONSET OF CIRCADIAN RHYTHMICITY IN THE BRAIN OF ATLANTIC SALMON IS LINKED TO EXOGENOUS FEEDING
- 09:45** **Yu Xuan Wang**, Tzong Yueh Chen  
FUNCTIONAL ANALYSIS OF LEPTIN IN GROUPER *IN VIVO* BY IMMUNO-INHIBITION WITH ORAL DELIVERY SYSTEM
- 10:00** **Ayaka Senzui**, Haruhisa Fukada  
EFFECTS OF AMINO ACIDS ON THE FEEDING MECHANISMS OF YELLOWTAIL *Seriola quinqueradiata*
- 10:15** **Carlos Espirito-Santo**, Francisco A. Guardiola, Rodrigo O.A. Ozório, Leonardo J. Magnoni  
THE PHYSIOLOGICAL EFFECTS OF INDUCED SWIMMING ACTIVITY IN STRESS RESPONSE, IMMUNE AND ANTIOXIDANT STATUS OF EUROPEAN SEABASS *Dicentrarchus labrax*
- 10:45** **BREAK**

- 11:15** **Martina Bortoletti**, Andrea Meloni, Elisa Fonsatti, Alessia Di Giancamillo, Annamaria Costa, Gianluca Chiarello, Nadia Cherif, Tarek Temraz, Giuseppe Radaelli, Daniela Bertotto  
STRESS STATUS OF RAINBOW TROUT *Oncorhynchus mykiss* REARED IN AN INNOVATIVE PHOTO-ELECTROCATALYTIC RAS
- 11:30** **Phillip Dettleff**, Sofia Becerra, Jorge Aedo, Rodrigo Zuloaga, Juan Antonio Valdes  
HIGH TEMPERATURE INDUCE OXIDATIVE DAMAGE, IMMUNE MODULATION AND ATROPHY IN BLACK CUSK-EEL *Genypterus maculatus*
- 11:45** **Monica Fengsrud Brinchmann**, Deepti Manjari Patel, Fredrikke Nyberg, Solveig Henriksen, Martin Haugmo Iversen  
HYDROGEN PEROXIDE BATH LEADS TO STRESS AND MODULATES THE PROTEOME AND TRANSCRIPTOME OF ATLANTIC SALMON *Salmo salar* SKIN
- 12:00** **François Husson**  
EFFECT OF FEEDING TIME ON THE DAILY VARIATION OF AMMONIA EXCRETION RATE IN BLACK BULLHEAD CATFISH *Ameiurus melas*
- 12:30** **LUNCH**
- 14:00** **Bertha P. Ceballos-Vázquez**, Diana P. Carreño-León, Samantha Payén-Román, Armando Monge-Quevedo, María G. Martínez-Morales  
BIOMETRIC, BIOCHEMICAL AND PHYSIOLOGICAL CHARACTERIZATION OF THE PACIFIC PYGMY OCTOPUS *Paroctopus digueti* UNDER CONTROLLED CONDITIONS
- 14:15** **Malthe Hvas**, Fletcher Warren-Myers, Ida B. Johansen, Tom Johnny Hansen  
PHYSIOLOGY AND MORPHOLOGY OF CLONAL ATLANTIC SALMON: INFLUENCE OF INCUBATION TEMPERATURE, PLOIDY AND ZYGOSITY
- 14:30** **Martin Haugmo Iversen**, Tone Hatløy, Monica Fengsrud Brinchmann  
THE EFFECT OF ACUTE ALLOSTATIC STRESS ON THE HYPOTHALAMIC-PITUITARY-INTERRENAL AXIS AND ITS IMPORTANCE ON ANIMAL WELFARE IN DIPLOID AND TRIPLOID ATLANTIC SALMON SMOLTS *Salmo salar* L.
- 14:45** **Tillmann Benfey**, Rebecca Jensen, Sarah McGeachy, Christopher Baker  
CAN THE HYPOXIA TOLERANCE OF TRIPLOID SALMONIDS BE IMPROVED?
- 15:00** **Barbara Loi**, Dario Vallainc, Danilo Concu, Mattia Corrias, Gianfranca Carta, Sebastiano Banni, Karl Andree, Neil Duncan, Stefano Carboni  
GONAD DEVELOPMENT, REPRODUCTIVE PHYSIOLOGY AND GONAD LIPID COMPOSITION DURING GAMETOGENESIS OF FLATHEAD GREY MULLET *Mugil cephalus* MOVED FROM FRESHWATER TO MARINE CONDITION

- 15:15 Raneesha de Fonseca**, Marius Takvam, Kristina S. Sundell, Elisabeth Jönsson, Tom Ole Nilsen, Vibeke Vikeså, Henrik Sundh  
INTESTINAL FLUID TRANSPORT CAPACITY IN ATLANTIC SALMON SMOLTS AND EFFECTS OF SEAWATER TRANSFER TIME
- 15:30 Jonas Ismael Silva Marrero**, Ana S. Gomes, Pablo Balseiro, Floriana Lai, Sigurd O. Handeland, Ivar Rønnestad  
ASSESSING THE PHYSIOLOGICAL RESPONSE OF GILLS AND INTESTINE THROUGH SMOLTIFICATION IN ATLANTIC SALMON EXPOSED TO TWO DIFFERENT PHOTOPERIODS
- 15:45 Yanran Cao**, Jingwen Ding, Jan Erik Dyb, Anne Stene  
MEASURING CORTISOL LEVELS IN FISH TO DEVELOP MORE ANIMAL FRIENDLY TECHNOLOGY IN AQUACULTURE PRACTICES

## DISEASES

Wednesday, August 28 09:00 - 17:30 AUD 11

Chair: Niccolo Vendramin

- 09:00 Isis Rojas**, Albert Caballero-Solares, Emile Vadboncoeur, Rebecca Sandrelli, Jennifer Hall, Kathy Clow, Chris Parrish, Matthew Rise, Andrew Swanson, A.K. Gamperl  
PROLONGED COLD EXPOSURE NEGATIVELY IMPACTS ATLANTIC SALMON *Salmo salar* LIVER METABOLISM AND FUNCTION
- 09:15 Lene Sveen**, Aleksei Krasnov, Elisabeth Ytteborg, Gerrit Timmerhaus, Henrik Sundh, Terje Klemetsen, Christian Karlsen  
A COMPARISON OF BATH, CO-HABITANT AND *IN VITRO* MODELS GIVES INSIGHT INTO INFECTION DYNAMICS OF WINTER ULCER DISEASE IN ATLANTIC SALMON
- 09:30 Ana Herrero**, William Roy, Vengamanaidu Modepalli, Hamish Rodger, Kim Thompson, Annette Simone Boerlage  
DEVELOPING A ZOOPLANKTON CHALLENGE MODEL FOR ATLANTIC SALMON
- 09:45 P. Eckhard Witten**, Per Gunnar Fjellidal, Silvia Cotti, Wolfgang Koppe, Thea Morken, Lucia Drábiková  
BONE MATRIX FORMATION IS INDEPENDENT FROM BONE MINERALISATION; STUDIES ON FARMED ATLANTIC SALMON AND ZEBRAFISH
- 10:00 Veronica Chico**, Adrian Lopez-Murcia, Maria Elizabeth Salvador-Mira, Celia Garcia-Quintanilla, Luis Perez, Maria del Mar Ortega-Villaizan  
ANTIVIRAL PROTEINS AS POTENTIAL THERAPEUTICS AGAINST VIRAL INFECTIONS IN SALMONID AQUACULTURE

- 10:15** **Mikolaj Adamek**, Alexander Rebl, Marek Matras, Christian Lodder, Sahar El Rahman, Magdalena Stachnik, Krzysztof Rakus, Justyna Starzyk, Julia Bauer, Alberto Falco, Verena Jung-Schroers, Win Surachetpong, Michal Reichert, Jens Tetens, Dieter Steinhagen  
DANGEROUS AS TILAPIA LAKE VIRUS – WHAT CAN WE LEARN FROM STUDYING THE VIRUS HOST RANGE AND NATURAL DISEASE RESISTANCE OF SELECTED NILE TILAPIA STRAINS?
- 10:30** **Linda Andersen**, Ivar Rønnestad, Alf Seljenes Dalum, Silje Stensby-Skjærvik, Kåre Segadal, Ole-Kristian Hess-Erga, Susanne Håvardstun Eide, Reidar Handegård, Kristian Ulven, Hedda Wahl-Ovesen, Sara Calabrese, Rolf David Vogt, Endre Steigum, Frida Sol Svendsen, Floriana Lai, Markus Valle Sjøstrand, Louise Wedaa, Oscar Hanson, Siw Frantzen, Torolf Storsul  
WATER QUALITY ISSUES CAUSED BY ZINC AND GAS SUPERSATURATION DURING SIMULATED WELL BOAT OPERATIONS OF ATLANTIC SALMON
- 10:45** **BREAK**
- 11:15** **Yeray Kevin Cerpa Damas**, Dorothee Klein, Adrian Engels, Michael Schroda, Nerea Roher, Borja Ordoñez, Ainhoa Gómez-Quintanilla, Maria Salvador-Mira, Celia Garcia-Quintanilla, Verónica Chico, Luis Perez, María del Mar Ortega-Villaizán  
DEVELOPMENT OF A CHLAMYDOMONAS-BASED VACCINE AGAINST SALMONID ALPHAVIRUS (SAV2) TO IMPROVE THE SUSTAINABILITY OF RAINBOW TROUT AQUACULTURE
- 11:30** **Maria Salvador-Mira**, Manuel Sevilla-Díaz, Mauricio Rojas-Peña, Patricia Aceituno, Verónica Chico, Nerea Roher, Luis Perez, Maria del Mar Ortega-Villaizán  
THE USE OF FISH ERYTHROCYTES AS CELLULAR TARGETS FOR NOVEL VACCINE PROTOTYPES: FROM IMMUNE SYSTEM STIMULATION TO CELL-TO-CELL COMMUNICATION
- 11:45** **Lone Madsen**, Niels Lorenzen, Valentina L. Donati  
CONTROL MEASURES AGAINST INFECTIONS WITH *Flavobacterium psychrophilum* IN RAINBOW TROUT: SALTWATER OR RAISED WATER TEMPERATURE AS ALTERNATIVES TO ANTIBIOTICS
- 12:00** **Antonia Efstathiou**, Dimitra K. Toubanaki, Odysseas P. Tzortzatos, Evdokia Karagouni  
INFECTION WITH NERVOUS NECROSIS VIRUS DIFFERENTIATES THE NEURONAL AND ASTROGLIAL GENE EXPRESSION OF DISEASE RESISTANT AND SUSCEPTIBLE EUROPEAN SEA BASS FAMILIES *Dicentrarchus labrax*

- 12:15 John Walakira**, Catherine Agoe, Mary Nantongo, Ezra Tumukunde, Kunda Ndashe, C.P Castells, L Lauke, Adrian Astier  
CO-OCCURRENCE AND GENETIC DIVERSITY OF EMERGING PATHOGENS ISOLATED FROM INFECTED FARMED TILAPIA IN THE LAKE VICTORIA REGION, UGANDA: *Aeromonas sp*, *Edwardsiella Sp* and *Francisella sp*
- 12:30 LUNCH**
- 14:00 Mikolaj Adamek**, Maria Zawisza, Alexander Rebl, Veronika Piackova, David Gela, Martin Kocour, Verena Jung-Schroers, Dieter Steinhagen, Magdalena Chadzinska, Krzysztof Rakus  
CARP EDEMA VIRUS INFECTION INDUCES CORTISOL RELEASE AND IMMUNOMODULATION IN COMMON CARP
- 14:15 Jeongeun Kim**, D.S. Liyanage, W.K.M. Omeke, H.M.V. Udayantha, Gaeun Kim, Ji Hun Lee, Y.K. Kodagoda, H.A.C.R. Hanchapola, M.A.H. Dilshan, D.C.G. Rodrigo, G.A.N. Piyumika Ganepola, Sukkyoung Lee, Mun-kwan Kim, Taehyug Jeong, Jehee Lee  
GENOME-WIDE ASSOCIATION AND GENOMIC PREDICTION FOR RESISTANCE TO *Edwardsiella piscicida* IN A SOUTH KOREAN OLIVE FLOUNDER POPULATION
- 14:30 Karla Orlić**, Snježana Kazazić, Damir Kapetanović, Irena Vardić-Smrzlić, Tonka Buha, Anamarija Kolda, Jakša Bolotin, Valter Kožul, Vedrana Nerlović, Svjetlana Bobanović-Čolić, Lorena Perić  
EXPLORING DIVERSITY AND ANTIBIOTIC RESISTANCE IN THE *Anguillarum* CLADE (GENUS *Vibrio*) WITHIN EASTERN ADRIATIC BIVALVE AQUACULTURE
- 14:45 Sutanti Sutanti**, Sukenda, Widanami, Alimuddin, Ratu Siti Aliah  
THE EFFECT OF SINGLE AND MULTI-INDIGENOUS PROBIOTICS DIETS ON IMMUNITY, GENE EXPRESSION, HISTOPATHOLOGY, AND PROTECTION AGAINST *Vibrio Parahaemolyticus* Vp5
- 15:00 Natasja Cox**, Evelien De Swaef, Mathias Corteel, Wim Van Den Broeck, Peter Bossier, João J. Dantas-Lima, Hans J. Nauwynck  
UNRAVELLING WHITE SPOT SYNDROME VIRUS (WSSV) TRANSMISSION DYNAMICS IN *Litopenaeus vannamei* SHRIMP
- 15:15 Rishita Chagede**, Suruchi Sharma, Abhijith E.K.  
SHRIMP GUARD, A SOLUTION FOR WHITE SPOT SYNDROME VIRUS DESIGNED USING SOLAQ PLATFORM, DEMONSTRATES AN 80% EFFICACY AGAINST VIRAL INFECTION IN THE POND



- 15:30** **Maria del Mar Ortega-Villaizan**, Celia Garcia-Quintanilla, Veronica Chico, Miguel Angel Garcia-Alvarez, Luis Perez, Francisco Javier Alarcón-Lopez, Alberto Cuesta  
IN-FEED PLANT EXTRACTS AS NOVEL ANTIVIRAL THERAPEUTICS AGAINST VIRAL NERVOUS NECROSIS INFECTION IN SEA BASS
- 15:45** **Timothy Bruce**, Amber Johnston, Allison Wise, Courtney Harrison, Brent Vuglar, Jason Abernathy, Benjamin Beck, Benjamin LaFrentz  
*Flavobacterium covae* AND CHANNEL CATFISH VIRUS COINFECTION IN CHANNEL CATFISH *Ictalurus punctatus*
- 16:00** **Hanxi Li**, Dhiraj Krishna, Wan Muhammad Hazim Wan Sajiri, Juliane Sørensen, Debes Hammershaimb Christiansen, Louise von Gersdorff Jørgensen, Helene Larsen, Peter M.H. Heegaard  
DEVELOPMENT AND APPLICATION OF HIGH-THROUGHPUT ENVIRONMENTAL NUCLEIC ACID (eNA)-BASED CHIP FOR PROFILING WATER QUALITY, OFF-FLAVOR AND PATHOGENIC AGENTS IN RECIRCULATED AQUACULTURE SYSTEMS (RAS)
- 16:15** **Robert Durborow**, John Kelso, Vincent Teye, Adetola Ogundipe, Tyler McKay, Tifani McKay  
USING MACHINE LEARNING IN MOBILE RESPONSIVE CLINICAL FISH HEALTH DATABASE TO RECOGNIZE DISEASE DEVELOPMENT
- 16:30** **Khalid Shahin**, Mustafa Abdel-Gliil, Izzet Burçin Saticioglu, Muhammed Duman, Soner Altun, Silvia Colussi, Pier Luigi Acutis, Prearo Marino, Ilhan Altinok, Charalampos Kotzamanidis, Ana Isabel Vela, Zeinab Yazdi, Esteban Soto, Arnfinn Lodden, Elsa Luis, Carlos Leal, Sergio Aoki, Christopher Matthews  
DIVING INTO THE DEPTHS: UNVEILING THE MAIN ETIOLOGIES OF PISCINE LACTOCOCCOSIS WITH A NOVEL MULTIPLEX QPCR ASSAY
- 16:45** **Murat Emre Yardibi**, Hasan Emre Tali, Semaha Gül Yilmaz, Aysun Yilmaz, Hüseyin Yilmaz, Nuri Turan  
PRELIMINARY STUDIES ON THE DETECTION AND PRESENCE OF LYYPHOCYSTIS DISEASE VIRUS (LCDV) IN SEA BREAMS *Sparus aurata* RAISED IN THE AEGEAN SEA
- 17:00** **Celia García-Quintanilla**, Verónica Chico, Miguel Ángel García-Álvarez, Jose Antonio Guirau, Luis Pérez, Alberto Cuesta, María del Mar Ortega-Villaizán  
ANTIVIRAL ACTIVITY OF PLANT EXTRACTS AGAINST REDSPOTTED GROUPER NERVOUS NECROSIS VIRUS

## ASC WORKSHOP

Wednesday, August 28 09:00 - 10:45 MR 19

Chair: Ola Luthman

### “Future aquafeed supply chains in a transitioning industry and a changing climate“.

Research on the complexities surrounding aquafeed production have highlighted the significant environmental impacts of feed ingredient sourcing in aquaculture supply chains. The shift from conventional fishery-based ingredients to a diverse mix of terrestrial, marine, livestock, and alternative ingredients presents both challenges and opportunities, particularly in terms of transparency, sustainability trade-offs, and fish health. This transition is crucial however, for enhancing the resilience and sustainability of the aquaculture industry, especially in the face of climate change. Getting a holistic, systems perspective on aquafeed ingredients and their impacts is key to drive development and increase transparency in aquafeed production.

At the AQUA 2024 conference in Copenhagen, Denmark, the Aquaculture Stewardship Council (ASC) will host a workshop to explore these issues, inviting industry leaders, researchers, certification programmes, and stakeholders to collaborate on innovative solutions. This event aims to strengthen cross-sectoral cooperation and support the advancement of sustainable aquaculture practices.

To stay informed about future events and knowledge-sharing opportunities, join our mailing list at <https://asc-aqua.org/newsletter/>.

## BIORIGIN WORKSHOP

Wednesday, August 28 11:15 - 12:30 MR 19

Chair: Bogi Nielsen

Sponsor: **Biorigin**  
Arte em Ingredientes Naturais

### “Optimizing Fish Health: Yeast Beta-Glucans for Immunity, Wound Healing and Vaccination”

- Brief introduction of the speaker(s)
- Overview of workshop goals and agenda
- Importance of yeast beta-glucans in aquaculture  
**Eduardo Yamashita, Global Product Manager – Biorigin**
- Definition and sources of beta-glucans  
**Robson Barducci, Feed Specialist – R&D (Biorigin)**
- Overview of their biological functions and benefits  
**Robson Barducci, Feed Specialist – R&D (Biorigin)**
- How beta-glucans enhance the immune response in fish
- Thank the participants for their engagement
- Further questions and follow-up discussions.

# ALTERNATIVE INGREDIENTS & RAW MATERIAL PROCESSING

## PART B

Wednesday, August 28 14:00 - 17:30 AUD 15

Chairs: Sergio Nates, Jan van Eys

Sponsor: 



- 14:00** **Guillaume Le Reste**, Margaux Le Gourrierec, Emilie Cardona, Anne Surget, Louka Nonin, Eva Rondeau, Aymeric Bonte  
APPARENT DIGESTIBILITY OF TOASTED COWPEA SEED *Vigna unguiculata* IN WHITE-LEGGED SHRIMP *Penaeus vannamei*
- 14:15** **Mateusz Rawski**, Paula Skrzypczak, Zuzanna Mikolajczak, Bartosz Kieronczyk, Jan Mazurkiewicz  
THE EFFECT OF USAGE OF *Hermetia illucens* MEAL IN SIBERIAN STURGEON DIETS ON GASTROINTESTINAL TRACT MICROBIOTA AND HISTOMORPHOMETRIC PARAMETERS
- 14:30** **Elena Wernicke von Siebenthal**, Hung Quang Tran, Jean-Baptiste Luce, Tram Thi Nguyen, Vlastimil Stejskal, Fabian Weinlaender, Thomas Janssens  
A NOVEL PROTEIN SOURCE FROM LESSER MEALWORM *Alphitobius diaperinus* LARVAE MEAL FOR EUROPEAN PERCH *Perca fluviatilis*: INVESTIGATION ON PELLET CHARACTERISTICS, PRODUCTION PERFORMANCE, SERUM BIOCHEMISTRY, DIGESTIBILITY, HISTOLOGY, SENSORY AND TRAIT OF FILLET, AND ENVIRONMENTAL INDICES
- 14:45** **Aires Oliva-Teles**, Nicole Martins, Lúcia Vieira, Rui Magalhães, Ana Couto, Derek Balk, Kevin Herrick, Helena Peres  
UNLOCKING THE POTENTIAL OF POET CFP: CORN-FERMENTED PROTEIN AS A SUSTAINABLE INGREDIENT IN EUROPEAN SEABASS DIETS
- 15:00** **Efstratios Roussos**, Vasiliki Ilia, George Karafios, Iani Chihaia, Jan van Eys, George Triantaphyllidis, Odysseas P. Tzortzatos, Dimitra K. Toubanaki, Antonia Efstathiou, Enric Gisbert, Evdokia Karagouni, Yannis Kotzamanis  
EVALUATION OF FERMENTED SOYBEAN MEAL AS A SUSTAINABLE FISHMEAL REPLACEMENT IN THE DIETS OF EUROPEAN SEABASS *Dicentrarchus labrax* JUVENILES: EFFECTS ON GROWTH PERFORMANCE, IMMUNE RESPONSE, AND INTESTINAL STRUCTURE

WEDNESDAY

- 15:15** **Ester Santigosa**, Claire Chatelle, Pauline Jenn, Jerome Schmeisser, Pablo Cabo Valcarce, Henk Noorman, Carol Roa Engel, Louise Buttle  
SINGLE-CELL PROTEINS AS A SUSTAINABLE SOURCE OF PROTEIN FOR SALMONID AQUAFEEDS
- 15:30** **Ahmed Al-Sooti**, Wenresti Gallardo  
GROWTH, SURVIVAL, FEED CONVERSION RATES AND PROXIMATE COMPOSITION OF JUVENILE GILTHEAD SEABREAM *Sparus aurata* CULTURED IN BRACKISH WATER TANKS FED TWO DIFFERENT FEED TYPES
- 15:45** **Geir Ivar Lanes**  
THE CASE OF BLACK SOLDIER FLY AS A NOVEL INGREDIENT IN THE FEED AND FOOD INDUSTRY
- 16:00** **Artur Rombenso**, Ha Truong, Cedric Simon  
RESEARCH ON NOVEL INGREDIENTS IN AUSTRALIAN AQUAFEEDS
- 16:15** **Turid Mørkøre**, Maria Blanch Rojo, Zahra Yousefi Mojir, Julia Formanowicz, Sturle Skeidsvoll, Tilde S. Hagen, Arnaud Lefrancois, Helena M. Moreno  
DIETARY SUBSTITUTION OF SOY PROTEIN CONCENTRATE BY BLACK SOLDIER FLY LARVAE MEAL IMPROVED SENSORY QUALITY OF ATLANTIC SALMON FARMED IN COMMERCIAL CAGES
- 16:30** **Md Shah Alam**, Patrick Carroll, Wade Watanabe, Maylyn Hinson, Kaitlyn Hudson, Guillaume Salze, Larry Feinberg  
SUPPLEMENTATION OF SINGLE CELL PROTEIN, SEA BEANS MEAL AND A COMBINATION OF ALTERNATIVE PROTEIN SOURCES TO REPLACE FISHMEAL PROTEIN IN THE DIETS OF JUVENILE BLACK SEA BASS *Centropomus striata*
- 16:45** **Rafaela S. Costa**, Bia Pinho, Ana Claro, Ana Basto, Tiago Sá, Marta Monteiro, Daniel Murta, Marisa Santos, Johan W. Schrama, Luisa M.P. Valente  
INSECT MIXTURES IN PRACTICAL DIETS FOR EUROPEAN SEABASS: WORKING TOWARDS FLEXIBILITY IN DIET FORMULATION
- 17:00** **Pierluigi Carbonara**, Lola Toomey, Sébastien Alfonso, Eleonora Fiocchi, Amedeo Manfrin, Phelly Vasilaki, Walter Zupa, Maria Teresa Spedicato, Elena Mente, Ioannis Nengas, Giuseppe Lembo  
INVESTIGATING THE EFFECTS OF AN ENVIRONMENTALLY SUSTAINABLE DIET FORMULATED USING NOVEL INGREDIENTS ON THE GROWTH, HEALTH AND WELFARE OF GILTHEAD SEABREAM *Sparus aurata*

## EELS

Wednesday, August 28 14:00 - 17:30 MR 18

Chairs: Jonna Tomkiewicz, Arjan Palstra

- 14:00** **Jonna Tomkiewicz**, Sebastian N. Politis, Sune Riis Sørensen, Paraskevas Koumpiadis, Daniela Eliana Sganga  
CLOSING THE CYCLE OF THE EUROPEAN EEL *Anguilla anguilla*
- 14:15** **Arjan Palstra**, Caroline Durif, Sandra Ramos Judez, Jonna Tomkiewicz, Justas Dainys, Sylvie Dufour, Marina Morini, Laura Gentile, Pauline Jehannet, Annalisa Zaccaroni  
COST ACTION EEL SUPPORT: SOLVING BOTTLENECKS IN EEL REPRODUCTION TO SUPPORT SUSTAINABLE AQUACULTURE
- 14:30** **Ana Gavrilović**, Irena Vardić Smrzlić, Damir Kapetanović, Tena Radočaj, Oliver Barić, Jurica Jug Dujaković  
VIRAL DISEASES SCREENING FOR THE BROODSTOCK COLLECTION OF EUROPEAN EEL *Anguilla anguilla* FROM NERETVA DELTA, CROATIA
- 14:45** **Daniela Eliana Sganga**, Francesca Bertolini, Jonna Tomkiewicz  
TRANSCRIPTOMIC PROFILING TO IDENTIFY BROODSTOCK QUALITY BIOMARKERS IN EUROPEAN EEL
- 15:00** **Christiaan Henkel**  
TOWARDS A SINGLE-CELL ATLAS OF EEL DEVELOPMENT: LESSONS FROM SALMON
- 15:15** **Fan Yang**, Elisa Benini, Sune Sørensen, Christopher Albertsen, Ian Butts, Jonna Tomkiewicz, Sebastian Politis  
ESCAPE RESPONSES IN EUROPEAN EEL *Anguilla anguilla* LARVAE TO MECHANICAL AND VISUAL STIMULI
- 15:30** **Camillo Rosso**, D. Nolte, R. Leemans, D. Cardoso  
CLOSING THE LIFE CYCLE OF EUROPEAN EEL *Anguilla anguilla* IN CAPTIVITY: AN OVERVIEW OF LEPTOCEPHALUS LARVAE REARING
- 15:45** **Sebastian Politis**, Jonna Tomkiewicz, Sune R. Sørensen  
BOTTLENECKS IN EUROPEAN EEL LARVAL AND LEPTOCEPHALUS CULTURE
- 16:00** **ePosters Pitch Talks**
- 16:15** **Manu Kumar Gundappa**, Tessa van der Hammen, Hendrik-Jan Megens, Reindert Nijland, Arjan P. Palstra  
PREDICTION OF AGE AND SEX IN EUROPEAN EEL *Anguilla anguilla* FROM DNA SEQUENCING BASED EPIGENETIC PROFILING

- 16:30** **Miroslav Urosevic**, Sara Cer  
HOW TO IMPROVE STATUS AND WELLBEING OF EEL *Anguilla anguilla* IN SERBIA?
- 16:45** **Jurica Jug Dujaković**, Oliver Barić, Tena Radočaj, Ana Gavrilović  
CORRELATION BETWEEN BIOLOGICAL PARAMETERS OF EUROPEAN EEL *Anguilla anguilla* FROM THE NERETVA DELTA, CROATIA
- 17:00** **Discussion**

### **EAS STUDENT GROUP WORKSHOP**

Wednesday, August 28 14:00 - 17:30 MR 19

Chair: Mariana Ferreira

### **REPRODUCTION, BROODSTOCK MANAGEMENT**

Wednesday, August 28 14:00 - 17:30 MR 173

Chair: Ioannis Fakriadis

- 14:00** **Yonathan Zohar**  
FISH REPRODUCTION IN AQUACULTURE – FIVE DECADES OF A FOUNDMENTAL AND TRANSLATIONAL JOURNEY
- 14:30** **Alison Harvey**, Aurelien Delaval, Monica Solberg, Per Gunnar Fjellidal, Tom Hansen, Francois Besnier, Lars Helge Stien, Kevin Glover  
A POSSIBLE LINK BETWEEN INBREEDING DEPRESSION AND REDUCED WELFARE IN TRIPLOID ATLANTIC SALMON *Salmo salar*
- 14:45** **Thomas Fraser**, Tom Hansen, Florian Sambras, Rüdiger Schulz, Birgitta Norberg, Per Gunnar Fjellidal  
TEMPERATURE AND PHOTOPERIOD REGULATE POST-SMOLT MATURATION IN ATLANTIC SALMON
- 15:00** **Paulino Martínez**, Natalia Petit, Andrés Blanco, Maialen Carballeda, Jessica Gómez-Garrido, Fernando Cruz, Tyler Alioto, Francisco Saborido, Laura Casas  
SEX DETERMINATION IN FISH: NEW INSIGHTS FROM THE EUROPEAN HAKE *Merluccius merluccius* CHROMOSOME-LEVEL GENOME ASSEMBLY

- 15:15** **Joshua Superio**, Julien Resseguier, Rafael Henrique Nobrega, Caroline Grebstad, Ioannis Fakriadis, Atle Foss, Ørjan Hagen, Meiling Zhang, Maria del Pilar Hernández-García, Jorge Galindo-Villegas  
UNRAVELING SPERMATOGENESIS IN SPOTTED WOLFFISH: INSIGHTS FROM JUVENILE MALE TESTES ULTRASTRUCTURE TO BROODSTOCK SPERM CRYOPRESERVATION
- 15:30** **Elvira Fatsini**, Cláudia Raposo de Magalhães, Carlos Marrero, Alexandros Tsakogianis, Catarina Oliveira, Elsa Cabrita  
EFFECTS OF ALGAL DIET SUPPLEMENTATION ON HALIBUT SEMINAL PLASMA ANTIOXIDANT CAPACITY: A CORRELATION STUDY BETWEEN SPERM TRAITS AND EV-CARGO PROTEOME
- 15:45** **Stefano Lancerotto**, Ioannis Fakriadis, Costas Tsigenopoulos, Constantinos C. Mylonas  
INCREASING FEMALE PARENTAGE CONTRIBUTION IN GREATER AMBERJACK *Seriola dumerili* THROUGH THE ADMINISTRATION OF GnRH $\alpha$  IMPLANTS
- 16:00** **Maria Papadaki**, Ioannis Fakriadis, Eirini Sigelaki, Stefano Lancerotto, Constantinos C. Mylonas  
REPRODUCTIVE PERFORMANCE OF GILTHEAD SEABREAM *Sparus aurata* IN A RECIRCULATING AQUACULTURE SYSTEM
- 16:15** **Ian A.E. Butts**, Helen R. Montague, Hana Hess, Sepideh Barzegar-Fallah, Kaylan A. Martin, Samitha S.N. Liyange, Kyle R. Wood, Xu Wang, Timothy J. Bruce, Jason W. Abernathy, Luke A. Roy, Rex A. Dunham  
QUANTIFYING MALE REPRODUCTIVE PERFORMANCE TO IMPROVE HATCHERY PRODUCTION OF HYBRID CATFISH
- 16:30** **Oleksandr Malinovskyi**, Zhaxygali Kuanchaleyev, Jitka Kolařová, Václav Kučera, Tomáš Pěnka, Tomáš Policar, Uros Ljubobratovic  
THE EFFECT OF PIKEPERCH *Sander lucioperca* BROODSTOCK ORIGIN ON THEIR ABILITY TO EXPRESS NATURAL REPRODUCTIVE BEHAVIOUR
- 16:45** **Jon Aquino**, Lisa Elliott, Jodie Morris, Rhondda Jones, Chaoshu Zeng, John Cavalieri  
QUALITY OF SPERMATOZOA EXTRACTED FROM SPERMATOPHORE REMOVED BY DISSECTION OR EXTRUDED BY ELECTROEJACULATION FROM WILD-CAUGHT REDCLAW CRAYFISH *Cherax quadricarinatus*

- 17:00** **Türker Bodur**, Burak Evren Inanan, Meryem Cansu Yesiltas, M. Emrullah Arafatoglu, Filiz Akköse, Hüseyin Sevgili, Tamás Müller  
A NOVEL METHOD FOR EXTERNAL FERTILISED MARINE FISH PROPAGATION:  
SPERM INSEMINATION
- 17:15** **Joshua Superio**, Patricia Pereiro, Maria Papadaki<sup>3</sup>, Prabhugouda Siriyappagouder, Caroline, Grebstad, Sylvie Bolla, Constantinos C. Mylonas, Antonio Figueras, Jorge Galindo-Villegas  
DYNAMIC PROFILING OF WOLFFISH: RNA-SEQ INSIGHTS INTO  
IMMUNOREPRODUCTION, FATTY ACIDS, LIPIDS, ANTIOXIDANT ENZYMES, AND  
HORMONAL VARIATIONS ACROSS AN ANNUAL CYCLE



# THURSDAY, August 29

## HEALTH - DRUGS AND THERAPEUTANTS

Thursday, August 29 09:00 - 12:30 AUD 12

Chair: Carlo Lazado

- 09:00** **Ola Luthman**, Maria Filipa Castanheira  
FOSTERING RESPONSIBLE ANTIBIOTIC USE AND SUSTAINABILITY IN  
AQUACULTURE: THE APPROACH OF THE AQUACULTURE STEWARDSHIP  
COUNCIL (ASC)
- 09:15** **Inácio Mateus Assane**, Marina A. Damaceno, Sarah C. Campanharo,  
Agnaldo F.B. da Silva, Elielma L. de Sousa, André do Vale Oliveira,  
Daniel de Abreu Reis Ferreira, Suzana Kotzent, Raphael B. de Jesus,  
Deborah J.F. da Paz, Jonas A.R. Paschoal, Fabiana Pilarski  
THIAMPHENICOL AND FLORFENICOL COMBINATION IN NILE TILAPIA:  
SIMULTANEOUS DETECTION AND QUANTIFICATION IN PLASMA AND MUSCLE  
PLUS SKIN SAMPLES, AND PHARMACOKINETICS FOLLOWING SINGLE ORAL  
ADMINISTRATION
- 09:30** **Chi Chung Chou**, Pei-Fang Hsieh, Yu-Nan Tsai, Yi-Pin Lu, Ju-Yi Hsieh, Wan-Cih Ho,  
Srirengaraj Vijayaram  
FLORFENICOL METABOLISM IS ASSOCIATED WITH CYTOCHROME P450 CYP  
3A IN NILE TILAPIA
- 09:45** **Yee Wan Liu**, Brendan Robertson, Bachar Cheaib, Neil Ruane, Roderick Williams,  
Michael P. Barrett, Martin S. Llewellyn, Fiona Henriquez-Mui, John Archibald  
PROGRESS IN TREATING AMOEBIC GILL DISEASE USING TRYPANOCIDAL  
DRUGS: SUCCESS IN VITRO AND *IN VIVO*
- 10:00** **Arunjyothi Jawaji**, Dina Zilberg, Inna Khozin Goldberg, Tamar Sinai  
FATTY ACID ETHYL ESTERS FOR EFFECTIVE AND SUSTAINABLE TREATMENT  
OF FISH PARASITIC DISEASES
- 10:15** **Natasja Cox**, Evelien De Swaef, Mathias Corteel, Wim Van Den Broeck,  
Peter Bossier, Hans J. Nauwynck, João J. Dantas-Lima  
KEY ASPECTS OF *IN VIVO* WHITE SPOT SYNDROME VIRUS (WSSV) INFECTION  
MODEL DEVELOPMENT

- 10:30** **João J. Dantas-Lima**, Natasja Cox, Evelien De Swaef, Mathias Corteel, Wim Van Den Broeck, Peter Bossier, Hans J. Nauwynck  
*IN VIVO* INFECTION MODELS TO TEST THE EFFICACY OF ANTIVIRAL THERAPIES AND IMMUNOMODULATORS AGAINST WHITE SPOT SYNDROME VIRUS (WSSV) IN *Litopenaeus vannamei* SHRIMP
- 10:45** **BREAK**
- 11:15** **Chamilani Nikapitiya**, Mahanama De Zoysa  
 FUTURE PROSPECT OF mRNA VACCINES ENCODING BACTERIAL ANTIGENS IN AQUACULTURE
- 11:30** **Tom Defoirdt**, Shanshan Zhang, Xuan Li, Julie Ekasari, Qian Yang  
 INDOLE SIGNALING, A PROMISING TARGET TO CONTROL VIBRIOSIS IN AQUACULTURE
- 11:45** **Mawalle Kankanamge Hasitha Madhawa Dias**, Mahanama De Zoysa  
 ANALYSIS OF *Edwardsiella piscicida* DERIVED EXTRACELLULAR VESICLES PROTEOME AND THEIR IMMUNOMODULATION

## GOVERNANCE, POLICY, AND REGULATIONS

Thursday, August 29 09:00 - 12:30 MR 180

Chairs: Rasmus Nielsen, Anne Cooper

- 09:00** **Marit Schei Olsen**, Tonje C. Osmundsen  
 FUTURE DEVELOPMENT AND PRODUCTION GROWTH IN NORWEGIAN SALMON AQUACULTURE: THE ROLE OF REGULATION
- 09:15** **Danielle Blacklock**  
 GROWING SUSTAINABLY, ADVANCING MARINE AQUACULTURE IN THE UNITED STATES
- 09:30** **David O'Brien**  
 A NEW PLAN TO BOLSTER THE UNITED STATES AQUACULTURE ECONOMY
- 09:45** **Stacy-Ann Gray**, Anne Marie O'Hagan, Tom Doyle  
 IS GROWTH IN EUROPEAN AQUACULTURE PRODUCTION LIMITED BY HOW AQUACULTURE IS FEATURED IN MARITIME SPATIAL PLANNING? THE CASE OF IRELAND
- 10:00** **Anne M. Cooper**  
 SUPPORTING SUSTAINABLE AQUACULTURE THROUGH INDEPENDENT SCIENTIFIC ADVICE

- 10:15** **Simon Bush**, KwangSuk Oh, Elisabetta Martone, Ava Razmjoo, Sake Kruk  
AQUACULTURE CO-MANAGEMENT FOR SUSTAINABLE AQUATIC FOOD
- 10:30** **Sahsil Enríquez**, Cristina Yacoub, Tomás Chalde, Luis Poersch, Daniel Checa Alias, Pauline O'Donohoe, Laura Ferguson, John Bolton, Marissa Brink-Hull, Brett Macey, Thierry Chopin, Elisa Ravagnan  
CURRENT POLICY CHALLENGES IN AQUACULTURE AND IMTA PRACTICES IN THE ATLANTIC REGION: FINDINGS FROM THE ASTRAL PROJECT
- 10:45** **BREAK**
- 11:15** **Ragnar Tveterås**, Tord Ludvigsen, Bård Misund  
GOVERNMENT MANDATED PARTNERSHIPS IN OFFSHORE SALMON AQUACULTURE
- 11:30** **Øivind Strand**, Tore Strohmeier, Antonio Aguera, Sofie Remø, Nina Liland  
GOVERNMENTAL MISSION ON SUSTAINABLE FEED FOR FARMED FISH AND LIVESTOCK – POTENTIAL FOR NORWEGIAN LOW TROPHIC AQUACULTURE?
- 11:45** **Pierluigi Carbonara**, Lola Toomey, Sébastien Alfonso, Isabella Bitetto, Eleonora Fiocchi, Amedeo Manfrin, Phelly Vasilaki, Walter Zupa, Maria Teresa Spedicato, Elena Mente, Giuseppe Lembo  
INVESTIGATING THE EFFECTS OF AN ORGANIC ENVIRONMENTALLY SUSTAINABLE AND COST-EFFECTIVE INNOVATIVE FEED ON GILTHEAD SEABREAM *Sparus aurata* GROWTH, HEALTH AND WELFARE THROUGH A MULTIPARAMETRIC APPROACH
- 12:00** **Rasmus Nielsen**, Jordi Guillen, Ignacio Llorente Garcia, Frank Asche, Taryn Garlock  
AN ANALYSIS OF THE EUROPEAN AQUACULTURE INDUSTRY USING THE AQUACULTURE PERFORMANCE INDICATORS

## SOCIETY, COMMUNITY AND GENDER

Thursday, August 29 09:00 - 12:30 MR 173  
Chair: Tonje Osmundsen and Juliana Rosa Carrijo

- 09:00** **Margherita Masi**, Vecchio Yari, Marrocco Ernesto S., Yeter Gizem, Sardaro Ruggiero  
THE CIRCULAR TRANSITION IN AQUACULTURE: A MULTICRITERIA ANALYSIS
- 09:15** **Ragnhild Aven Svalheim**, Katrine Eriksen, Florent Govaerts, Anette Hustad, Erik Burgerhout, Carlo C. Lazado, Elisabeth Ytteborg, Themistoklis Altintzoglou  
ENHANCING SEAFOOD QUALITY AND SUSTAINABILITY BY IMPROVING ANIMAL WELFARE IN WILD CAPTURE FISHERIES

- 09:30** **Taryn Garlock**, Jingjie Chu, Chelsey Crandall, Jynessa Dutka-Gianelli  
PARTICIPATION AND INFLUENCE OF WOMEN IN SEAFOOD SYSTEMS:  
INSIGHTS USING THE FISHERY AND AQUACULTURE PERFORMANCE  
INDICATORS
- 09:45** **Mohammad Sadur Rahman**, Md. Akhtaruzzaman Khan, Nuzhat Tabassum  
GENDER PARTICIPATION IN SUSTAINABLE SHRIMP FARMING AND VALUE  
CHAINS IN THE CLIMATE VULNERABLE AREAS OF BANGLADESH
- 10:00** **Francisco Javier Martinez-Cordero**, Jose Carlos Hernandez-Gonzalez,  
Missael Alberto Roman del Valle, Raul Larios Guerrero,  
Pedro Leopoldo Martinez Quintal  
CONTEXT OF INFORMATION TECHNOLOGY USE IN THE RURAL  
AQUACULTURE CHAIN OF THE SIERRA GUERRERENSE IN MEXICO
- 10:15** **Francisco Javier Martinez-Cordero**, Alejandro Ernesto Mohar Ponce,  
Edali Yareni Murillo Gomez  
MICROSITE *TILAPIA* FOR THE PLANNING OF THE SUSTAINABLE  
DEVELOPMENT OF RURAL, SMALL-SCALE TILAPIA AQUACULTURE IN THE  
STATES OF GUERRERO AND OAXACA, MEXICO
- 10:45** **BREAK**
- 11:15** **Ramon Filgueira**, Lucia Fanning, Bertrum MacDonald, Patricia Manuel,  
Charles Mather, Barbara Neis  
ADVANCING KNOWLEDGE ON FACTORS AFFECTING SOCIETALLY-ENDORSED  
SUSTAINABLE SALMON AQUACULTURE
- 11:30** **Tonje Osmundsen**, Marit Schei Olsen, Kristine Størkersen, Andreas Misund,  
Trine Thorvaldsen  
BOOSTING TECHNOLOGICAL DEVELOPMENT IN THE SALMON INDUSTRY IN  
NORWAY
- 11:45** **Audun Iversen**, Thomas Nyrud, Bjørn Inge Bendiksen, Roy Robertsen,  
Silje Steinsbø  
ESTIMATING ECONOMIC VALUE FOR SOCIETY: THE IMPORTANCE OF  
INDUSTRY-SPECIFIC MATRICES IN SEAFOOD RIPPLE-ANALYSES
- 12:00** **Natalia Ospina-Alvarez**, Caique Carvalho, Elisa Ravagnan  
ASTRAL ATLANTIC AQUACULTURE NETWORK: FOSTERING INTERNATIONAL  
COOPERATION IN THE ATLANTIC AREA
- 12:15** **Maria Célia Portella**  
THE ROLE OF WOMEN IN AQUACULTURE AND SCIENCE IN BRAZIL

## PARASITIC DISEASES INCLUDING LICE AND CLEANER FISH

Thursday, August 29 09:00 - 12:30 MR 6

Chair: Louise von Gersdorff Jørgensen

- 09:00** **Gaeun Kim**, Sukkyoung Lee, D.S. Liyanage, W.K.M. Omeke, H.M.V. Udayantha, Jeongeun Kim, Jihun Lee, Yasara Kavindi Kodagoda, H.A.C.R. Hanchapola, M.A.H. Dilshan, D.C.G. Rodrigo, G.A.N. Piyumika Ganepola, Mun-kwan Kim, Taehyug Jeong, Jehee Lee  
GENOME-WIDE ASSOCIATION STUDY (GWAS) AND GENOMIC PREDICTION TOWARD EFFICIENT SELECTION BREEDING OF RESISTANCE TO *Enteromyxum leei* IN OLIVE FLOUNDER *Paralichthys olivaceus*
- 09:15** **Eiríkur Andri Thormar**, Clémence Fraslín, Morten T. Limborg, Diego Robledo  
INVESTIGATING AMOEBIC GILL DISEASE (AGD) RESISTANCE IN ATLANTIC SALMON THROUGH A HOLOGENOMIC LENS
- 09:30** **Louise von Gersdorff Jørgensen**, Heidi Mathiessen, Moonika Marana, Cyril Henard, Sebastian Kjeldgaard-Nintemann, Sara Gelskov  
UNVEILING THE ARMS RACE: FISH INNATE IMMUNE RESPONSES VERSUS FISH PARASITE EVASIVE STRATEGIES
- 09:45** **Cyril Henard**, Hanxi Li, Barbara F. Nowak, Louise von Gersdorff Jørgensen  
EFFECT OF UNPREDICTABLE REPEATED STRESS ON RAINBOW TROUT *Oncorhynchus mykiss* IMMUNE RESPONSE AGAINST THE FISH PARASITE *Ichthyophthirius multifiliis*
- 10:00** **Casiano Choresca**, John Wilbert Orilla, Klyne Clarise Kuizon, Faith Loraine Magbanua  
MOLECULAR DETECTION AND CHARACTERIZATION OF *Ichthyophthirius multifiliis* INFECTING HATCHERY-REARED MUDFISH *Channa striata* FRY
- 10:15** **Gunnvør á Norði**, Birgitta Andreassen, Tróndur Kragestein, Signar P. Dam, Kirstin Eliassen  
THE LIKELIHOOD FOR MOBILE LICE TO LEAVE A HOST DEPENDS ON SPECIES, TEMPERATURE AND DAY LENGTH
- 10:30** **Aina-Cathrine Øvergård**, P. Alexander Nelson, Hanna H. Kringeland, Andreas Borchel  
SALMON LOUSE *Lepeoptheirus salmonis* VACCINE DEVELOPMENT – DIFFICULTIES AND PROMISING SOLUTIONS
- 10:45** **BREAK**

THURSDAY

- 11:15** **Felipe E. Reyes-Lopez**, Mabel Vidal, Andrea Cerda-Celis, Alexis Rivera, Daniela Peña, Silvana Guerra-Arredondo, Merari Goldstein, María J. Santillán-Araneda, Eva Vallejos-Vidal  
THE NATURAL INFESTATION OF ATLANTIC SALMON SKIN WITH *Caligus c. rogercresseyi* IN A MARINE FARM SHOWS A SEASONAL-DEPENDENT EFFECT ON THE TRANSCRIPTOME AND ITS METABOLICALLY-ACTIVE MICROBIOME
- 11:30** **Chao Zhang**, Marc Bracke, Ricardo da Silva Torres, Lars Christian Gansel  
MACHINE LEARNING-BASED SALMON LICE LARVAE DETECTION IN SEAWATER
- 11:45** **Kirstin Eliassen**, Sandra L Østerø, Esbern J. Patursson, Ása Jacobsen, Agnes Mols Mortensen, Ása Johannesen  
THE DIGESTION TIME FOR SALMON LOUSE *Lepeoptheirus salmonis* IN LUMPFISH *Cyclopterus lumpus* IN RELATION TO SAMPLING METHOD, DEVELOPMENTAL STAGE, AND TEMPERATURE
- 12:00** **Nikolina Nenadic**, Ido Bar, Carmel McDougall  
UNRAVELLING QUEENSLAND UNKNOWN DISEASE: TRANSCRIPTOMIC AND GENOMIC INVESTIGATIONS OF THE OYSTER PARASITE *Marteilia sydneyi*
- 12:15** **Heidi Mathiessen**, Miyako Kodama, Søren Blikdal Hansen, Morten Limborg, Sara Gelskov, Louise von Gersdorff Jørgensen  
COMPARISON OF THE IMMUNOLOGICAL RESPONSE TO WHITE SPOT DISEASE IN ZEBRAFISH AND RAINBOW TROUT

## CONTRIBUTED SESSION - FOOD SYSTEMS AND RESEARCH

Thursday, August 29 09:00 - 12:30 MR 18

Chair: Danielle Blacklock

- 09:00** **Wiktorija Rajewicz**, Thomas Schmickl, Ronald Thenius  
*DAPHNIA* AS A MONITORING TOOL FOR AQUACULTURE SYSTEMS
- 09:15** **Ronald Thenius**, Wiktorija Rajewicz, Nikolaus Helmer, Thomas Schmickl  
BIOHYBRID SYSTEMS AS SENSORS IN AQUACULTURE
- 09:30** **Bo-Kai Liao**, Yi-Zhen Liao, Yu-Cheng Wang, Hsin-I Hsiao  
PREDICTING AQUACULTURE CONDITIONS AND QUALITIES OF PACIFIC WHITE SHRIMP USING DEEP LEARNING AND MULTISPECTRAL IMAGING
- 09:45** **Zala Schmutz**, Michael Reuter, Ingo Bläser, Gertrud Buchenrieder, Emmanuel O. Benjamin, Ranka Junge  
EMPOWERING COMMUNITIES: INCITIS-FOOD PROJECT'S TRAINING OF TRAINERS APPROACH TOWARDS SUSTAINABLE CIRCULAR FOOD SYSTEMS IN AFRICAN CITY REGIONS
- 10:00** **Richard Newton**, Tim Messeder, Anton Immink, John Bostock, David C. Little  
BLACK SOLDIER FLY UTILISATION STRATEGIES FOR AFFORDABLE TILAPIA PRODUCTION IN EAST AFRICA
- 10:15** **Festus Adeosun**, Olamide Adeosun, Funmilayo Oyekanmi, Esther Olemoh  
EVALUATION OF STOMACH CONTENT AND FEEDING HABITS OF *Tilapia mariae* IN LOWER OGUN RIVER, AKOMOJE WATER RESERVOIR, NIGERIA
- 10:30** **Zhigang Zhou**, Qianwen Ding, Zhen Zhang, Chao Ran, Chong Wang, Hang Su, Jihong Liu-Clarke, Rolf Erik Olsen, Yanbo Wang  
HEALTHY FEED TO HEALTHY AQUATIC FOOD VIA SINO-NORWEGIAN COOPERATION (FEED2FOOD)
- 10:45** **BREAK**
- 11:15** **Elisa Ravagnan**, Natalia Ospina, Pauline O'Donohoe, Marcelo Pias, Bruna Guterres, Inma Sanchez, Daniel Checa, Siv Kari Lauvset, Nadine Goris, Juliana Carvajal, Lisa Maire, Caique de Carvalho  
A COLLABORATIVE ECOSYSTEM FOR SUSTAINABLE INTEGRATED AQUACULTURE
- 11:30** **Howard Reti**, Robert Carpenter  
MAARA MOANA (OCEAN GARDEN): AN INDIGENOUS APPROACH TO GROWING SEAFOOD IN NEW ZEALAND

THURSDAY

- 11:45 Olanrewaju Badmus**, Chris Globath, Oluwatobiloba Cherish Lanre Badmus  
A REGENERATIVE MARINE ECOSYSTEM SERVICES THAT PAY FOR ITSELF:  
A PANACEA TO REVENUE GENERATION IN NIGERIA
- 12:00 Nike Funmilayo Aladetohun**, Olatayo Michael Ogunbanwo,  
Nounagnon Darius Tossavi, Babatunde Eniola Emmanuel  
HISTOPATHOLOGY DIAGNOSIS OF METAZOAN PARASITES INFECTING  
MULLET FISH FROM LAC NOKOUE (REPUBLIC OF BENIN) AND LAGOS  
LAGOON (NIGERIA)
- 12:15 Francisca Félix**, Catarina C.V. Oliveira, Luisa M. Vera, Elsa Cabrita  
MELATONIN ACTION IN THE REPRODUCTIVE AXIS OF SENEGALESE SOLE:  
ORIGIN, MECHANISMS AND EFFECTS ON SPERM QUALITY
- 12:30 Fabiola Mustafaj**  
THE SCOPE EXTENSION PROCESS OF THE AQUACULTURE STEWARDSHIP  
COUNCIL

## LIGHT AND FISH

Thursday, August 29 09:00 - 12:30 MR 19

Chair: Christian Philip Unmack (Eurofish)

Convenor: Béla Urbányi (MATE)

- 9:00 Lars Ebbesson**, Pradeep Lal  
REVOLUTIONARY LIGHTING, TECHNOLOGIES AND MACHINE VISION IN  
AQUACULTURE: ENHANCING EFFICIENCY AND CUTTING COSTS — BUT WHAT  
ABOUT THE FISH?
- 9:30 Maud Alix**, Lena Geitung, Tim Dempster, Line Vatne Martinsen, Margareth Møgster,  
Velimir Nola, Birgitta Norberg, Frode Oppedal  
LIGHT, SHADING AND SUBMERGENCE AS METHODS TO CONTROL FARMED COD  
SEXUAL MATURATION
- 10:00 Øyvind Hansen**  
DEVELOPMENT OF THE USE OF LIGHT IN THE COD FARMING INDUSTRY ON  
FISH IN SEA-CAGES
- 10:30 Questions and discussion**
- 10:45 Coffee break**
- 11:15 Ana Gavrilović**, Jurica Jug Dujaković  
DISTURBANCE IN NUTRITIONAL PROVISION IN RELATION TO PHOTOPERIOD  
AND TEMPERATURE IN CARP PONDS



**11:45 Yafan Zhu, Akihiro Takemura**  
DEVELOPMENT OF AQUACULTURE TECHNOLOGY BASED ON THE POTENTIAL SYNERGISTIC EFFECTS OF LIGHT WAVELENGTH AND SALINITY ON THE MALABAR GROUPEP EPINEPHELUS MALABARICUS GROWTH PHYSIOLOGY

**12:15 Questions and discussion**

## **LIGHT AND OTHER ORGANISMS**

Thursday, August 29 14.00-17.30 MR 19

Chair: Christian Philip Unmack (Eurofish)

Convenor: Béla Urbányi (MATE)

- 14:00 F. Javier Sánchez Vázquez**  
LIGHT AND WELFARE IN AQUACULTURE
- 14:30 Sebastian Marcus Strauch**  
ENHANCING SMOLT WELFARE, HEALTH, AND ROBUSTNESS THROUGH NEW INSIGHTS IN BIOLOGY AND ADVANCED LIGHT TECHNOLOGY
- 15:00 Jelena Stanivuk, Marcus Stüeken, István Vida, Uroš Ljubobratović**  
LIGHT SOLUTIONS FOR PIKEPERCH FARMING
- 15.:30 Edson Panama, Gwendoline Deceuninck, Stefan Teerlinck and Dominique Adriaens**  
EFFECT OF PHOTOPERIOD REGIME ON THE GROWTH PERFORMANCE, SURVIVAL, SWIM BLADDER INFLATION AND VERTEBRAL ANOMALIES OF PIKEPERCH (SANDER LUCIOPERCA) LARVAE IN RECIRCULATING AQUACULTURE SYSTEMS (RAS)
- 16:00 Koushik Roy, Lubos Zabransky, Eva Petraskova, Zdenka Machova, Ales Tomcala, Jan Mraz**  
DYNAMICS OF AMINO AND FATTY ACIDS IN POND PELAGIC PLANKTON CONSORTIA: LINKS TO TEMPERATURE, PHOTOPERIOD, NUTRIENTS AND CONSUMER GRAZING PRESSURE
- 16:30 Borys Skrzypiński**  
MEASUREMENTS OF OPTICAL RADIATION IN AQUATIC ENVIRONMENTS - CHALLENGES AND BENEFITS OF THE SPECTRORADIOMETRIC APPROACH
- 17:00 Christian P. Unmack**  
OVERALL DISCUSSION ON THE TOPIC OF LIGHT, CONCLUSIONS

THURSDAY

## ALTERNATIVE FEEDS AND NUTRITION

Thursday, August 29 09:00 - 17:30 AUD 11

Chair: Yahira Piedrahita, Imrana Amir

- 09:00** **Linda Chen**, Goncalo Santos  
EMERGING PROTEIN-RICH INGREDIENTS FOR AQUACULTURE
- 09:15** **Khalida Bainour**, Nabilah Zulkifli, Ka-Kei Sam, Francisco Hontoria, Juan C. Navarro, Alexander Chong Shu-Chien, Óscar Monroig  
INVESTIGATING THE LC-PUFA BIOSYNTHESIS OF FRESHWATER POLYCHAETES: THE CASE OF *Namalycastis rhodochorde*
- 09:30** **Ashwath Gaudhaman**, Sajjad Karimi, Kartik Baruah, Torbjörn Lundh, Margareth Øverland, Mohammad Taherzadeh, Byron Morales-Lange, Markus Langeland, Aleksandar Vidakovic  
DIGESTIBILITY OF FUNGAL PROTEIN FROM NON-FOOD BIO RESOURCES AS ALTERNATIVE PROTEIN IN DIETS FOR RAINBOW TROUT *Oncorhynchus mykiss*
- 09:45** **Evanthia Chatzoglou**, Christina Zantioti, Aristeidis Tsopelakos, Maria Athanasopoulou, Dionysios T. Pavlopoulos, Sofia D. Koulocheri, Helen Miliou  
EFFECTS OF DIETARY ISOFLAVONES ON VITELLOGENIN LEVELS OF GILTHEAD SEA BREAM *Sparus aurata*
- 10:00** **Leopold Hummel**, Erwin Berchtold, Adrian Bischoff-Lang, Harry W. Palm  
GROWTH PERFORMANCE, NUTRIENT COMPOSITION AND WELFARE OF AFRICAN CATFISH *Clarias gariepinus* (BURCHELL, 1822) UNDER PARTIAL REPLACEMENT OF FEED PROTEINS WITH PORK BONE MEAL
- 10:15** **Chiara Sangiacomo**, Francesca Susini, Laura Trombetta, Rosario Licitra, Patrizia Falabella, Gianmarco Del Vecchio, Maria Marchese, Baldassare Fronte  
ZEBRAFISH GROWTH PERFORMANCES AND GUT IMMUNITY: EFFECT OF MEAL FROM *Hermetia illucens* REARED ON DIFFERENT SUBSTRATES
- 10:30** **Inger B. Standal**, Rasa Slizyte, Revilija Mozuraityte, Maria A Madina, Sissel Albrektsen, Lars Thoresen, Silje Steinholm, Oscar Martinez-Alvarez, Karina Daae Nilssen, Hogne Abrahamsen  
ENHANCING THE POTENTIAL OF *Calanus finmarchicus* AS RAW MATERIAL FOR SUSTAINABLE AQUACULTURE FEED INGREDIENTS
- 11:15** **Stuart McMillan**, Laura Martinez-Rubio, Guido Riesen, Stephen Wong, Suneet Shivaprasad, Mónica B. Betancor  
A HEMP BY-PRODUCT AS A PROTEIN SOURCE FOR ATLANTIC SALMON *Salmo salar*

- 11:30 Kamil Mert Eryalçin**, Melek İşinibilir Okyar  
EFFECTS OF COMMERCIAL MICROALGAL FEEDS ON GROWTH PERFORMANCE, AMINO ACID AND FATTY ACID COMPOSITIONS OF MEALWORM *Tenebrio molitor*
- 11:45 Kanchan Phadwal**, Dominic Kurian, Muhammad Khalid F Salama, Vicky MacRae, Monica Betancor, Daniel Macqueen  
A NOVEL ADDITIVE SPERMIDINE ENHANCES BREAKDOWN OF VISCERAL FAT IN *Salmo salar*
- 12:00 Manon Eggink**, Per Bovbjerg Pedersen, Ivar Lund, Johanne Dalsgaard  
THE EFFECT OF DIETARY CHITIN ON NUTRIENT DIGESTIBILITY IN RAINBOW TROUT FEED
- 12:30 LUNCH**
- 14:00 Giovanni Marco Cusimano**, Jui-Che Chiang, Natalie Panasiak, Simeon Deguara, Killyan Monney, Ann-Dorit Sorensen, Charlotte Jacobsen, Turid Rustad, Ioannis Nengas, Simona Paolacci  
EVALUATION OF BLUEFIN TUNA *Thunnus thynnus* BY-PRODUCT MEAL AS FISHMEAL REPLACEMENT IN DIET FOR EUROPEAN SEABASS *Dicentrarchus labrax*
- 14:15 Yann Le Gal**, Ester Santigosa, Daniel Lemos, Rafael T.I. Coelho, Ian Carr  
OMEGA-3 EPA AND DHA FROM ALGAL OIL IMPROVE PACIFIC WHITE SHRIMP ZOOTECNICAL PERFORMANCE AND NUTRITIONAL QUALITY WITHOUT CHANGING SENSORY QUALITY
- 14:30 Ivan Tankovski**, Van Pham Thi Ha To, Sean Tibbetts, Noppawan Chimsung, Andre Dumas, Roberto Armenta, Talia Boates, Brianna Stratton  
A HOLISTIC APPROACH TO EVALUATE THE POTENTIAL USE OF BACTERIAL SINGLE-CELL PROTEIN AS AN ALTERNATIVE PROTEIN SOURCE FOR ATLANTIC SALMON *Salmo salar* L.
- 14:45 Imrana Amir**, Imran Muhammad, Amina Zuberi  
DIETARY ALGINATE MICROCAPSULE ASSESSMENT IN MODULATING THE GROWTH AND HEALTH PROFILE OF *Labeo rohita* (HAMILTON, 1822)
- 15:00 Noor Khan**, Sheeza Bano  
MITIGATING THE IMPACT OF WINTER TEMPERATURES ON STRIPED CATFISH *Pangasianodon hypophthalmus* USING FUNCTIONAL FEED ADDITIVES

- 15:15 Gergely Bernáth**, Borbála Nagy, Eniko Solymosi, Tamás Zsáky, Ákos Koós, Vilmos Pásztor, János Sztanó, János Ladányi, György Lódi, Péter Antal, Tamás Szabó, Zsolt Bajári, Béla Urbányi, Zoltán Bokor  
THE EFFECT OF ALGAE SUPPLEMENTED FEEDING REGIME ON THE SPERM QUALITY IN COMMON CARP *Cyprinus carpio* MALE BROODSTOCK
- 15:30 Stijn Bruwiere**, Katelijne Bekers  
EFFECTS OF BACTERIAL SINGLE CELL PROTEINS AND NUCLEOTIDES ON DISEASE TOLERANCE AGAINST EHP *Enterocytozoon hepatopenaei* INFECTION IN WHITE LEG SHRIMP JUVENILES *Penaeus vannamei*
- 15:45 Henriette Hanssen, Shruti Gupta, Bisa Saraswathy, Kiron Viswanath, Viviane Verlhac-Trichet, Mette Sørensen, Florence Willora, Nathan Farris, Ester Santigosa, Ian Carr, Kyla Zatti  
SCHIZOCHYTRIUM-DERIVED OIL AS A FISH OIL ALTERNATIVE IN ATLANTIC SALMON DIETS: IMPACT ON FISH GROWTH AND PRODUCT QUALITY
- 16:00 Wenkai Li**, Alessio Bonaldo, Luca Parma, Silva Natale, Rais Urbini, Elisa Benini  
SYNERGIC EFFECTS OF DIETARY NUCLEOTIDES AND VACCINE TO BOOST HEALTH OF EUROPEAN SEABASS *Dicentrarchus labrax* JUVENILES
- 16:15 Temitope Aloba**, Muhammad Umar, Bernhard Eckel  
EFFECT OF MINERAL-BOUND PREBIOTIC-PHYTOGENIC BLEND AGAINST ENDOTOXIN ON SURVIVABILITY AND IMMUNE RESPONSES OF *Litopenaeus vannamei*
- 16:30 Arkadios Dimitroglou**, Drosos Panagopoulos, Ioannis Varvarigos, Eric Leclercq, Mathieu Castex, Dimitris Barkas  
EFFECTS OF DIETARY YEAST HYDROLYSATE IN JUVENILE GILTHEAD SEABREAM *Sparus aurata* NUTRITIONAL PERFORMANCE
- 16:45 Bolade Adeyemo**, Hauwa Sadiq, Sarah Agunbiade-Olu, Babatunde Tanimomo, Augustina Ezekwesili  
DIETARY FENUGREEK *Trigonella foenum-graecum* SEED MEAL AMELIORATES THE GROWTH PERFORMANCE, HAEMATOLOGY AND ANTIOXIDANTS PERTURBATIONS IN JUVENILE AFRICAN CARP FISH *Labeo coubie* EXPOSED TO DELTAMETHRIN
- 17:00 Geoff Bell**, An Grobler, Ana Alfaro-Chávez, Paul Attfield, Philip Bell  
LOWER COST AND MORE SUSTAINABLE PRODUCTION OF HIGH VALUE SINGLE CELL PROTEIN THAT HAS BEEN OPTIMISED AS A FISHMEAL REPLACEMENT

## AQUAPONICS AND BIOFLOC SYSTEMS / SYMBIOTICS

Thursday, August 29 09:00 - 17:30 MR 181

Chairs: Joel Aubin, Yoram Avnimelech, Maria Célia Portella

- 09:00** **Yoram Avnimelech**  
CIRCULAR AQUACULTURE: INTRODUCTION
- 09:15** **Naga Murali Chalamalasetti**, Rajiv Banerjee, Akshay Kumar Singh  
BIOFLOC AQUACULTURE TECHNOLOGY – A GREEN SOLUTION IN BLUE FOOD PRODUCTION
- 09:30** **Wilson Wasielesky**, Maria de Fátima Gomes Silva, Hellyjunyor Brandão  
STRATEGIES TO REMOVE NITRATE IN *Penaeus vannamei* BIOFLOC SUPERINTENSIVE CULTURE SYSTEM: DENITRIFICATION PROCESS
- 09:45** **David S. Peñaranda**, Jessica Brol, Silvia Martínez-Llorens, Tatiana Cascales, Mikol Giroto, Xabier Lekube, Markel Sanz-Latorre, Joao Rito, Ruben Olivares-Perona, Wilson Wasielesky, Ana Tomás-Vidal  
OPTIMIZATION OF *Mugil cephalus* PRODUCTION UNDER BIOFLOC TECHNOLOGY: EFFECT OF PHOTOPERIOD AND PROBIOTIC ADDITION
- 10:00** **Marc Verdegem**, Johan Schrama, Kabir Kazi, Tran Huu Tinh, Apriana Vinasyiam, Fotini Kokou  
CARBOHYDRATE MANAGEMENT IN PONDS AND BIOFLOC SYSTEMS
- 10:15** **Sara Ferrando-Juan**, Javier Gómez-Aguilera, Sara Ferrando-Juan, Macarena M. Jurado, María J. Estrella-González, Miguel Rodilla, Silvia Falcó, Ana Tomás-Vidal, Miguel Jover, David S. Peñaranda, Francisco J. Moyano, Juan A. López-González  
DEVELOPMENT OF LONG AND SHORT-TERM STORAGE PROTOCOLS FOR BIOFLOC CONSERVATION
- 10:30** **Nhut Nguyen**, Huong M.X., Dang L.T., Duy N.V., Nguyen T.H., Tung N.T., K.A. Kabir  
CIRCULAR INTENSIVE SHRIMP AQUACULTURE: ZERO DISCHARGE – REDUCED INPUT AND ENVIRONMENTAL IMPACT
- 10:45** **BREAK**
- 11:15** **Amit Gross**, Ze Zhu, Orel Rachamim, Sagar Nayak, Yohannes Kpordzaxor, Uri Yogeve, Avner Ronen, Dina Zilberg  
PERFORMANCE OF NEAR ZERO WASTE BIOFLOC-BASED RAS AND THE RESULTING BIOFLOC UTILIZATION – OVERVIEW, PROS AND CONS

THURSDAY

- 11:30** **Guozhi Luo**, Haixin Zhang, Tong Sun, Hongxin Tan, Xinlan Lv, Wenchang Liu  
USING BLACK SOLDIER FLY LARVAE *Hermetia illucens* TO CONVERT THE BIOFLOCS PRODUCED WITH SHRIMP SOLID WASTE
- 11:45** **Jill Fisk**, Rayne C. Pollack, Andrew J. Ray  
EFFULENT NUTRIENT ANALYSIS OF AEROBIC AND ANAEROBIC SLUDGE MINERALIZATION FROM CLEAR-WATER AND HYBRID BRACKISH-WATER RAS
- 12:00** **QUESTIONS, ePOSTERS**
- 12:30** **LUNCH**
- 14:00** **Hendrik Monsees**, Oliver Koerner  
AQUAPONIC PRODUCTION SYSTEMS: EVOLUTION, CURRENT TRENDS AND FUTURE PERSPECTIVES
- 14:15** **Erwin Berchtold**, M. Guerrero Arnaiz, N. Schultze, H.W. Palm  
GLASSHOUSE AQUAPONICS OF MARIGOLD *Calendula officinalis* L. AS MEDICINAL PLANT WITH AFRICAN CATFISH *Clarias gariepinus* (BURCHELL, 1822) IN A HYDROPONIC EBB AND FLOOD SUBSYSTEM
- 14:30** **Cristina Pablos Carro**, Maria Dolores Molina, Ivone Vaz Moreira, Maria Inês Leão Silva, Olga Nunes, Célia Manaia, Javier Marugan  
STUDY OF BACTERIAL MICROBIOTA OVER THE COURSE OF TILAPIA GROWTH CYCLE IN AN AQUAPONICS SYSTEM
- 14:45** **Wenresti Gallardo**, Ahmed Al-Souti, Gilha Yoon  
AQUAPONIC PRODUCTION OF ASIAN SEABASS *Lates calcarifer* AND CHERRY TOMATO *Solanum lycopersicum* IN FLOATING VERSUS MEDIA-BASED SYSTEMS
- 15:00** **Ze Zhu**, Amit Gross, Uri Yogev  
COUPLING ANAEROBIC DIGESTION WITH AQUAPONICS TO PROMOTE THE CIRCULAR ECONOMY IN ARID ZONES
- 15:15** **Alicia Noël**, Vincent Gennotte, Andrea Forchino, Carole Rougeot, Pascal Fontaine, Daniele Brigolin  
ENVIRONMENTAL SUSTAINABILITY ASSESSMENT OF TWO CONTRASTED PILOT AQUAPONICS PRODUCTION (TILAPIA VS. PIKEPERCH) BY LIFE CYCLE ASSESSMENT
- 15:30** **DISCUSSION**
- 16:00** **Isabela Pinheiro**, Elisa Prates, Cynthia Couto, Jörn Halfer, Mirko Bögner  
GROWTH PERFORMANCE OF THREE HALOPHYTE SPECIES IN AN AEROPONIC SYSTEM WITH DIFFERENT SALINITIES

- 16:15** **Luis Poersch**, Pauline O'Donohoe, Brett Macey, Kati Michelak, Tomás Chalde, Thierry Chopin  
INTEGRATED MULTI-TROPHIC AQUACULTURE (IMTA) IN THE ATLANTIC
- 16:30** **Maria Celia Portella**, Sara Pinho, Karel Keesman  
FLOCPONICS: AN INTEGRATED BIOFLOC-BASED FOOD PRODUCTION SYSTEM FOR CIRCULAR AQUACULTURE
- 16:45** **DISCUSSION**

## RAS

Thursday, August 29 09:00 - 17:30 AUD 15

Chair: Carlos Octavio Letelier-Gordo

- 09:00** **Vaclav Kučera**, Tomáš Pěnka, Oleksandr Malinovskyi, Jitka Kolářová, Jiří Kříšťan, Tomáš Policar  
TECHNOLOGICAL APPROACHES TO GROW OUT: COMPARATIVE STUDY OF PIKEPERCH *Sander lucioperca* IN THREE DIFFERENT REARING SYSTEMS DURING VEGETATIONAL SEASON
- 09:15** **Matteo Egiddi**, Manuel Blonç, Pedro Martínez Noguera, Lluís Tort, Mikael Agerlin Petersen, Andrea Buettner, Jonathan Beauchamp  
QUANTIFICATION OF WATERBORNE GEOSMIN ABSORPTION BIOKINETICS IN RAINBOW TROUT *Oncorhynchus mykiss* TISSUES AND ASSESSMENT OF HORMONAL STRESS RESPONSE: ENHANCEMENTS TO THE ONE-COMPARTMENT MODEL
- 09:30** **Sagun Chhetri**, Jill C. Fisk, Andrew J. Ray  
THE EFFECT OF STOCKING DENSITY ON THE GROWTH PERFORMANCE AND STRESS RESPONSE OF OLIVE FLOUNDER *Paralichthys olivaceus* IN RAS
- 09:45** **Enrique Pino-Martinez**, Asbjørn Løland, Sigurd Handeland  
COMPARING GROWTH AND WELFARE OF ATLANTIC SALMON POST-SMOLTS IN A NOVEL LAND-BASED COMMERCIAL HYBRID FLOW-THROUGH SYSTEM (HFS) VERSUS IN OPEN SEA PENS
- 10:00** **Claudia Figueiredo-Silva**, Luc Visser, Andreia Filipa-Silva, Marta Monteiro, Luisa M.P. Valente, Johan Schrama, Roel Maas  
REPLACEMENT OF INORGANIC MINERALS WITH METAL-AMINO ACID COMPLEXES REDUCES MINERAL LOSSES IN RAINBOW TROUT
- 10:15** **Jaime Orellana**, Florian Ruppel, Bert Wecker  
A NOVEL *IN SITU* OXYGENATION SYSTEM FOR RAS AND TANK AQUACULTURE

- 10:30 Satya Prakash**, Roel M. Maas, Fotini Kokou, Philip Antony Jesu Prabhu, Oystein Saele, Johan W. Schrama  
SOLID WASTE MANAGEMENT IN SALMONIDS: INFLUENCE OF SPECIES, DIET COMPOSITION AND SALINITY OF REARING MEDIUM
- 10:45 BREAK**
- 11:15 Kurt Carlsen**, Henrik Mortensen  
THE EFFECTS OF TOTAL SUSPENDED SOLIDS AND PARTICLE CONTROL TECHNOLOGIES IN RECIRCULATING AQUACULTURE SYSTEMS (RAS)
- 11:30 Philip Haargaard Gyldenkærne**  
PROTEIN SKIMMERS IN RAS – INDUSTRY KNOWLEDGE GAINED AND FUTURE OUTLOOK
- 11:45 Mariana Rodrigues Da Silva**, Helene Loos, Andrea Buettner  
SENSORY CHARACTERISTICS OF FISH FROM RECIRCULATION AQUACULTURE SYSTEMS
- 12:00 Martina Balazinski**, V. Hahn, M. Basen, K-D. Weltmann, J.F. Kolb  
SAFETY EVALUATION OF COLD ATMOSPHERIC PLASMA (CAP) FOR DECONTAMINATION IN RECIRCULATING AQUACULTURE SYSTEMS
- 12:15 Lucia Aidos**  
EVALUATION OF THE HEALTH STATUS AND HISTOPATHOLOGY OF GILLS AND LIVER OF RAINBOW TROUT *Oncorhynchus mykiss* REARED IN A RECIRCULATING AQUACULTURE SYSTEM WITH A TiO<sub>2</sub>-BASED PHOTO-ELECTROCATALYSIS FILTERING TECHNIQUE
- 12:30 LUNCH**
- 14:00 Simen Fredriksen**, Paulo Fernandes, Sujan Khadka, Ludvik Fiksdal, Stian Ringbakken Stenhaug, Sara Calabrese, Leif Bø, Paula Rojas-Tirado, Endre Steigum, Kamilla Furseth, Mark Powell, Melanie Andrews, Irene Roalkvam, Håkon Dahle, Ole-Kristian Hess-Erga, Ingrid Bakke  
IMPACT OF PARTICLE LOAD ON WATER QUALITY AND MICROBIOTA IN SALMON RECIRCULATING AQUACULTURE SYSTEMS
- 14:15 Carlo Lazado**, Johan Bergeton Johansen, Pranil Nakhawa, Marc Ibañez, Tabassum Ali, Hanne Brenne, Lill-Heidi Johansen, Kevin T. Stiller, Pedro Borges, Naveed Yousaf, Nga Dang, Vasco Mota, Liv Sandlund, Bjørn-Steinar Sæther, Jelena Kolarevic  
EXPERIMENTAL BIOSECURITY BREACH IN A BRACKISH WATER RECIRCULATING AQUACULTURE SYSTEM REARING ATLANTIC SALMON SMOLTS



- 14:30** **Pedro Martinez Noguera**, Sylvester Holt, Raju Podduturi, Wender L.P. Bredie, Jonathan Beauchamp, Mikael A. Petersen  
USING PROTON-TRANSFER-REACTION TIME-OF-FLIGHT MASS SPECTROMETRY (PTR-ToF-MS) TO QUANTIFY MICROBIAL OFF-FLAVORS GEOSMIN AND 2-METHYLISOBORNEOL IN WATER: METHOD OPTIMIZATION, PERFORMANCE ASSESSMENT AND COMPARISON WITH ESTABLISHED GC-MS METHODS
- 14:45** **Matteo Egiddi**, Jonathan Beauchamp, Andrea Buettner  
EFFECT OF RED MICROALGA *Rhodomonas salina*-BASED EXPERIMENTAL FEED ON ATLANTIC SALMON *Salmo salar* FILLETS IN RECIRCULATING AQUACULTURE SYSTEM: CAN MARINE FLAVOURS BE ENHANCED WHILE MITIGATING OFF-FLAVOUR?
- 15:00** **Andrew Ray**, Gyanu Rana  
THE EFFECTS OF HORIZONTAL SUBSTRATE AND FILTRATION STRATEGY ON PACIFIC WHITE SHRIMP *Litopenaeus vannamei* PRODUCTION AND WATER QUALITY IN RAS
- 15:15** **Jonathan Roques**, Federico Micolucci, Naoki Fujii, Geoffrey S. Ziccardi, Ebuka Unegbu, Suguru Hosokawa, Amélie Marqué, Kristina Sundell, Tomonori Kindaichi  
*Candidatus* Scalindua, A BIOLOGICAL SOLUTION TO TREAT SALINE RECIRCULATING AQUACULTURE SYSTEM WASTEWATER
- 15:30** **Johan Schrama**, Fotini Kokou, Satya Prakash, Peter Horstmann, Yaqing Zhang, Roel Maas  
POO MATTERS
- 15:45** **Elisavet Syropoulou**, Detmer Sipkema, Ching Seow, Xiaohan Yang, Ep H. Eding, Johan W. Schrama, Fotini Kokou  
DENITRIFICATION IN RECIRCULATING AQUACULTURE SYSTEMS USING INTERNAL CARBON SOURCES IS DRIVEN BY DIFFERENT MICROBIOMES DEPENDING ON THE DIET
- 16:00** **Xiaoyu Huang**, Sanni Aalto, Johanne Dalsgaard, Alexandre Nguyen-tiêt, Per Bovbjerg Pedersen  
EFFECTS OF DIETARY PHOSPHORUS LEVELS ON WATER QUALITY PARAMETERS IN RECIRCULATING AQUACULTURE SYSTEMS
- 16:15** **Jani Pulkkinen**, Jouni Vielma  
GROWTH OF RAINBOW TROUT *Oncorhynchus mykiss* IN A ZERO-DISCHARGE RAS WITH PASSIVE WATER TREATMENT FIELD

- 16:30 Sarah Perché**, Carlos Espinal, Carlos Letelier-Gordo  
REDOX EFFECT ON NUTRIENT SOLUBILISATION IN MARINE AQUACULTURE SLUDGE
- 16:45 Mathis von Ahnen**, Karoline Koppen Vågnes, Ida van de Ven, Johanne Dalsgaard  
REMOVAL OF DISSOLVED PHOSPHORUS FROM AQUACULTURE EFFLUENTS USING CRUSHED CONCRETE
- 17:00 Julie Bergstedt**, Hui Ching Seow, Jaime Pons Mayans, Carlos Letelier-Gordo  
LIGNOCELLULOSIC FILTRATION TECHNOLOGY FOR VALORIZATION OF RAS FISH MANURE

## SELECTIVE BREEDING

Thursday, August 29 09:00 - 17:30 AUD 10

Chairs: Anna Sonneson, Marc Vandeputte

- 09:00 Simon Pouil**, Joël Aubin, Florence Phocas  
EXPECTED SELECTION RESPONSES IN BREEDING PLANS AIMING TO LIMIT ENVIRONMENTAL IMPACTS OF TROUT FARMING
- 09:15 Adriana Artilles**, John Buchanan, Marcos de Donato, Carlos Pulgarin, Peter Kube, Jeff Prochaska, Panagiotis Kokkinias, Alejandro Gutierrez, Klara Verbyla, Simon Hill  
HARNESSING EFFICIENT GENETIC IMPROVEMENT TO MAXIMIZE ECONOMIC RETURN
- 09:30 Florence Phocas**, Julien Roche, Pierre Patrice, Alexandre Desgranges, Pierrick Haffray  
ACCOUNTING FOR A MIXTURE OF DIPLOID AND TRIPLOID FISH IN GENETIC EVALUATION
- 09:45 Mark Looseley**, Marie Smedley, Carlos Diaz Gil  
USE OF GENETIC SIMULATIONS AND BIOECONOMIC MODELLING TO INFORM AQUACULTURE BREEDING DECISIONS
- 10:00 Rajesh Joshi**  
ENHANCING FARMERS PROFITABILITY USING SPECIALISED PRODUCTS: A STRATEGIC APPROACH TO LINE BREEDING IN NILE TILAPIA
- 10:15 Panya Sae-Lim**, Solomon Boison, Matthew Baranski, Helene Sabjornsen, Ashie Norris, Bjarne Gjerde  
SELECTION RESPONSE OF LICE RESISTANCE IN ATLANTIC SALMON RAISED IN SEA CAGES
- 10:30 Yuuko Xue**, Arjan Palstra, Hans Komen, Robbert Blonk, John Bastiaansen  
CATCH THE WAVE: A WORKFLOW TO IMPLEMENT IMAGES AND ARTIFICIAL INTELLIGENCE FOR SELECTIVE BREEDING

10:45 **BREAK**

11:15 **Gareth F. Difford**, S.A. Boison, B. Gjerde  
PHENOTYPIC AND GENOMIC VALIDATION OF CONTINUOUS GROWTH  
MEASURES OF ATLANTIC SALMON AT SEA WITH DIODE FRAMES AND PIT TAG  
RESPONDERS

11:30 **Aqeel Ahmad**, Anna Sonesson, Bjarne Hatlen, Grete Bæverfjord, Peer Berg,  
Ashie Norris, Gareth Difford  
DIGITAL PHENOTYPING AND QUANTITATIVE GENETICS OF FEED INTAKE AND  
EFFICIENCY IN ATLANTIC SALMON

11:45 **Sarah Nahon**, Gatien Debailleul, François Allal, Marc Vandeputte,  
Christophe Menniti, Alain Vergnet  
CARBON AND NITROGEN STABLE ISOTOPES: IS A GOOD PROXY OF  
INDIVIDUAL FEED EFFICIENCY IN SEABASS *Dicentrarchus labrax*?

12:00 **Songlin Chen**  
BIOTECHNOLOGICAL INNOVATION AND BREEDING PROGRESS OF MARINE  
FISH IN CHINA

12:15 **Hailiang Song**, Hongxia Hu  
COST-EFFECTIVE GENOMIC PREDICTION OF CRITICAL ECONOMIC TRAITS IN  
RUSSIAN STURGEONS *Acipenser gueldenstaedtii* THROUGH LOW-COVERAGE  
SEQUENCING

12:30 **LUNCH**

14:00 **Sara Faggion**, Elena Negrato, Daniela Bertotto, Valentina Bonfatti, Paolo Carnier  
NATURAL ANTIBODIES OF EUROPEAN SEA BASS: FEATURES, HERITABILITY  
AND GENETIC CORRELATIONS WITH NODAVIRUS-SPECIFIC ANTIBODY TITER,  
NODAVIRUS RESISTANCE AND BODY WEIGHT

14:15 **Florence Phocas**, Audrey Dehaullon, Clémence Frasin, Anastasia Bestin,  
Yann Guiguen, Edwige Quillet  
FOURTEEN CANDIDATE GENES GOVERNING SPONTANEOUS SEX-REVERSAL  
IN XX-RAINBOW TROUT

14:30 **Afees Ajasa**, Solomon Boison, Hans Magnus Gjøen, Marie Lillehammer  
UNRAVELLING THE GENETIC ARCHITECTURE OF AMOEBIC GILL DISEASE AND  
GILL LESIONS IN ATLANTIC SALMON

THURSDAY

- 14:45** **Anastasia Bestin**, Florian Enez, Jérôme Doerflinger, Alexandre Lebeau, Emmanuel Mazeiraud, Marc Vandeputte, Vincent Petit, Pierrick Haffray  
SELECTION FOR GROWTH OR CARCASS YIELD BEFORE THE ONSET OF THE SPAWNING SEASON WILL NOT IMPACT EGG PRODUCTION IN RAINBOW TROUT *Oncorhynchus mykiss*
- 15:00** **Romain Morvezzen**, Nolwenn Guillerm, Anastasia Bestin, Florence Lefèvre, Jérôme Bugeon, Michel Rakotondrafara, Mélanie Sahuquet  
GENETIC PARAMETER ESTIMATION OF GROWTH AND QUALITY TRAITS IN THE OSO FARMING POPULATION OF MADAGASCAR TIGER SHRIMP *Penaeus monodon*
- 15:15** **Solomon Antwi Boison**, Lene Sveen, Elisabeth Ytteborg, Helene Sabjornsen, Muhammed Aslam, Gerrit Timmerhaus, Panya Sae-Lim, Ashie Norris, Werner Brand, Mathew Baranski  
ABSENCE OF NORMAL SCALE LUSTER IN ATLANTIC SALMON: PHENOTYPIC SELECTION WILL TAKE TOO LONG TO ERADICATE
- 15:30** **Inés M. Sambade**, Andrés Blanco Hortas, Antti Kause, Diego Robledo, Clemence Frasin  
WHOLE GENOME SEQUENCE REFINES GENOMIC ARCHITECTURE OF RESISTANCE TO *Flavobacterium columnare* IN RAINBOW TROUT
- 15:45** **Ji Hun Lee**, Dileepa Sripal Liyanage, Welivitiye Kankanamge Malithi Omeka, Herath Mudiyansele Viraj Udayantha, Jeongeun Kim, Gaeun Kim, Yasara Kavindi Kodagoda, Hanchapola Appuhamillage Chanuka Ravindu Hanchapola, Mantigalla Arachchige Hasitha Dilshan, Duwage Chandima Gihan Rodrigo, Ganepola Arachchige Nipuni Piyumika Ganepola, Mun-kwan Kim, Taehyug Jeong, Sukkyoung Lee, Jehee Lee  
GENOMIC PREDICTION FOR GENETIC IMPROVEMENT OF LOW-FISHMEAL DIET ADAPTABILITY IN OLIVE FLOUNDER *Paralichthys olivaceus*
- 16:00** **Emilie Delpuech**, François Allal, Mathieu Besson, Aline Bajek, Joseph Brunier, Yoannah François, Thierry Morin, Pierrick Haffray, Florence Phocas, Marc Vandeputte  
ENHANCING GENOMIC SELECTION EFFICIENCY FOR VIRAL NERVOUS NECROSIS RESISTANCE IN EUROPEAN SEA BASS *Dicentrarchus labrax*
- 16:15** **Damien Crestel**, Alain Vergnet, Frédéric Clota, François Ruelle, Théo Navarro, Emilie Delpuech, David McKenzie, François Allal, Marc Vandeputte  
GENETIC BASIS OF THERMAL ADAPTATION IN WILD POPULATIONS OF EUROPEAN SEABASS *Dicentrarchus labrax*

- 16:30** **Martin Prchal**, Jérôme Bugeon, Marc Vandeputte, Girish Kumar, David Gela, Martin Kocour  
THE POTENTIAL OF SELECTIVE BREEDING TO ELIMINATE UNFAVOURABLE SCALY PATTERNS IN AMUR MIRROR CARP
- 16:45** **Mathieu Besson**, Marc Vandeputte, Maud Duranton, Germain Salou, Alain Vergnet, Chloé Barrier-Loiseau, Bastien Sadoul, Joseph Brunier, Aline Bajek, Pierrick Haffray, Vincent Rioux, D. Catheline, Guylène Collewet, François Allal  
BENEFITS AND DRAWBACKS OF GENETICALLY SELECTING MORE EFFICIENT SEA BASS : IMPLICATIONS FOR LIPID TRAITS
- 17:00** **Thomas Fraser**, Aslak Tjølsen, Tom Hansen, Angelico Madaro, Per Gunnar Fjellidal  
VGLL3 DOES NOT EXPLAIN FAMILY DISCORDANCE IN MALE MATURATION FOLLOWING DIFFERENT SMOLT PRODUCTION REGIMES IN ATLANTIC SALMON

## BEHAVIOUR

Thursday, August 29 14:00 - 17:30 AUD 12

Chairs: Artur Rombenso, Sonia Rey Planellas

- 14:00** **Sonia Rey Planellas**  
OVERVIEW OF BEHAVIOUR RESEARCH IN AQUACULTURE
- 14:15** **David Benhaim**  
DOES PERSONALITY MATTER FOR THE WELFARE OF FARMED FISH?
- 14:30** **Sabine Lobligeois**, Chedi Hebaieb, Floor Kuhn, Mona Huguenin, David Benhaim  
ARCTIC CHARR PERSONALITY TRAITS OVER DEVELOPMENT: INFLUENCE OF SHELTER PRESENCE AND RELATIONSHIP WITH WELFARE AND PERFORMANCE IN AQUACUTURE
- 14:45** **Francesca Conti**, Elia Gatto, Gonzalo de Alba, Jose Fernando Lopez Olmeda, Luisa Maria Vera, Cristiano Bertolucci, Francisco Javier Sanchez Vazquez  
DAILY RHYTHMS OF THERMAL PREFERENCE IN COMMERCIAL INTEREST SPECIES: OPTIMIZING REARING AND WELFARE IN DIURNAL AND NOCTURNAL FISH
- 15:00** **Håvard B. Kaland**, Kana Banno, Lars C. Gansel, Trond Amundsen, Stig A. Tuene, Grete H. Aas  
DOES FARMED ATLANTIC SALMON GET FRIGHTENED OF WILD FISH AROUND SEA CAGES?

- 15:15 Robert Laar**, Kwasi Adu Obirikorang, Henry Owusu Agyei, Jedida Osei Bediako, Harriya Mussah Yussif  
BEHAVIORAL RESPONSE OF NILE TILAPIA *Oreochromis niloticus* TO SIMULATED AVIAN PREDATION: EFFECTS OF HYPOXIA AND FEED AVAILABILITY
- 15:30 Sarah Berry**, Dana L.M. Campbell, Emily Flanagan, Isaak Kadel, Nick Wade, Greg Coman, Artur Rombenso  
BEHAVIOURAL METRICS OF INDIVIDUAL BROODSTOCK *Penaeus monodon*: BASELINE DEVELOPMENT AND RESPONSE TO HUSBANDRY INTERVENTIONS
- 15:45 Stefan Spreitzenbarth**, Andrew Jeffs  
SIZE MATTERS FOR *Octopus tetricus* PARALARVAE
- 16:00 Viviana Pasquini**, Serenella Cabiddu, Paolo Solari, Pierantonio Addis  
CHEMOSENSITIVITY OF INVASIVE BLUE CRAB *Callinectes sapidus* ON COMMERCIALLY IMPORTANT LAGOON BIVALVES
- 16:15 Artur Rombenso**, Sarah Berry, Emily Flanagan, Isaak Kadel, Nick Wade, Caroline Lee, Greg Coman, Dana L.M. Campbell  
FEEDING BEHAVIOUR OF INDIVIDUAL BROODSTOCK *Penaeus monodon*: OPTIMISING FEEDING AND NUTRITION FOR REPRODUCTION
- 16:30 Pradeep Lal**, Mette Espedal Brynildsrud, Antonie Oosterkamp, I-Hao Chen, Naouel Gharbi, Robert Lennox, Lotte Svengård Dahlmo, Simon Menanteau-Ledouble, Patrik Anthony Tang, Neda Gilannejad, Marius Nilsen, Helena Hauss  
UNDERSTANDING SENSORY INDUCED BEHAVIOR OF SPINY DOGFISH *Squalus acanthias* TO DEVELOP AN EFFECTIVE SHARK DETERRENT FOR AQUACULTURE INSTALLATIONS
- 16:45 Clara Sauphar**, S.A. Tuene, L.C. Gansel, G.K.F. Hansen Aas  
MONITORING EARLY-STAGE BEHAVIOR OF ATLANTIC SALMON *Salmo salar* USING A “PING360” SONAR: WHAT HAPPENS TO POST-SMOLTS DURING THEIR FIRST MONTH IN A COMMERCIAL SEA-CAGE?
- 17:00 Hung Quang Tran**, Vlastimil Stejskal, Philippe Aebischer, Roman Bumbálek, Vladimiro Cardenia, Christian Caimi, Laura Gasco  
HARNESSING COMPUTER VISION TO ASSESS DIET PALATABILITY: THE CASE OF RAINBOW TROUT *Oncorhynchus mykiss* FED DIETARY INSECT MEAL
- 17:15 Paul George Holhorea**, Fernando Naya-Català, Álvaro Belenguer, Ricardo Domingo-Bretón, Federico Moroni, Josep Calduch-Giner, Jaume Pérez-Sánchez  
BEHAVIORAL TESTING OF STRESS HABITUATION TO HIGH REARING STOCKING DENSITIES IN GILTHEAD SEA BREAM *Sparus aurata*

## BIOSECURITY, DISEASE PREVENTION

Thursday, August 29 14:00 - 17:30 MR 6

Chair: Kathaleen Hartman

- 14:00** **Folalu Awe**, Ayomide Bakare, Ayofe Hammed, Olusola Babalola, Oluwatosin Olarinmoye  
PHYTOCHEMICAL CONSTITUENTS OF *Azadirachta indica*, ITS IMPORTANCE AS ANTI-WATER FOULING AND ANTI-STRESSOR IN CULTURED *Clarias gariepinus* (BURCHELL, 1822)
- 14:15** **Júlia Clois Fuentes**, Jorge García-Márquez, Harry W. Palm, Salvador Arijó  
BACTERIAL SELECTION FOR ENHANCED BIOFILTRATION AND CONTROL OF FISH PATHOGENS IN RECIRCULATING AQUACULTURE SYSTEMS
- 14:30** **Louise von Gersdorff Jørgensen**, Helene Larsen, Hannah Jensen, Debes Christiansen, Petra Petersen, Maria Dahl, Moonika Marana, Cyril Henard, Yajiao Duan  
A NON-INVASIVE CHIP TOOL FOR DETECTION OF DISEASE-CAUSING ORGANISMS FROM WATER SAMPLES IN DANISH FISH AQUACULTURE
- 14:45** **Maxim Batalin**, Zoltan Gorocs, Dhruvin Naik, Jessica Keszezy  
AQUSENS: AI-POWERED PLATFORM FOR AUTOMATED QUANTIFICATION OF PATHOGENS IN WATER
- 15:00** **Israel Adebayo**  
PRACTICES OF BIOSECURITY MEASURES IN SELECTED FISH FARMS IN EKITI STATE, NIGERIA
- 15:15** **Sophie Armitage**, Sarah R. Alewijnse, Adam Kennerley, Mark Thrush, Jessica Witt, Mickael Teixeira Alves, Hannah Tidbury  
ASSESSMENT OF DISEASE CONTROL MEASURES IN AQUACULTURE: APPLICATION OF A FLEXIBLE MODELLING FRAMEWORK
- 15:30** **Kathleen Hartman**, Lori Gustafson, Marta Remmenga, Clara Duncan, Clayton Bliss, David Bushek, Ryan Carnegie, Cem Giray, Ted Meyers, Katherine Davis, Ralph Elston  
PATHOGEN FREEDOM IN OPEN ENVIRONMENTS: WHAT'S POSSIBLE?

THURSDAY

- 15:45 Frode Finne-Fridell**, Morten Lund, Erik Sterud  
INTERNAL FISH ESCAPES COMPROMISE BIOSECURITY IN RECIRCULATIONS SYSTEMS: LESSONS LEARNED FROM NORWAY
- 16:00 Kathleen Hartman**  
COMPREHENSIVE AQUACULTURE HEALTH PROGRAM STANDARDS (CAHPS)
- 16:15 Daniel DeLap**, Sarah Turner  
ADDRESSING THE NEED FOR HIGH-CONTAINMENT AQUACULTURE PATHOGEN FACILITIES THROUGH THE UNIVERSITY OF MAINE'S AQUATIC ANIMAL HEALTH LABORATORY
- 16:30 Dhiraj Krishna**, Maria Marjunardóttir Dahl, Petra Elisabeth Petersen, Debes Hammershaimb Christiansen  
DEVELOPMENT AND APPLICATION OF A FAST AND SENSITIVE AMPLICON-BASED METHOD FOR WHOLE GENOME SEQUENCING AND CHARACTERISATION OF ISAV-HPR0 FROM FIELD SAMPLES IN FARMED ATLANTIC SALMON
- 16:45 Han-You Lin**, Yun-Ru Chiang, Wan-Ching Kuo  
ENHANCING FISH VACCINE EFFICACY THROUGH IMMUNE MOLECULAR AUGMENTATION: INSIGHTS FROM GENE EXPRESSION ANALYSIS AND CHALLENGE TRIALS
- 17:00 Yun-Ru Chiang**, Ya-Yun Lu, Han-You Lin  
QUANTITATIVE ANALYSIS OF *Enterocytozoon epatopenaei* AMOUNT AND PATHOLOGIC CHANGE IN *Litopenaeus vannamei*
- 17:15 Thiviya Nair**, Lone Madsen, Kári Karbech Mouritsen, Jimmi Handberg Svensson, Camilla Lynggaard Larsen, Lene Laursen Christensen, Daniela Eliana Sganga, Gian Marco Dardengo, Pascal Barreau, Camille Saurel  
*Bonamia ostreae* PREVALENCE AND ITS EFFECTS ON EUROPEAN FLAT OYSTERS *Ostrea edulis* UNDER A SIMULATED ICE WINTER



## MACRO- AND MICRO-ALGAE

Thursday, August 29 14:00 - 17:30 MR 18

Chair: Rui Pereira

- 14:00** **Tiago Guerra**, Carlos Silva, Mariana Doria, Celina Parreira, Sara Badenes, Edgar Santos, Luis Costa  
ALGATEC – A PLATFORM FOR LARGE SCALE PRODUCTION OF MICROALGAE AND FOR R&D DIRECTED TO THE SCALE-UP OF PRODUCTS TO THE AQUACULTURE SECTOR
- 14:15** **Olivia Azhari**, Sinne van der Veer, Katell G. Hamon, Ingvild H.T. Harkes, Restiana W. Ariyati, Lestari Lakhsmi, Harxylen Kinanti Purnomo, Sri Rejeki, Lailatul Rokhmah, Sander W.K. van den Burg  
SOCIO-ECONOMIC OPPORTUNITIES AND CHALLENGES OF SEAWEED POLY CULTURE *Gracilaria* sp. IN BREBES REGENCY, INDONESIA
- 14:30** **Irene Saez Devis**, Susan Løvstad Holdt  
GRACILARIA AQUACULTURE IN DENMARK
- 14:45** **Aires M. Duarte**, Isabel Costa, Isabel Sousa Pinto  
OPTIMIZATION OF A SEAWEED CULTIVATION SYSTEM ASSOCIATED TO A SOLE AQUACULTURE
- 15:00** **Marie Lillehammer**, Åsgeir Almås, Evan Durland, Xinxin Wang, Philip James  
EFFECTS OF POPULATION AND PHOTOPERIOD ON ACCUMULATION OF POTENTIAL TOXIC ELEMENTS IN SUGAR KELP
- 15:15** **John Bolton**, Brett M. Macey, Marissa Brink-Hull  
*Ulva* (SEA LETTUCE), THE SEAWEED OF CHOICE FOR LAND-BASED INTEGRATED AQUACULTURE – BUT WHICH *Ulva* SPECIES?
- 15:30** **Sabine Weidlich**, Clara Priemer, Tania Aires, Aschwin Engelen, Andreas Kunzmann  
BIOREMEDIATION IN MARINE RAS: TESTING *Ulva*'s CAPACITY FOR LOWERING TOXIC OZONATION BY-PRODUCTS
- 15:45** **Clarissa Böhme**, Massimo Milia, Bela H. Buck, Laurie C. Hofmann  
LAB SCALE FEASIBILITY STUDY INVESTIGATING THE POTENTIAL USE OF THE SHELLFISH TOWER DESIGN FOR OPEN OCEAN CULTIVATION OF *Ulva compressa* IN DIFFERENT SALINITY ENVIRONMENTS
- 16:00** **Efthalia Arvaniti**, Maya Miltell, Kim Anderle  
ASSESSMENT OF EU REGULATORY LANDSCAPE FOR SEAWEED CULTIVATION AND MARKET

- 16:15** **Dorinde Kleinegris**, Pia Steinrücken, Hanna Böppe  
 INNOAQUA – SUSTAINABLE AQUACULTURE PRACTICES FOR INNOVATIVE SEAFOOD PRODUCTS: SALMON AND MICROALGAE LAND-BASED IMTA
- 16:30** **Rui Pereira**, Micaela Martins, Diana Bastos Almeida, Luís C.C. Coelho, João P. Mendes, Filipe D. Ferreira, Inês Marques, Luís Costa  
 SMART-IMTA, A SYSTEM FOR MONITORING AND ADAPTION IN REAL TIME FOR INTEGRATED MULTI-TROPHIC AQUACULTURE (IMTA), COMBINING PRODUCTION OF SOLE AND MACROALGAE
- 16:45** **Hubert Bonnefond**, Charlotte Gaviard, Eric Pruvost, Amélie Talec, Antoine Sciandra, Olivier Bernard  
 MICROALGAE STRAIN OPTIMIZATION BY CONTINUOUS SELECTION PRESSURE: A FOCUS ON OMEGA 3 AND PIGMENT OVERPRODUCTION
- 17:00** **Muki Shpigel**  
 THE USE OF *Ulva* IN INTEGRATED MULTI-TROPHIC AQUACULTURE (IMTA), AN ECOLOGICAL APPROACH FOR SUSTANABLE AQUACULTURE

## WORKSHOP: IMTA & LOW TROPHIC AQUACULTURE (NORCE)

Thursday, August 29 14:00 - 17:30 MR 173

Chair: Elisa Ravagnan

In an era where global collaboration is indispensable, the significance of Integrated Multi-Trophic Aquaculture (IMTA) and Low-Trophic Aquaculture (LTA) transcends national boundaries. Having the AQUA 2024 event as a platform, the workshop will promote an active dialogue to fostering cross-cultural exchange and knowledge sharing.

The event will consist in two parts:

With the aim of facilitating a global exchange of ideas on the sustainable development potential of LTA and IMTA, this collaborative session will convene representatives from diverse region, as well as scientific and socioeconomic backgrounds. The discussion will be focused on successful stories, potential solutions and global barriers to the development. Central themes will be:

Event Organisers:

**Elisa Ravagnan**, Chief Scientist, NORCE – Norwegian Research Centre AS

**Yas Farjad**, Directorate of Maritime Affairs, Fisheries and Aquaculture (DGAMPA) - The Secretary of State responsible for the Sea and Biodiversity

**Housam Hamza**, Aquaculture Officer: General Fisheries Commission for the Mediterranean

## PLASTICS & NANO PARTICLES

Thursday, August 29 14:00 - 17:30 MR 180

Chair: Guillaume Drillet

- 14:00** **Torben Krebs**, Sarah Graff, Julia Bauer, Marina Gebert, Verena Jung-Schroers, Dieter Steinhagen, Mikolaj Adamek  
CONTRACTING SALMONID HEART CELL CULTURES AS A TOOL FOR MEASURING THE EFFECTS OF ENVIRONMENTAL POLLUTANTS *IN VITRO*
- 14:15** **Nuria Ruiz**, Manuel Blonç, Lluís Tort  
MUCOSAL RESPONSE TO A COMBINED CHRONIC EXPOSURE TO NANOPLASTICS AND HIGH SALINITY IN *Sparus aurata*
- 14:30** **Ricardo S. Matias**, Sónia Gomes, Lúcia Guilhermino, Paul G. Holhorea, Josep Calduch-Giner, Jaume Pérez-Sánchez, Luisa M.P. Valente  
EFFECTS OF DIETARY INCLUSION OF VISCOSE-RAYON MICROFIBRES ON EUROPEAN SEABASS PERFORMANCE AND TRANSCRIPTOMIC TRAITS
- 14:45** **Phillip Dettleff**, Marcia Arriagada-Solimano, Karina Tobar, Vania Fuentes, Millaray Saez, Lucas Vivanco, Josefa Rebolledo  
MICROPLASTIC POLLUTION IN *Genypterus* GENUS: DIFFERENCES BETWEEN TISSUES, SPECIES, AND GEOGRAPHICAL LOCATION
- 15:00** **Sazedul Hoque**, Pronoy Mondal, Umma Habiba Rahman, Sharifa Akter Ema  
MICRO-PLASTICS IN COMMERCIAL IMPORTANT FINFISHES AND SHELLFISHES OF BANGLADESH
- 15:15** **Jeanne Naudet**, Emmanuelle Roque d'Orbcastel, Thierry Bouvier, Sylvain Godreuil, Sabrina Dyall, Simon Bouvy, Fabien Rieuvilleneuve, Claudia Restrepo-Ortiz, Yvan Bettarel, Jean-Christophe Auguet  
IDENTIFYING MACROPLASTIC PATHOBIOMES AND ANTIBIOTIC RESISTANCE IN A FISH FARM
- 15:30** **Sinem Zeytin**, Annabell Klinke, Gretchen Wagner, Gunnar Gerdts, Matthew J. Slater  
VARIATION OF INGESTED MICROPLASTIC SIZE AND QUANTITY IN DIFFERENT TISSUES OF JUVENILE EUROPEAN SEABASS *Dicentrarchus labrax*
- 15:45** **Alessio Gomiero**, Pauline O'Donohoe, Kati Michalek, Luis Poersch, Brett Marc Macey, Elisa Ravagnan  
MICROPLASTIC POLLUTION BUDGET ASSESSMENT OF DIFFERENT INTEGRATED MULTI-TROPIC AQUACULTURE (IMTA) SYSTEMS

THURSDAY

- 16:00** **Amy Lusher**, Ian Allan, France Collard, Vilde K. Snekkevik, Laura Rohler  
ROLE OF RECIRCULATING AQUACULTURE SYSTEMS (RAS) IN THE  
GENERATION AND REMOVAL OF MICROPLASTICS: THE CASE FOR  
NORWEGIAN AQUACULTURE
- 16:15** **Andy M. Booth**, Stefania Piarulli, Alessio Gomiero, Heidi Moe Føre,  
Hanne Hjelle Hatlebrekke, Astrid Lunde, Torstein Kristensen, Nina Bloecher  
ASSESSMENT OF MICROPLASTIC RELEASE FROM CLEANING OF  
AQUACULTURE NETS
- 16:30** **Guillaume Drillet**, Huajuan Mo, Su Ting Ng, Niranjala Perera,  
Cheethra RameshKumar, Raymond Ong, Umid Joshi  
ANALYSING MICROPLASTICS IN AQUACULTURE: QUALITY ASSURANCE FROM  
COMMERCIAL TESTING
- 16:45** **Guillaume Drillet**, Claudio Gianoli, Li Gang, Aristeia Zacharopoulou, Gerd Schneider,  
Peter Stehouwer, Vladimiro Bonamin, Lisa A. Drake  
PROTECTING AQUACUTLURE FROM PATHOGENS TRANSPORTED BY  
SHIPPING – AN UPDATE OF THE ONGOING BALLAST WATER CONVENTION  
REVIEW.

**AQUACULTURE IN FOOD SYSTEMS AND FOOD SECURITY**

Friday, August 30 09:00 - 11:00 AUD 12

Chair: Francisco Martinez-Cordero

- 09:00** **Md. Ismail Hossain**, Fatema Hoque Shikha, Mohammad Mahfujul Haque  
POST-HARVEST LOSS OF PRAWN IN DIFFERENT STAGES OF DISTRIBUTION  
CHAIN IN SOUTH-WEST REGION OF BANGLADESH POST-HARVEST LOSS OF  
PRAWN IN DIFFERENT STAGES OF DISTRIBUTION CHAIN IN SOUTH-WEST  
REGION OF BANGLADESH
- 09:30** **Kazi Rabeya Akther**, Benedetto Sicuro, Valentina Tafuro  
MAPPING THE GROWTH: AQUACULTURE PRODUCTIONS OF SALMONIDS IN  
THE EUROPEAN UNION OVER 70 YEARS
- 09:45** **Joao G. Ferreira**, Leonard Bernard-Jannin, Joao Lencart e Silva, Diogo Gomes,  
Changbo Zhu, Ginger Ko, Marine Thomas, Martinho Marta-Almeida, Wenping Gong,  
Lulu Zhou  
CARRYING CAPACITY ASSESSMENT FOR SUSTAINABLE OYSTER  
AQUACULTURE IN DEEP BAY, HONG KONG
- 10:00** **Mohamad Alsaleh**  
AQUACULTURE VERSUS AGRICULTURE ROLES AND CONTRIBUTIONS IN  
FOOD SECURITY
- 10:15** **Francisco Javier Martinez-Cordero**, Guadalupe Salcido Amavizca  
DIETARY PROFILES IN RURAL HOUSEHOLDS WITH SMALL-SCALE TILAPIA  
PROJECTS: PRELIMINAR RESULTS FROM A CASE STUDY IN GUERRERO AND  
OAXACA, MEXICO
- 10:30** **Alamrew Zeleke**, Abebe Getahun, James Keyombe  
PRODUCTION STATUS, CONSTRAINTS, AND OPPORTUNITIES IN EAST  
AFRICAN FRESHWATER CAPTURE AND CULTURE FISHERIES: A MANAGEMENT  
IMPLICATION

## CONTRIBUTED SESSION - ECONOMICS, MARKETING, EDUCATION

Friday, August 30 09:00 - 11:00 MR 180

Chair: David Cline

- 09:00 David Cline**  
CREATING BETTER EDUCATIONAL VIDEOS FOR EXTENSION AND OUTREACH
- 09:15 Juliana Rosa Carrijo Mauad**, Marcelo Silva, João Augusto Borges, Laiane Palacio  
HOW DO ADOLESCENTS FROM RURAL SCHOOLS PERCEIVE AQUAPONICS SYSTEM? CASE STUDY IN THE LARGEST SETTLEMENT IN BRAZIL
- 09:30 Fayyaz Rasool**, Mati Ullah, Shakeela Parveen, Danish Riaz  
MOLECULAR CHARACTERIZATION AND ANTIMICROBIAL RESISTANCE AMONG DIARRHEAGENIC AND NON- DIARRHEAGENIC *Escherichia coli* FROM HEALTHY AND DISEASED FRESHWATER FARMED FISH
- 09:45 Olatayo Michael Ogunbanwo**, Oluwole Ogunyemi, Funmilayo Aladetohun  
EFFECTS OF LOW-LEVEL MIXTURES OF PHARMACEUTICALS ON TWO NON-TARGET MACRO-INVERTEBRATE ANIMALS
- 10:00 Venticia Hukom**, Rasmus Nielsen, Max Nielsen  
EFFECTS OF CO-MANAGEMENT ON TECHNICAL EFFICIENCY AND ENVIRONMENTAL STRESSORS: AN APPLICATION TO SMALL-SCALE SHRIMP POLYCULTURE IN INDONESIA
- 10:15 Vinicius Ribeiro**  
ECONOMIC UPGRADING: AN ANALYSIS OF TILAPIA FARMING IN BRAZILIAN MIDWEST AND NORTHEAST BETWEEN 2018 AND 2024
- 10:30 Per Arild Åland**  
DIGITAL SOLUTIONS IN OCEAN AQUACULTURE – POSSIBILITIES AND CHALLENGES

FRIDAY

## HEALTH - IMMUNOLOGY AND PATHOLOGY

Friday, August 30 09:00 - 11:00 MR 19

Chair: Benjamin Costas

- 09:00** **Diogo Peixoto**, Inês Carvalho, André Cunha, Lourenço Ramos-Pinto, Paulo Santos, Marina Machado, Rita Azeredo, Benjamin Costas  
OUTCOMES OF A SHORT-TERM DIETARY TRYPTOPHAN INTERVENTION UPON VACCINATION IN A TELEOST FISH MODEL
- 09:15** **Mariana Vaz**, Inês Carvalho, Gonçalo Espregueira Themudo, Diego Robledo, Carolina Tafalla, Patricia Díaz-Rosales, Benjamín Costas, Marina Machado  
METHIONINE NUTRACEUTICAL ROLE AGAINST VIRAL HEMORRHAGIC SEPTICEMIA VIRUS (VHSV) INFECTION IN RAINBOW TROUT *Oncorhynchus mykiss*
- 09:30** **Anush Arakelyan**, Jovana Majstorovic, Ivona Mladineo  
EVALUATION OF IMMUNOMODULATORY PROPERTIES OF ANISAXINA-2S, AN ANTIMICROBIAL PEPTIDE FOR USE IN AQUACULTURE
- 09:45** **Bruno Reis**, Francisco Cunha, Francisca Brito, Benjamín Costas  
RAINBOW TROUT *Oncorhynchus mykiss* ACUTE STRESS RESPONSES INDUCED BY TRANSPORT: A HOLISTIC APPROACH
- 10:00** **Claudia Marín-Parra**, Jhon Alberto Duque-Serna, Nora Albaladejo-Riad, Cristóbal Espinosa-Ruiz, María Ángeles Esteban Abad  
NOVEL INSIGHTS INTO PISCIDIN 1, A HOST DEFENCE PEPTIDE OF GILTHEAD SEABREAM *Sparus aurata*
- 10:15** **Eva Vallejos-Vidal**, María J. Santillán-Araneda, Fernanda A. Espinoza-Vega, Catalina Jimenez-Hernández, Mónica Imarai, Kevin Maisey, Felipe E. Reyes-López  
EFFECT OF TEMPERATURE ON LYMPHOCYTE IMMUNE POPULATIONS IN ASYMPTOMATIC ATLANTIC SALMON *Salmo salar* NATURALLY INFECTED WITH *Piscine orthoreovirus* (PRV) IN A MARINE FARM
- 10:30** **Kuakarun Krusong**, Thapanan Jatuyosporn, Pasunee Laohawutthichai, Fernanda Cornejo-Granados, Luigui Gallardo-Becerra, Filiberto Sánchez Lopez, Anchalee Tassanakajon, Adrián Ochoa-Leyva  
EFFECTS OF *PmSTAT* AND *PmSOCS2* KNOCKDOWN ON WHITE SPOT SYNDROME VIRUS INFECTION IN *Penaeus monodon*

FRIDAY

## IMTA IN MEMORY OF THIERRY CHOPIN

Friday, August 30 09:00 - 11:00 AUD 15

Chair: Elisa Ravagnan

- 09:00 Patrick H. Rice**  
CONTINUED DEVELOPMENT OF INNOVATIVE HATCHERY TECHNOLOGY FOR BLACK GROUER *Mycteroperca bonaci* INCLUDING INTEGRATED MULTI-TOPHIC AQUACULTURE (IMTA) WITH OYSTERS *Crassostrea virginica* AND SEAWEED *Asparagopsis taxiformis*
- 09:15 Marissa Brink-Hull**, John Bolton, Aimee Cloete, Mark Cyrus, Bas de Vos, Brett Macey  
SEA URCHINS IN IMTA: TWO CASE STUDIES FROM ASTRAL IMTA LAB SOUTH AFRICA
- 09:30 Brett Macey**, Marissa Brink-Hull, Daniel Checa, Inmaculada Sánchez, John Bolton  
BENEFITS OF CULTIVATING SEAWEED IN LAND-BASED PARTIALLY RECIRCULATED IMTA SYSTEMS
- 09:45 Md. Mehedi Alam**, Mohammad Mahfujul Haque  
POTENTIAL OF INTEGRATED MULTITROPHIC AQUACULTURE TO MAKE FRESHWATER PRAWN FARMING SUSTAINABLE IN BANGLADESH
- 10:00 Felipe Vieira**, Cláudia Machado, Isabela Pinheiro, Esmeralda Legarda, Moisés Poli, Ramon Siqueira, Mateus Martins, Scheila Dutra, Walter Seiffert  
INTEGRATED MULTITROPHIC AQUACULTURE IN BIOFLOCS: A 13-YEAR STORY AT THE MARINE SHRIMP LABORATORY
- 10:15 Luis Poersch**, Ivanilson Santos, Magna Santos, Yosu Candela, Marcelo Okamoto, Julio Zemor, Luciana Macedo, Alessandro Cardozo, Wilson Wasielesky Jr.  
PACIFIC WHITE SHRIMP, NILE TILAPIA, AND MACROALGAE INTEGRATED IN A BIOFLOC SYSTEM UNDER DIFFERENT FISH-FEEDING RATES
- 10:30 Marica Anderson**, Ingela Dahllöf, Kristoffer Stedt, Sophie Steinhagen, Jonathan A.C. Roques, Henrik Pavia, Kristina Sundell  
IMPROVED NUTRIENT UTILIZATION IN RAS BY CO FARMING SEA LETTUCE *Ulva fenestrata* WITH RAINBOW TROUT *Oncorhynchus mykiss* AND WOLFFISH *Anarhichas lupus*

FRIDAY



## RAS - CONTINUED

Friday, August 30 09:00 - 11:00 MR173

Chairs: Åsa Maria O. Espmark, Julie Hansen Bergstedt

- 09:00** **Tomáš Penka**, Oleksandr Malinovskyi, Aiman Imentai, Jitka Kolárová, Tomáš Polícar  
EFFECT OF BICULTURAL RAERING OF PIKEPERCH *Sander lucioperca* AND  
RUSSIAN STURGEON *Acipenser gueldenstaedtii* ON GROWTH AND FISH  
CONDITION PARAMETERS IN RAS
- 09:15** **Anders Haubjerg**  
RAS FEEDS AND CRITICAL PARAMETERS FOR EXTRUSION
- 09:30** **Roel Maas**, André Soares, Ep Eding  
NITRIFICATION ALKALNITY EQUIVELANT – AN ALKALINITY BALANCE IN A  
CLOSED RAS
- 09:45** **Stuart LaPlace**  
EVALUATING THE IMPROVEMENT OF AQUACULTURE WATER QUALITY  
AND FEED CONVERSION RATIO: A SYMBIOTIC RELATIONSHIP BETWEEN  
*Oreochromis aureus* AND *Phycophyta*
- 10:00** **Marie Montjouridès**, Susanna Röblitz, Håkon Dahle  
MATHEMATICAL MODELLING FOR OPTIMIZING ALKALINITY CONTROL IN  
RECIRCULATING AQUACULTURE SYSTEMS (RAS)
- 10:15** **Sebastian Strauch**, Odd-Ivar Lekang, Live Aareskjold Salte  
EVALUATION OF GLYCEROL AS AN ALTERNATIVE CARBON SOURCE IN A  
LAND-BASED SALMON RECIRCULATING AQUACULTURE SYSTEM IN NORWAY
- 10:30** **Sebastian Strauch**, Odd-Ivar Lekang, Live Aareskjold Salte  
ASSESSMENT AND EVALUATION OF CALCIUM HYDROXIDE AS AN  
ALTERNATIVE TO IRON CHLORIDE FOR PHOSPHATE REMOVAL IN A  
COMMERCIAL LAND-BASED SALMON RECIRCULATING AQUACULTURE  
SYSTEM

FRIDAY

## CIRCULAR APPROACH

Friday, August 30 09:00 - 17:00 AUD 11

Chair: Robert Parker

- 09:00 Camille Lutet-Toti**, Marie Da Silva Feliciano, Adeline Bidault, Jérôme Thomas, Giuseppe Falini, Stefano Goffredo, Frédéric Marin  
SHELLFISH WASTE AS A NEW ASSET FOR A SUSTAINABLE AQUACULTURE: THE MOLLUSCAN SHELL AND ITS ANTIBACTERIAL AGENTS
- 09:15 Inma Sanchez**, Daniel Checa, Brett M. Macey, John J. Bolton, Marissa Brink-Hull, Pauline O'Donohoe, Luis Poersh, Alessandro Cardozo  
CIRCULARITY ASSESSMENT IN ATLANTIC IMTA – OPEN WATER, LANDBASED PUMPASHORE AND BIOFLOC SYSTEMS – THE ASTRAL PROJECT
- 09:30 Andreas Hagemann**, Arne M. Malzahn, Veronika Sele, Ikram Belghit, Jojo Tibon, Hanne Nilsen, Hilde Sindre, Nina S. Liland, Sylvie L. Benestad, Linh Tran, Kristin S. Pettersen, Anne-Kathrine Lundebye, Pedro Araujo, Ali Asim, Arne Holst-Jensen  
TRANSFER AND BIOACCUMULATION OF CHEMICAL AND BIOLOGICAL CONTAMINANTS, AND RETENTION OF PRIONS AFTER SHORT-TERM EXPERIMENTAL FEEDING WITH BRAIN HOMOGENATE FROM SCRAPIE INFECTED SHEEP, IN *Hediste diversicolor* AND *Hermetia illucens* WHEN REARED ON SALMON AQUACULTURE SLUDGE
- 09:45 Felix Kuebutornye**, Koushik Roy, Jan Mraz  
CIRCULAR FEED INGREDIENTS AND ENHANCEMENT OF NUTRIENT DIGESTIBILITY IN *Cyprinus carpio* POND AQUACULTURE
- 10:00 Guilherme Lenz**, Arcangelo Loss, Cledimar Lourenzi, Lucas Mattos, Diogo Lopes, Gustavo Brunetto  
COMMON CHICORY PRODUCTION IN SOIL FERTILIZED WITH AQUAPONIC SLUDGE: CULTIVAR PERFORMANCE AND NUTRIENT ACCUMULATION
- 10:15 Nathaniel Farris**, Florence Perera Willora, Njål Sortland, Md Abu Bakar Siddik, Roald Jakobsen, Saraswathy Bisa, Gabriel Ossenkamp, Michel van Spankeren, Ian Carr, Ester Santigosa, Jorge Dias, Viviane Verlhac-Trichet, Mette Sørensen  
EVALUATION OF INSECT MEAL AND MARINE-MICROALGAE DERIVED INGREDIENTS IN ATLANTIC SALMON *Salmo salar* PARR UNDERGOING SMOLTIFICATION AND SEAWATER TRANSFER
- 10:30 Hanne Digre**, Marie Stoknes, Martin Søreide, Ståle Sæther  
CIRCULAR SOLUTIONS FOR PLASTIC EQUIPMENT FROM THE AQUACULTURE INDUSTRY

FRIDAY

**10:45 Remigiusz Panicz**, Przemyslaw Smietana, Piotr Eljasik, Slawomir Lisiecki, Malgorzata Sobczak, Arkadiusz Nedzarek  
A FULL-SCALE SEQUESTRATION OF SEDINEMTS FROM COMMON CARP *Cyprinus carpio* L. FARM IMPROVES BIODIVERSITY OF THE AQUATIC ENVIRONMENT AND SETS FARMERS ON THE CIRCULARITY PATH

**11:00 BREAK**

**11:30 Plenary 2 and Awards**

**12::30 LUNCH**

**14:00 Esben Christiansen**  
INTEGRATING A VERTICAL SEAWEED CULTIVATION SYSTEM INTO THE RAS INDUSTRY

**14:15 Rodrigo Mendes**, Rita Teodósio, Jorge Dias, Ana Teresa Gonçalves, Lais Speranza, Sara Magalhães, Tiago Aires, Francisco J. Sánchez Vázquez, Luís E.C. Conceição, Sofia Engrola  
IMPACT OF ORGANIC-BASED AND CIRCULAR ECONOMY-DRIVEN FEEDS ON GLOBAL WARMING POTENTIAL, PERFORMANCE AND ROBUSTNESS OF JUVENILE GILTHEAD SEABREAM *Sparus aurata*

**14:30 Elisa Benini**, E. Musmeci, S. Busti, E. Biagi, S. Ciulli, E. Volpe, F. Errani, A. Oterhals, O.H. Romarheim, T. Aspevik, F. Dondi, P.P. Gatta, A. Bonaldo, L. Parma  
BIOACTIVE PEPTIDES FROM SALMON AQUACULTURE PROCESSING BY-PRODUCT AFFECT GROWTH PERFORMANCE, PLASMA BIOCHEMISTRY AND GUT HEALTH OF GILTHEAD SEABREAM *Sparus aurata*

**14:45 Ivan Kristensen**  
ENHANCING SUSTAINABILITY AND EFFICIENCY IN AQUACULTURE THROUGH KROMA A/S SILAGEMASTER SYSTEM

**15:00 Synne Spjelkavik**, Mirza D.A. Baig, Andreas Hagemann, Søren K. Jensen, Rasa Slizyte  
SIDE STREAMS FROM THE GREEN SECTOR AS FEED INGREDIENT FOR GAMMARIDS (AMPHIPODA: GAMMARIDEA)

FRIDAY

## FEED ADDITIVES

Friday, August 30 09:00 - 17:00 AUD 10

Chairs: Alberto Falcó, Mikolaj Adamek

- 09:00 Daichi Kuwahara**, Yukiko Osawa  
REVIEW OF APPLICATIONS AND PROPERTIES OF THE NATURAL NUTRIENTS FROM MICROORGANISM *Paracoccus carotinifaciens* IN AQUACULTURE
- 09:15 Mark Rawling**, Marion Schiavone, Eric Leclercq, Shan Edirisinghe, Mahanama De Zoysa  
STRAIN-DEPENDANT ANTIVIRAL ACTIVITIES OF HEAT-INACTIVATED LACTIC ACID BACTERIA WHEN FED TO ZEBRAFISH *Danio rerio* – A NOVEL DIETARY STRATEGY
- 09:30 Federica Camin**, Nicole Verdile, Trond M. Kortner, Ramon Fontanillas, Marcelo Chacon, Amir Bitam, David Peggs, Amos Tandler, Tiziana A.L. Brevini, Fulvio Gandolfi  
USE OF RAINBOW TROUT *Oncorhynchus mykiss* INTESTINAL IN VITRO PLATFORMS TO EVALUATE THE NUTRITIONAL AND HEALTH VALUE OF DIFFERENT DIETS
- 09:45 Afonso Lente-Silva**, Margarida Coelho, Pedro Duarte, Rodrigo O.A. Ozório, Leonardo J. Magnoni, Ivan Viegas, Mariana Palma  
EFFECTS OF TRIBUTYRIN INCLUSION IN HIGH PLANT-BASED DIETS FED TO RAINBOW TROUT *Oncorhynchus mykiss* EVALUATED BY 1H-NMR METABOLOMICS
- 10:00 Marialena Kokkali**, Jens-Erik Dessen, Lene Sveen, Arnaud Lefrancois, Gerrit Timmerhaus, Elin Kvamme, Philip Lyons, Katerina Kousoulaki  
THE IMPACT OF MINERAL SUPPLEMENTATION LEVEL AND SOURCE ON ATLANTIC SALMON PERFORMANCE, WELFARE, AND QUALITY IN COMMERCIAL PRODUCTION ALONG THE NORWEGIAN COASTLINE
- 10:15 Viviana Sarmiento**, Kristin Hamre, Odd Elvebø, Aleksander Arnø, Pedro Araujo  
NATURAL ANTIOXIDANTS FROM INGREDIENT TO FISH
- 10:30 Nick Wade**, Chris Stratford, Lambertus Koster, Emily Courtot, Anca Rusu, Nicholas Bourne, Barney Hines, Richard Smullen, Gustavo Lehnebach, David Francis, Matt Jago, Rebecca Cramp, Barbara Nuic, Andrew Barnes, Chloe English, Craig Franklin, Xugan Wu, Cedric Simon, Artur Rombenso, Omar Mendoza Porras  
MEASURING THE IMPACTS OF HIGH TEMPERATURE STRESS ON ATLANTIC SALMON AND NUTRITIONAL INTERVENTION STRATEGIES

- 10:45 Coraline Petit**, Camille Gautier, Claire Le Bihan, Fanny Giudicelli  
POSITIVE EFFECT OF MARINE PROBIOTIC SUPPLEMENTATION ON WHITE SHRIMP LARVAE SURVIVAL RATE AND ITS POSITIVE IMPACT ON MICROBIOTA AFTER AN AHPND STRESS
- 11:00 BREAK**
- 11:30 Plenary 2 & Awards**
- 12:30 LUNCH**
- 14:00 Hannele Kettunen**, Juhani Vuorenmaa, Orapint Jintasataporn  
YEAST HYDROLYSATE IMPROVED THE PERFORMANCE, SURVIVAL RATE AND IMMUNITY OF WHITELEG SHRIMP *Litopenaeus vannamei*
- 14:15 Camille Gautier**, Claire Le Bihan, Coraline Petit, Fanny Giudicelli  
POSITIVE EFFECT OF MARINE SYMBIOTICS SUPPLEMENTATION ON FISH INTESTINAL MICROBIOTA DYSBIOSIS INDUCED BY ANTIBIOTIC TREATMENT
- 14:30 Anneliese Müller**, Roy Rosen  
OCCURRENCE OF MYCOTOXINS IN AQUACULTURE FEED AND HOW THEY AFFECT AQUACULTURE SPECIES
- 14:45 Baldassare Fronte**, Chiara Sangiacomo, Maria Marchese, Odd Elvebø, Laura Trombetta, Rosario Licitra  
NUCLEOTIDES IN AQUACULTURE: INSIGHTS FROM EMBRYONIC DEVELOPMENT, LARVAL GROWTH, AND MACROPHAGE ACTIVATION STATUS IN ZEBRAFISH
- 15:00 Jonas Mueller**, Joachim Molkentin, Irene Lautenschläger, Marvin Suhr, Stéphanie C. Hornburg, Jannick Ehlers, Thekla Schultheiß, Marie Wilkes, Henrike Seibel, Carsten Schulz  
A DHA-RICH MICROALGAE DIET AFFECTS GROWTH AND THE RESPONSE TO OXIDATIVE STRESS OF ATLANTIC SALMON RAISED IN RAS
- 15:15 Maria Garcia Suarez**, Raquel Pereira, Jules Petit, Roel M. Maas, Fotini Kokou, Pi Nyvall Collén, Johan W. Schrama, Geert F. Wiegertjes  
GREEN MACROALGAE *ULVA* sp. EXTRACTS MODULATE RAINBOW TROUT IMMUNE RESPONSE AND GROWTH PERFORMANCE *IN VIVO*
- 15:30 Carl John Saromines**, Enric Gisbert, Dolors Furones, Alex Makol, Silvia Torrecillas  
USE OF DIETARY PHYTOGENIC FEED ADDITIVES AN EFFECTIVE APPROACH TO REDUCE *Vibrio anguillarum* INFECTION INCIDENCE IN EUROPEAN SEA BASS *Dicentrarchus labrax* JUVENILES

- 15:45 Sofia Morais**, Thiago Raggi, Almudena Martinez, Jose J. Pastor, Ewa Luszczyk-Trojnar, Ewa Drag-Kozak, Joanna Zubel-Lojek, Magdalena Socha, Jaroslaw Chyb  
OLIVE BIOACTIVES DERIVED FROM CIRCULAR BIOECONOMY AS A FEED ADDITIVE FOR COMMON CARP *Cyprinus carpio* L. ENHANCING GROWTH, STRESS RESISTANCE AND IMMUNITY
- 16:00 Sheu Odu-Onikosi**, Noah Wood, Folasade Amulejoye, Ben Eynon, Glenn Harper, Matthew Emery, Holger Kühlwein, Daniel Merrifield  
EVALUATION OF THE MUCOSAL HEALTH OF ATLANTIC SALMON *Salmo salar* FED DIETS SUPPLEMENTED WITH BREWER'S YEAST ADDITIVES
- 16:15 Taofik Adeiza Momoh**, Folasade Damilola Amulejoye, Benjamin Eynon, Holger Kühlwein, Victor Kuri, Daniel L. Merrifield  
PURIFIED BREWERS' YEAST-DERIVED FUNCTIONAL FEED ADDITIVES ALLEVIATE SOYBEAN MEAL-INDUCED ENTERITIS IN ATLANTIC SALMON PARR
- 16:30 Jordan Poley**, Moonika Marana, Marije Booman, Julianna Stangroom, Edith Wilderjans, Wolfgang Koppe, Fabio Zanuzzo  
*Aspergillus niger*  $\beta$ -GLUCAN ENHANCES ATLANTIC SALMON RESISTANCE TO ULCERATIVE DISEASE COMPARED TO COMMERCIAL YEAST PRODUCT
- 16:45 Roy Rosen**, Anneliese Mueller  
SWIMMING INTO SAFETY: MYCOTOXINS IN AQUACULTURE – RESEARCH INSIGHTS AND MITIGATION STRATEGIES IN LIGHT OF EUROPEAN REGULATIONS

## GENOMICS

Friday, August 30 09:00 - 17:00 MR 18

Chairs: Alejandro Gutierrez, Tim Bean

- 09:00 Anna Troedsson-Wargelius**, Erik Kjærner-Semb, Marlen Rice, Mari Raudstein, Hilal Guralp, Fernanda Almeida, Anne Hege Straume, Rüdiger Schulz, Eva Andersson, Per Gunnar Fjellidal, Diego Crespo, Lene Kleppe, Rolf B. Edvardsen  
A PERSPECTIVE USES OF GENOME EDITING IN AQUACULTURE
- 09:15 Erik Kjærner-Semb**, Thomas Fraser, Sebastian Braathen, Rüdiger Schulz, Anna Wargelius  
LACK OF VGLL3A DELAYS ONSET OF MALE MATURATION IN ATLANTIC SALMON
- 09:30 Jiaqi Wang**, Yehwa Jin, Paul Digard, Tim Bean, Diego Robledo  
EFFICIENT GENOME EDITING IN A MOSSAMBIQUE TILAPIA CELL LINE USING RIBONUCLEOPROTEIN COMPLEXES

- 09:45** **John Buchanan**, Ashutosh Pudasaini, Tuong Tran  
GENOME EDITING IN PACIFIC WHITE SHRIMP *L. vannamei*
- 10:00** **Debbie Plouffe**, John Buchanan  
STERILITY AS A FOUNDATIONAL TRAIT FOR AQUACULTURE
- 10:15** **Yonathan Zohar**, Ten-Tsao Wong  
STERILITY INDUCTION BY A TRANSIENT GENE SILENCING TECHNOLOGY WITHOUT INTRODUCING A GENETIC MODIFICATION TO FISH
- 10:30** **Nuria Sanchez-Baizan**, Damien Crestel, Alain Vergnet, David J. McKenzie, Marc Vandeputte, François Allal  
GENETIC AND EPIGENETIC REGULATION OF GROWTH IN THREE DISTANT POPULATIONS OF EUROPEAN SEA BASS
- 10:45** **Ya Zhang**, Carmel McDougall, Ido Bar, Natasha Botwright  
CHARACTERIZATION OF THE MOLECULAR MECHANISMS OF SEXUAL MATURATION IN THE GREENLIP ABALONE *Haliotis laevis*
- 11:00** **BREAK**
- 11:30** **Plenary 2 & Awards**
- 12:30** **LUNCH**
- 14:00** **Florian Enez**, Audrey Dehaullon, Jérôme Doerflinger, Boudjema Imarazene, Guylaine Collewet, Jérôme Bugeon, Jean-Charles Gabillard, Pierrick Haffray, Florence Phocas  
GENETIC PARAMETERS FOR RED MUSCLE DEVELOPMENT MEASURED USING ARTIFICIAL INTELLIGENCE AND GENETIC CORRELATIONS WITH GROWTH AND PROCESSING TRAITS IN RAINBOW TROUT *Oncorhynchus mykiss*
- 14:15** **Dariusz Kaczmarczyk**, Rafal Bernas, Anna Nitkiewicz, Martyna Gadomska, Dorota Fopp-Bayat  
THE GENETIC VARIATION OF HATCHERY PRODUCED JUVENILES OF ATLANTIC SALMON *Salmo salar* RELEASED INTO POLISH RIVERS
- 14:30** **Faisal Tasleem**, Bilal Raza, Muhammad Naeem Ramzan, Fatima Khan  
COMPARATIVE ANALYSIS OF GENETIC DIVERSITY IN NATURAL POPULATION OF *Labeo rohita* AND *Cirrhinus marigala* BY USING SPECIES SPECIFIC MOLECULAR MARKERS

- 14:45 Ashley Lockhart**, Hannah Siddle, Harrison Lamb, Ira Cooke, Dean R. Jerry, Ben Hayes  
ON-FARM GENOMICS FOR SELECTION AND MANAGEMENT IN AQUACULTURE: TANK-SIDE GENOTYPING
- 15:00 Thomas Clark**, Alex Florea, James Furniss, Nick Wade  
CELLULAR REGENERATION AND GENE EXPRESSION DURING MOULTING IN THE PACIFIC WHITELEG SHRIMP *Litopenaeus vannamei*
- 15:15 Brendan Robertson**, Martin Llewellyn  
MOLECULAR TRACKING OF *Neopramoeba perurans* FOR IMPROVED MANAGEMENT OF AMOEBIC GILL DISEASE IN ATLANTIC SALMON
- 15:30 Talib Hussain**, Fayyaz Rasool  
ISOLATION AND MOLECULAR DETECTION OF VIRULENCE AND ANTIMICROBIAL RESISTANCE GENES OF PATHOGENIC *Escherichia coli* ISOLATED FROM FARM RAISED CARPS OF FISH FARMS OF KASUR AND MUZAFFARGARH, PAKISTAN
- 15:45 Gen Hua Yue**  
ADVANCING AQUACULTURE FOR SUSTAINABLE FOOD SECURITY: 20 YEARS OF GENETIC ENHANCEMENT IN ASIAN SEABASS IN SINGAPORE
- 16:00 Valentin Thomas**, Thomas Clark, Audrey Laurent, Diego Perojil Morata, Mathieu Charles, Andrea Rau, Denis Laloë, Aline Perquis, Dan Macqueen, Edwige Quillet, Pierre Boudinot, Delphine Lallias  
UNDERSTANDING MOLECULAR MECHANISMS OF DISEASE RESISTANCE IN RAINBOW TROUT ISOGENIC LINES WITH CONTRASTED SUSCEPTIBILITY TO VHSV AND *Flavobacterium psychrophilum*
- 16:15 Fernando Naya-Català**, Mariann Arnyasi, Sigbjørn Lien, Matthew Peter Kent, Jaume Pérez-Sánchez  
TOWARDS A WIDE-GENOME TISSUE-SPECIFIC EPIGENOMIC PROFILING FOR A TAILORED IMPROVEMENT OF GROWTH PERFORMANCE WITH GLOBAL WARMING IN GILTHEAD SEA BREAM
- 16:30 Daniela Almeida**, Morteza Aslanzadeh, Tiago Figueiredo, Inna Biryukova, Maria Turkina, Hugo Osório, Carmen Albuquerque, Ricardo Galvez, Cátia Silva, Francisco A. Guardiola, Marc R. Friedländer, José Galián  
UNLOCKING POTENTIAL BIOACTIVE PEPTIDES FROM THE COMMON OCTOPUS *Octopus vulgaris* IN RESPONSE TO A BACTERIAL CHALLENGE USING AN INTEGRATIVE PROTEOMICS AND TRANSCRIPTOMICS APPROACH



## BIVALVE MOLLUSCS

Friday, August 30 09:00 - 17:00 MR 6

Chairs: Carmel McDougall, Brad Skelton

- 09:00** **Valentina Šebalj**, Ivan Župan, Lav Bavčević, Petar Zuanović, Tomislav Šarić  
CONDITIONING OF THE MEDITERRANEAN SCALLOP *Pecten jacobaeus* L.  
UNDER HATCHERY CONDITIONS WITH TWO TYPES OF FEED – IMPLICATIONS  
FOR AQUACULTURE
- 09:15** **Daniela Eliana Sganga**, Alejandro Sevilla Benitez, Camille Saurel  
IDENTIFYING COST-EFFICIENT MICROALGAE COMBINATIONS FOR EUROPEAN  
FLAT OYSTER *Ostrea edulis* SPAT GROWTH
- 09:30** **Brad Skelton**, Andrew Jeffs  
DEVELOPING NOVEL APPROACHES FOR THE NURSERY CULTURE OF  
GREENSHELL™ MUSSELS IN NEW ZEALAND
- 09:45** **Kayleb Himiona**, Andrew Jeffs, Brad Skelton  
EVALUATION OF METHODS FOR SINGULATING GREENSHELL™ MUSSEL *Perna  
canaliculus* SPAT FROM SPAT-COLLECTOR ROPE
- 10:00** **Rebecca Stobart**, Andrew Jeffs, Jenny Hillman, Bradley Skelton  
UNMASKING THE CULPRITS BEHIND NEW ZEALAND'S GREENSHELL™  
MUSSEL *Perna canaliculus* FARM FEAST
- 10:15** **Isabelle Johansson**, Pernille Nielsen, Daniel Taylor, Jens Kjerulf Petersen,  
Camille Saurel  
NAVIGATING TWO DECADES: THE SHIFTING LANDSCAPE OF ON-BOTTOM  
CULTURE IN DENMARK
- 10:30** **Matthew Gray**, Miao Yu, Michael Xu, Allen Pattillo, Yang Tao, Kaustubh Joshi,  
Nikhil Chopra, Don Webster, Matt Parker, Cathy Liu, Bobbi Hudson, Yuanwei Jin,  
Chiao-Yi Wang, Yiannis Aloimonos, Alan Williams, Gudjon Magnusson  
SMART, SUSTAINABLE, SHELLFISH AQUACULTURE MANAGEMENT:  
ADVANCING TECHNOLOGICAL DEVELOPMENT OF OYSTER AQUACULTURE IN  
THE USA
- 11:00** **BREAK**
- 11:30** **Plenary 2 & Awards**
- 12:30** **LUNCH**

FRIDAY

- 14:00 Fortunatus Masanja**  
ASSESSING THE IMPACT OF ATMOSPHERIC HEATWAVES ON INTERTIDAL CLAMS
- 14:15 Brett Bolte**, Andrew Bissett, James Wynne, Pascal Craw, Carmel McDougall, David Beale  
THE VISUAL DESIRABILITY OF THE PACIFIC OYSTER *Magallana gigas*: IMPACT OF METABOLOME AND 'CURING' LOCATION
- 14:30 Antonina De Marco**, Devis Montroni, Giuseppe Falini, Vito Antonio Baldassarro, Valentina Burato, Laura Calzà, Luciana Giardino, Alessio Bonaldo  
BYSSUS ALTERATIONS IN MUSSELS EXPOSED TO A PROLONGED THERMAL STRESS
- 14:45 Hiba Jasmin Visaliyil**, Colleen Guinle, Clément Baratange, Yann Aminot, Victoria Delannoy, Samuel Bertrand, Abderrahmane Kamari, Yannick Francois, Laurence Poirier, Paul Déléris, Aurore Zalouk-Vergnoux  
ASSESSMENT OF THE EFFECTS OF PFAS ON BLUE MUSSEL *Mytilus edulis* USING QPCR, BIOCHEMICAL AND LIPIDOMIC APPROACHES – IMPLICATIONS FOR COASTAL MONITORING AND ENVIRONMENTAL RISK EVALUATION
- 15:00 Shelby Clarke**, Antoino Agüera, Cathinka Krogness, Helen Rastrick, Samuel Rastrick, Øivind Strand, Tore Strohmeier, Ramón Filgueira  
INVESTIGATING THE RESPONSE OF NORWEGIAN BLUE MUSSELS *Mytilus* spp. TO THERMAL STRESS
- 15:15 Jasmine Talevi**, John Davidson, Luc Comeau, André Nadeau, Tiago Hori, Ramón Filgueira  
EXPLORING THE PHYSIOLOGICAL PLASTICITY OF OYSTERS *Crassostrea virginica* TO EXTENDED HYPOXIA ACROSS DIFFERENT LIFE STAGES
- 15:30 Leire Arantzamendi**, Marga Andrés, María José Suárez, Ainara Pocheville, Mikel Aguinaga  
TRANSITIONING TO THE IMPLEMENTATION OF BIO-BASED ROPES (BIOGEARS) IN LOW TROPHIC AQUACULTURE: EMBRACING NATURE-BASED SOLUTIONS FOR MARINE CONSERVATION THROUGH SUSTAINABLE AQUACULTURE PRACTICES
- 15:45 Marina Richardson**, Carmel McDougall, Max Wingfield, Nikolina Nenadic  
SOME LIKE IT HOT: THE DEVELOPMENT OF MULTIPLEX PCR ASSAYS TO AID IN THE RAPID AND COST-EFFECTIVE IDENTIFICATION OF TROPICAL OYSTERS WITH AQUACULTURE POTENTIAL

- 16:00 David Willer**, David Aldridge, Payam Mehrshahi, Konstantinos Papadopoulos, Lorraine Archer, Alison Smith, Max Lancaster, Alex Strachan, Reuben Shipway  
NAKED CLAMS TO OPEN A NEW SECTOR IN SUSTAINABLE NUTRITIOUS FOOD PRODUCTION
- 16:15 Carmel McDougall**, Tessa M. Page, Ali Shokohmand  
REGIONALISED GENE EXPRESSION WITHIN THE PEARL OYSTER MANTLE: IMPLICATIONS FOR PEARL FORMATION

## NUTRITION CONTRIBUTED

Friday, August 30 09:00 - 11:00 MR 181

Chair: Jennifer Blair

- 09:00 Pierrick Kersante**, Eakapol Wangkahart, Raquel Tatiane Pereira  
FUNCTIONAL AMINO ACIDS FOR PRECISION AND SUSTAINABLE AQUAFEED FORMULATION IN ASIAN SEABASS *Lates calcarifer*: GROWTH AND HEALTH
- 09:15 Ragnhild Dragøy**, Lena Burri, Alberto Nunes, Kiranpreet Kaur  
IMPROVING SHRIMP FEED PERFORMANCE WITH KRILL MEAL
- 09:30 Kiranpreet Kaur**, Mearge Okubamichael, Susanne Håvardstun Eide, Karin Pittman  
EFFECT OF KRILL MEAL ON SEA LICE INFESTATION AND SKIN MUCOSAL HEALTH IN ATLANTIC SALMON
- 09:45 Si Yan Ngoh**, Xueyan Shen, Leo Nankervis, Tai Lok Chan, Isaiah Chia, Katheline Hua  
DEVELOPING OPTIMISED FEEDS FOR JUVENILE MALABAR SNAPPER *Lutjanus malabaricus*
- 10:00 Nida Ismat**, Majid Hussain, Imrana Amir, Iram Shahzadi  
EFFECTS OF DIFFERENT FORMULATED FEEDS ON THE AMYLASE AND LIPASE ACTIVITY IN DIGESTIVE TRACT OF FINGERLING *Labeo rohita*
- 10:15 Baba Usman Ibrahim**, Balogu Dennis Odionyenfe, Yunusa Abdu  
FOOD AND FEEDING HABITS OF THE CICHLIDAE IN TAGWAI RESERVOIR, NIGER STATE, NIGERIA
- 10:30 Silvia Martínez-Llorens**, Raquel Serrano, Yosu Candela, Ana Tomás-Vidal, David S. Peñaranda, Ignacio Jauralde, Laura Carpintero, Juan S. Mesa, José L. Limón, Javier Dupuy, Andrés Donadeu, Guillermo Grinday, Judit Macías-Vidal  
INORGANIC PHOSPHATE USE IN DIETS FOR WHITE LEG SHRIMP *Litopenaeus vanamei* (BOONE, 1931) IN STANDARD DIETS

- 10:45 Wendy Sealey**, Steven Rawles, Jesse Trushenski, Mohammed Zarei, Stephen Urick, Ethan McAlhaney, Brent Crafton, Delbert Gatlin, Michael Schwarz  
NUTRITIONAL VALUE OF SORGHUM: AN UNDERUTILIZED PLANT INGREDIENT IN AQUATIC ANIMAL DIETS

## PLENARY 2 & AWARDS

Friday, August 30 11:30 - 12:30 AUD 11

Chairs: Anne Cooper, Lorenzo Juarez

### Plenary: Signe Riemer-Sørensen

AI with Knowledge

### EAS and WAS Awards

## POND AQUACULTURE

Friday, August 30 14:00 - 17:00 AUD 15

Chair: Bela Hasi Kovacs

- 14:00 László Váradi**, Béla Halasi-Kovács  
ROLE OF POND FARMING IN THE EUROPEAN AQUACULTURE SCENE – REALITY AND VISIONS
- 14:15 Purco R. Ralien**, Joël Aubin, Michael S. Corson  
DESIGNING FRESHWATER FINFISH POLYCULTURE SCENARIOS THAT OPTIMISE RESOURCE USE AND NUTRIENT RECYCLING: A TROPHIC MODELLING APPROACH
- 14:30 Priya Sharma**, Gergo Gyalog, Mónika Varga  
EVALUATION OF ENVIRONMENTAL INTERACTIONS FROM FISHPONDS
- 14:45 Léo Girard**, Alexander Wezel, Soraya Rouifed, Vincent Tolon, Mathieu Guerin, Tuba Bucak Onay, Thomas Alexander Davidson, Joël Robin  
DRYING-OUT FISH PONDS AS A KEY AGRO-ECOLOGICAL PRACTICE TO PROMOTE ECOSYSTEM SERVICES?
- 15:00 Gabriel de Jesús Rodríguez Jordán**, José Juan Carbajal Hernández, Germán Ponce Díaz  
TEMPERATURE EVALUATION MODEL IN *Litopenaeus vannamei* INTENSIVE CULTURE USING A FUZZY INFERENCE SYSTEM

- 15:15 Akhtaruzzaman Khan**, Mohammad Sabbir Hossain, Olanrewaju Femi Olagunju, Md. Nezum Uddin, Rasmus Nielsen, Md Badiuzzaman  
DOES PROBIOTIC INCREASE TECHNICAL EFFICIENCY IN FRESHWATER PRAWN FARMING? EMPIRICAL EVIDENCE FROM BANGLADESH
- 15:30 Morgina Akter**, Johan Schrama, Minhaj Uddin, Mohammad Mamun-Ur-Rashid, Marc Verdegem  
EFFECT OF FEED CARBON-NITROGEN RATIO AND CARBOHYDRATE TYPE ON FISH PERFORMANCE OF POLYCULTURE PONDS
- 15:45 Piotr Eljasik**, Remigiusz Panicz, Slawomir Lisiecki, Malgorzata Sobczak, Arkadiusz Nedzarek, Przemyslaw Smietana  
CO-FARMING WATERCRESS *Nasturtium officinale* AND DUCKWEED *Lemna minor* TO ENHANCE COMMON CARP *Cyprinus carpio* PRODUCTION
- 16:00 Jelena Stanivuk**, Gergőa Gyalog, László Ardó, Priya Sharma, Nada Plavša, Saša Krstović, Uroš Ljubobratović  
THE RANK OF INTENSIFICATION FACTORS STRENGTH IN INTENSIVE POND PRODUCTION OF COMMON CARP *Cyprinus carpio* L.
- 16:15 Lisa Fajar Indriana**, Andreas Kunzmann, Matthew James Slater  
GROWTH PERFORMANCE OF JUVENILE SEA CUCUMBER *Holothuria scabra* IN EARTH PONDS: THE ROLE OF NURSERY SYSTEMS

## CONTRIBUTED SESSION - SPECIES AND PRODUCTION

Friday, August 30 14:00 - 17:00 MR 180

Chair: Mohamamd Mahfujul Haque

- 14:00 Patricia Moraes-Valenti**, Ana Luiza Rocha, Michelle Santos, Laurindo Rodrigues, Helenice Barros, Marcello Boock, Eduardo Onaka, Michelle Vetorelli, Fernanda Borges, Andre Boaratti, Wagner Valenti, Patricia Moraes-Valenti  
NILE TILAPIA FARMING INTEGRATED WITH BOTTOM-FEEDER SPECIES
- 14:15 Sandipan Mondal**, Ming-An Lee  
POTENTIAL UNIDIRECTIONAL IMPACT OF CLIMATE CHANGE ON THE WORLD FISHERIES: CASE STUDY FOCUSING TWO MACKEREL SPECIES OF THE NORTH-WESTERN PACIFIC
- 14:30 Ming-An Lee**, Sandipan Mondal  
CONTEMPLATING THE RESPONSE OF THE MARINE COMMUNITY TO THE POSSIBLE ADAPTION OF GLOBAL FISHERIES TO CLIMATE CHANGE: A STUDY FOCUSING GREY MULLET OF NORTH-WESTERN PACIFIC TOWARDS SUSTAINABILITY

- 14:45 Raquel Quiros Pozo**, Sara Ramírez-Bolaños, Javier Roo, Lidia Robaina  
PAST, PRESENT AND FUTURE OF MUGILIDAE CULTURE: A REVIEW
- 15:00 Ahmed Abozeid**, Armin Sturm, Trevor Telfer  
BIOMARKER RESPONSES IN NILE TILAPIA *Oreochromis niloticus* AS A TOOL TO ASSESS AQUATIC POLLUTION IN EGYPT
- 15:15 Abhipsa Panda**, Sylwia Judycka, Katarzyna Palinska-Zarska, Rossella Debernardis, Slawomir Krejszef, Piotr Hliwa, Daniel Zarski  
TOWARDS EXPLORING SPERM QUALITY INDICATORS RELATED TO FERTILIZING ABILITY OF CRYOPRESERVED SPERM IN EURASIAN PERCH *Perca fluviatilis*
- 15:30 Carlos Javier Tapia Pacheco**, José Espinosa-Araujo, Victor Atencio-Garcia  
EVALUATION OF LASERPUNCTURE ON TESTICULAR MATURATION AND SEMEN QUALITY OF THE CATFISH *Sorubim cuspicaudus*
- 15:45 Akhtaruzzaman Khan**, Md. Nezum Uddin, Mohammad Sabbir Hossain, Rasmus Nielsen, Max Nielsen  
PRAWN PRODUCTION DYNAMICS: MAXIMIZING PROFITABILITY, EFFICIENCY AND POLICY CONSIDERATIONS FOR FARMERS
- 16:00 Guillaume Le Reste**, Louka Nonin, Margaux Le Gourrierec, Eva Rondeau  
PRELIMINARY STUDY FOR THE DEVELOPMENT OF A PASSIVE SORTER FOR USE WITH JUVENILE WHITE SHRIMP *Penaeus vannamei*
- 16:15 Mohamamd Mahfujul Haque**, Alif Layla Bablee, Md. Mehedi Alam, Abul Bashar, Neaz Al Hasan  
PARTICIPATORY ASSESSMENT OF AQUATIC SNAILS FOR PRODUCING IN INTEGRATED MULTI-TROPHIC AQUACULTURE (IMTA) SYSTEM WITH FRESHWATER PRAWN IN BANGLADESH

## FOOD SAFETY AND HEALTH ATTRIBUTES

Friday, August 30 14:00 - 17:00 AUD 12

Chair: Marian Kjellevoid

- 14:00 Daniel Lemos**, Jéssica Levy, Rafael Coelho, Caio Perazza, Thais Machado, Cristiane Neiva, Vander Santos, Eduardo Abimorad, Alexandre Hilsdorf, Rodrigo Carvalho, Fernando Stopato, Albert Tacon  
FISH FOR HEALTH – IMPROVED NUTRITIONAL QUALITY OF CULTURED FISH FOR HUMAN CONSUMPTION
- 14:15 Akhtaruzzaman Khan**, Upama Das, Sourav Mohan Saha, Max Nielsen, Rasmus Nielsen  
KNOWLEDGE, ATTITUDE AND PRACTICE ON SAFE PRAWN PRODUCTION AMONG FARMERS IN BANGLADESH
- 14:30 Shang Zhen Chuah**, Tzong-Yueh Chen  
USING MITOCHONDRIA GENE AS A BIOMARKER FOR SPECIES IDENTIFICATION OF COMMON FISH AND FISHERY PRODUCTS IN TAIWAN
- 14:45 Carla Sousa**, F. Atroch, L.F. Rangel, M.J. Santos, L.M.P. Valente, R. Barracosa, A.R. Ribeiro, A. Filipa-Silva, S. Gomes  
SEASONAL INFLUENCE AND PARASITE DENSITY IMPACT ON THE NUTRITIONAL AND ORGANOLEPTIC QUALITY OF ECONOMICALLY RELEVANT FISH SPECIES: EUROPEAN HAKE AND POUTING
- 15:00 Sazedul Hoque**, Md. Mahmudul Hasan  
PUBLIC HEALTH RISK ASSOCIATED WITH CHEMICAL CONTAMINANTS IN FRESH AND PROCESSED FISH OF BANGLADESH
- 15:15 Housseem Ben Yahia**, Sarah Ochoa, Céline David, Florine Bachelet, Lionel Pineau, Ségolène Calvez, Nora Navarro-Gonzalez  
SOURCES AND PERSISTENCE OF FECAL BACTERIA AND ANTIMICROBIAL RESISTANCE IN FRESHWATER FISH FARMS FROM NORTH-WEST FRANCE
- 15:30 Dr. Muhammad Abdur Razzak**, Md. Rayhan Hossen, Jubayr al Mahabub, Md. Emranul Ahsan, Md. Lokman Ali  
LARGE SCALE SCREENING OF BIOAVAILABLE TETRACYCLINES AND ARSENIC USING WHOLE-CELL BIOREPORTER FROM PRAWN AQUACULTURE SYSTEM IN SOUTH-WEST COASTAL BANGLADESH
- 15:45 Sarah Chagas Campanharo**, Agnaldo Fernando Baldo da Silva, Anaïs Bleuzen, Jonas Joaquim Mangabeira da Silva, Lucas Victor Pereira de Freitas, Inácio Mateus Assane, Fabiana Pilarski, Jonas Augusto Rizzato Paschoal  
ASSESSMENT OF RESIDUAL DEPLETION PROFILE OF ERYTHROMYCIN IN PACU *Piaractus mesopotamicus*

- 16:00** **Sebastian Rider**, Benedict Standen, Pablo Ibarra, Pablo Ibieta  
A GUT HEALTH SOLUTION TO COMBAT SALMON RICKETTSIAL SEPTICAEMIA (SRS)
- 16:15** **Iria Folgueira López**, Jose F. Cabello, Jone Ibarruri, Mikel Manso, Marta Cebrian, María del Mar Agraso  
ENRICHED INGREDIENTS AND POTENTIAL BIOACTIVE EXTRACTS FROM SOLID STATE FERMENTATION OF FRUIT AND VEGETABLE DISCARDS TO IMPROVE DISEASE RESISTENCE IN EUROPEAN SEA BASS *Dicentrarchus labrax*
- 16:30** **Irit Dvir**, Hila Tarazi, Shoshana (Malis) Arad  
PREVENTION OF FOOD CONTAMINATION BY A POLYSACCHARIDE – ZINC COMPLEX DERIVED FROM RED MICROALGAE

## EDUCATION, TRAINING & TRANSFER

Friday, August 30 14:00 - 17:00 MR 173

Chair: Bela Urbanyi

- 14:00** **Béla Urbányi**, Rita Fekete, Tibor Mezei, Zoltán Bokor, Ákos Horváth  
TECHNICAL INFRASTRUCTURE ASSESSMENT OF THE HUNGARIAN AQUACULTURE SECTOR – DEVELOPMENT DEMANDS AND CHALLENGES
- 14:15** **Vasco Menconi**, Amedeo Manfrin, Anna Toffan, Giorgia Angeloni, Nicola Ferrè, Giuseppe Arcangeli  
ADVANCING AQUACULTURE CAPACITIES: THE AQUAE STRENGTH PROJECT
- 14:30** **Leonard Calderon**, Susan Montero, Alejandro Campos  
INDICATORS FOR THE MONITORING OF ANCHOVY DURING FISHING SEASONS
- 14:45** **Rodrigo Macario**, Matteo Mazzucato, Federica Sbettega, Vasco Menconi, Nicola Ferrè  
IMPLEMENTATION OF A GIS COURSE FOR AQUACULTURE ANIMAL HEALTH
- 15:00** **Guillaume Le Reste**, Margaux Le Gourrierec  
A VIEW OF EXTRUDED FISH FEED PRODUCTION UNITS IN SUB-SAHARAN AFRICA THE EXAMPLE OF IVORY COAST
- 15:15** **Detmer Sijkema**, F. Javier Sanchez Vazquez, Louise von Gersdorff Jørgensen  
TRAINING THE NEXT GENERATION OF AQUACULTURE PROFESSIONALS IN EUROPE AND BEYOND



- 15:30** **Helen Miliou**, George Triantaphyllidis, Evanthia Chatzoglou, Konstantina Bitchava, Emmanouil Malandrakis, Manon Desmytter, Marie Bruaut, Lisa Wacsin, Sullivan Halipre, George Triantafyllou, George Petihakis, Nikos Triantafyllou, Nikos Apostolakis, Anna Pollani, Yannis Kotzamanis, Savvas Chatzinikolaou, Anastasios Baltadakis, Panteleimon Saroukos, Vassilis Tsetsos, Odysseas Sekkas, Nick Tsagkas, Diogo Thomaz, Maria Sefteli, Sofia Mitsoula, George Daniil, Subriena Baksh, Eric Lafontaine, Ana Costa, Nuno Leite, João Rito  
ENHANCING AQUACULTURE SKILLS AND TRAINING THROUGH A GAMIFICATION APPROACH AND DISTANCE LEARNING PLATFORM (BlueAquaEdu BLUE CAREER PROJECT)
- 15:45** **Elvira Fatsini**, Mercedes Rodriguez-Caro, Jordi López, Alessio Bonaldo, Elisa Benini, Göktug Dalgıç, Giuseppe Prioli, Elsa Cabrita, Catarina Oliveira, Manuel Lama, Alejandro Catala, Juan Vidal, Andrea Fabris, Rita Abecasis, Isidro Blanquet, Fabio Barroso, Bruno Guillaumie, Maria Malliora  
AQUATECHINN 4.0: THE INTERACTIVE WAY TO LEARN AQUACULTURE
- 16:00** **Audrie Jo McConkey**  
INTEGRATING INTERNATIONAL AQUACULTURE PRACTICES THROUGH ONLINE LEARNING
- 16:15** **Tomáš Polícar**, Martin Pšenicka, Vladimír Žlábek  
THE FACULTY OF FISHERIES AND PROTECTION OF WATERS AND CENAKVA RESEARCH INFRASTRUCTURE OF THE UNIVERSITY OF SOUTH BOHEMIA AS EUROPEAN EXCELLENCE RESEARCH AND EDUCATION CENTER
- 16:30** **Béla Urbányi**, Anikó Khademi-Vidra, Izabella Bakos, Zoltán Bokor, Julianna Kobolák, Ákos Horváth  
EDUCATIONAL AND TRAINING INNOVATIONS IN THE AQUACULTURE SECTOR OF HUNGARIAN SECONDARY AGRICULTURAL EDUCATION

## CONTRIBUTED SESSION - CLIMATE, WELFARE AND OTHERS

Friday, August 30 14:00 - 17:00 MR19

Chair: Kevin Torben Stiller

- 14:00** **Wagner Valenti**, Janaina Kimpara, Dallas Flickinger, Mayara Fabris, Patricia Moraes-Valenti  
INDICATORS FOR QUANTIFYING ENVIRONMENTAL REMEDIATION OR POLLUTION OF AQUACULTURE SYSTEMS
- 14:15** **Daniel Ernesto Bastidas Garcés**, Lucellys Sierra-Marquez2, Victor Atencio-Garcia, Martha Prieto-Guevara, Jesús Olivero-Verbel, José Espinosa-Araujo  
EFECTO DEL GLIFOSATO SOBRE EL DESEMPEÑO REPRODUCTIVO DEL BOCACHICO *Prochilodus magdalenae*
- 14:30** **Timothy Charles Visel**  
CAN EELGRASS *Zostera marina* WIN ITS LONG BACTERIAL CLIMATE WAR?
- 14:45** **Francisco Javier Martinez Cordero**, Cesar Gioberti Catalan Dibene, Isabel Cristina Taddei Bringas, Juan Martin Preciado Rodriguez  
MARKETING AND SUPPLY NETWORK OF INPUTS AND EQUIPMENT IN SMALL-SCALE TILAPIA FARMERS IN GUERRERO AND OAXACA, MEXICO
- 15:00** **Paolo Panizzon**, Jakob Gismann, Bernd Riedstra, Marion Nicolaus, Culum Brown, Ton Groothuis  
BEHAVIORAL LATERALITY AS A PREDICTOR OF PERSONALITY IN THE THREESPINED STICKLEBACK
- 15:15** **Imranul Islam**, Afjal Hossain, Saroar Ahmed Saleheen, Max Nelsen  
CONTINUE OR QUIT: FISH FARMERS CARRYING COVID-19 TRAUMA IN THE NEW NORMAL PERIOD OF BANGLADESH
- 15:30** **Timothy Wiese**, Sonia Rey Planellas  
NATURAL STRUCTURAL ENRICHMENT FOR FARMED ATLANTIC SALMON *Salmo salar* IN COMMERCIAL SEA PENS
- 15:45** **Andrea Meloni**, Martina Bortoletti, Elisa Fonsatti, Elena Negrato, Gianfranco Gabai, Giuseppe Radaelli, Daniela Bertotto  
DHEA PROFILE IN TELEOSTS: A FOCUS ON THE GONADS OF THE RAINBOW TROUT
- 16:00** **Kevin Torben Stiller**, Andre Meriac, Geir Nævdal, Jelena Kolarevic  
APPROACHES FOR CARBON DIOXIDE DEGASSING UNIT AUTOMATION

- 16:15 Björn Kok**  
INCLUSION OF GREENHOUSE GAS AND NUTRIENT EMISSIONS FROM TROPICAL AQUACULTURE PONDS IN THE ENVIRONMENTAL FOOTPRINT OF AQUACULTURE
- 16:30 Lisbeth Jess Plesner, Maren Moltke Lyngsgaard**  
CAN BILLIONS OF BLUE MUSSELS *Mytilus edulis* CONTRIBUTE TO ECOSYSTEM SERVICE AND SUSTAINABLE FOOD AT THE SAME TIME. BENEFITS, CHALLENGES AND MYTHS
- 16:45 Ellen Dierenfeld**  
INVASIVE FISHES AS AN UNDERUTILIZED PROTEIN RESOURCE: THE U.S. CARP CHALLENGE

### CONTRIBUTED SESSION - DISEASE AND OTHER

Friday, August 30 14:00 - 17:00 MR 181

Chair:

- 14:00 Adam J. Brooker, Isla Monaghan, Synne Klute, Eduardo Jimenez Fernandez, Carlos Garcia de Leaniz**  
IMPROVING THE DELOUSING EFFICACY OF FARMED BALLAN WRASSE *Labrus bergylta* AND LUMPFISH *Cyclopterus lumpus* IN ATLANTIC SALMON *Salmo salar* AQUACULTURE
- 14:15 Mustapha Amadu Sadauki, Akeem Babatunde Dauda, Muktar Badamasi Dutsin-Ma**  
DETECTION OF BLOOD PARASITES *Trapanosoma* spp. IN NILE TILAPIA *Oreochromis niloticus* (LINNAEUS, 1758) IN ZOBE RESERVOIR, KATSINA STATE
- 14:30 Ifeanyi E. Uzochukwu, Nelson I. Ossai, Patrick E. Aba, Elisha C. Nwobodo, Bright C. Amaefule, Joannes O. Odo, Maryann O. Ezeh, Dóra Somogyi, László Antal, Krisztián Nyeste**  
GROWTH PERFORMANCE, BLOOD PROFILE, AND GONADAL DEVELOPMENT OF AFRICAN CATFISH *Clarias gariepinus* FED SOURSOP *Annona muricata* LEAF MEAL
- 14:45 Xingxing Wang, Nikolaus Osterrieder**  
DEVELOPMENT OF AN ENTIRELY PLASMID-BASED REVERSE GENETICS SYSTEM FOR TILAPIA LAKE VIRUS (TiLV)
- 15:00 Dongdong Zhang, Gengfu Zhou, Zhi Ye, Jian Luo, Yongcan Zhou**  
INTESTINAL MICROBIOTA AND GENE EXPRESSION ALTERATIONS IN LEOPARD CORAL GROUPER *Plectropomus leopardus* UNDER ENTERITIS

- 15:15 Bent Haugaløkken**  
AQUASTAR: AUTONOMOUS UNDERWATER SYSTEM FOR TARGETED ASSESSMENT AND REPAIR
- 15:30 Elisa Fonsatti**, Martina Bortoletti, Daniela Bertotto, Lisa Locatello, Laura Gregoletto, Gabriele Boscolo, Livia D'Angelo, Michela Gastaldi, Paolo Detillo, Giuseppe Radaelli  
GLYOXAL ACID-FREE (GAF®) AS AN ALTERNATIVE HISTOLOGICAL FIXATIVE TO FORMALDEHYDE IN FISH SPECIES
- 15:45 Sharon Reikhav**  
MOLECULAR BREEDING IN AQUACULTURE: CHALLENGES AND BENEFITS
- 16:00 Anders Elleby**  
RAPID, COST-EFFECTIVE SNP GENOTYPING USING STANDARD BIOTOOLS SNPTYPE™ ASSAYS AND X9™ REAL-TIME PCR SYSTEM
- 16:15 Iman Abumourad**  
RIO KINASE 1 GENE IN TILAPIA *Oreochromis niloticus*: ITS CLONING AND CHARACTERIZATION
- 16:30 Türker Bodur**, Burak Evren Inanan, Meryem Cansu Yesiltas, M. Emrullah Arafatoglu, Filiz Akköse, Adem Kurtoglu, Bahar Eldemir, Isa Aydin, Hüseyin Sevgili, Tamás Müller  
A NEW APPROACH FOR THE HORMONE APPLICATION IN MARINE FISH CULTURE: ALBUMIN AS A HORMONE CARRIER