

aquaculture  
europe 09 

**SATURDAY, August 15**

**AQUACULTURE EUROPE 09 OPENING SESSION**

Saturday, August 15 09:00-10:45 Room R1

**Helge Reintertsen**, Aquaculture Europe 09 Steering Committee Chair  
INTRODUCTION AND WELCOME

**Prof. Ingvald Strømme**, Dean of Faculty of Engineering Science and Technology of the  
Norwegian University of Science and Technology (NTNU)  
OFFICIAL WELCOME

**Selina Stead**, President of European Aquaculture Society  
OPENING ADDRESS

**Odd Berg**, Director Nor-Fishing Foundation  
WELCOME

**PLENARY**

Saturday, August 15 09:45 - 10:30 Room R1

**09:45 Jan Olafsen**  
BLUE BIOTECHNOLOGY – WHERE NEXT?

**FROM WASTE TO TASTE**

Saturday, August 15 10:50 - 12:30 Room R5

Chairs: Turid Rustad, Begoña Perez Villarreal

- 10:50 Mette Sørensen**, Torbjørn Åsgård  
THE USE OF SALMON INDUSTRY BY-PRODUCTS AND 'GELLYFEED' TECHNOLOGY TO PRODUCE FEED FOR ATLANTIC COD *Gadus morhua*
- 11:10 Esther Sanmartin**, Juan Carlos Arbolea, Mar Villamiel, Francisco Javier Moreno  
PROTEIN GLYCATION AS ALTERNATIVE METHOD FOR FUNCTIONAL PROTEIN DEVELOPMENT FROM FISH PROCESSING BY-PRODUCTS
- 11:30 Mahmoudreza Ovissipour**, Reza Safari, Ali Motamedzadegan, Asbjorn Gildberg, Barbara Rasco, Bahareh Shabanpour  
YELLOWFIN TUNA *Thunnus albacares* HEAD WASTES AS A NITROGEN SOURCE FOR BACTERIA GROWTH MEDIA
- 11:50 Hadi Ershad Langroudi**, Abbas Hamrang  
COMPARING MINCED AND SURIMI PRODUCTION YIELD FROM CRUCIAN CARP *Carassius auratus gibelio* AND SILVER CARP *Hypophthalmichthys molitrix*

**BENEFITING FROM ACCELERATING GENOMIC RESEARCH**

Saturday, August 15 10:50 - 17:30 Room R8

Chairs: Patrick Prunet, Augustine Arukwe

- 10:50 Beatrix Beres**, Balázs Kovács, Tamás Müller, Béla Urbányi  
MORPHOLOGICAL DETERMINATION AND GENETIC IDENTIFICATION OF HUNGARIAN BULLHEAD CATFISH POPULATIONS
- 11:10 Sten Karlsson**, Thomas Moen, Kjetil Hindar  
A GENOMIC APPROACH TO STUDY GENETIC INTERACTION BETWEEN FARM AND WILD ATLANTIC SALMON *Salmo salar L.*
- 11:30 Sophie Hubert**, Brent Higgins, Tudor Borza, Cynthia Stone, Gary Simpson, Matthew L. Rise, Marije Booman, Sharen Bowman  
ATLANTIC COD GENOMICS IN CANADA: PROGRESS IN MARKER DEVELOPMENT, LINKAGE MAPPING AND OLIGONUCLEOTIDE MICROARRAY CONSTRUCTION
- 11:50 Aaron Maloy**, Sarah Culloty, Majbritt Bolton-Warberg, Richard Fitzgerald, John Slater  
MOLECULAR IDENTIFICATION OF LASER MICRODISSECTED GUT CONTENTS OF LARVAL COD *Gadus morhua*
- 12:10 LUNCH**
- 14:30 Thomas Moen**, Matthew Baranski, Anna Sonesson, Sissel Kjølglum  
A QTL FOR RESISTANCE TO INFECTIOUS PANCREATIC NECROSIS IN ATLANTIC SALMON: POTENTIAL FOR MARKER-ASSISTED SELECTION AT THE POPULATION LEVEL

- 14:50** **Matthew Baranski**, Nick Robinson  
THE IMPACT OF NEXT GENERATION GENOMICS TECHNOLOGIES ON AQUACULTURE PRODUCTION: CURRENT STATUS AND FUTURE PROSPECTS
- 15:10** **Edo D'Agaro**, M. Cimolino, L. Jacumin  
A CHEAP AND RELIABLE PCR-BASED MOLECULAR METHOD FOR THE AUTHENTICATION OF PANGASIUS *P. hypophthalmus* AND OTHER FISH SPECIES
- 15:30** **Jehee Lee**, Qiang Wan  
MOLECULAR CLONING AND EXPRESSION ANALYSIS UNDER ENDOCRINE DISRUPTING CHEMICALS (EDCS) EXPOSURE OF DISK ABALONE CYTOCHROME P450 ENZYMES
- 15:50** **Yan Zhang**, Han Yu, Yong-Shuang Xiao, Tianxiang Gao  
ANALYSIS OF GENETIC DIVERSITY OF *Pleuronectes yokohamae* BY AFLP MARKERS
- 16:10** **Patrick Prunet**, Yvan Le Bras, Jerome Montfort, Claudiane Valotaire  
EFFECTS OF DIRECT TRANSFER TO HYPEROSMOTIC ENVIRONMENT ON GILL TRANSCRIPTOME IN RAINBOW TROUT

## THE CHALLENGES OF NEW FEED RESOURCES 1

Saturday, August 15 10:50 - 17:30 Room R1

Chairs: Sachi Kaushik, Trygve Sigholt

Session Sponsor: BIOMAR

- 10:50** **Rune Waagbø**, E. Å. Bendiksen, G-I. Hemre, K. S. Ekmann, A. Guttvik  
VITAMIN AND MINERAL SUPPLEMENTS IN FEED FOR RAINBOW TROUT
- 11:10** **Anne Marie Bakke**, Gro-Ingunn Hemre, Heidi Amlund, Marit Aursand, Rolf Erik Olsen, Einar Ringø, Birger Svihus  
CRITERIA FOR SAFE USE OF PLANT INGREDIENTS IN DIETS FOR AQUACULTURED FISH
- 11:30** **Elvis Chikwati**, Anne-Marie Bakke, Michael H. Penn, Thor Landsverk, Ståle Refstie, Inger Rudshaug, Åshild Krogdahl  
EFFECT OF TEMPERATURE AND DIET COMPOSITION ON THE INTESTINAL EPITHELIAL CELL DYNAMICS IN ATLANTIC SALMON *Salmo salar* L.
- 11:50** **Michael Penn**, Ingunn Thorland, Ståle Refstie, Terje Refstie, Rune Olsen, Anne Marie Bakke  
DOES A PLANT-BASED DIET CHANGE SUSCEPTIBILITY OF ATLANTIC SALMON TO INFECTIOUS DISEASES?
- 12:10** **Edison Serrano**, T. Storebakken, A. Borquez, M. Penn, T. Landsverk, H. P. Dantagnan, J. Ø. Hansen, L. T. Mydland  
DIETARY INTAKE OF LUPIN QUINOLIZIDINE ALKALOIDS: EFFECT ON GROWTH, FEED UTILIZATION AND HISTOLOGY IN RAINBOW TROUT
- 12:30** **LUNCH**

- 14:30** **Stephanie Nilson**, A. G. Van Kessel, J. E. Hill, M. D. Drew  
GROWTH OF RAINBOW TROUT *Oncorhynchus mykiss* FED PEA MEAL AND PEA PROTEIN CONCENTRATE AT INCREASING INCLUSION LEVELS
- 14:50** **Kyla Randall**, M. D. Drew  
WHEAT DDGS AND WHEAT DDGS PROTEIN CONCENTRATE AS FEED SOURCES FOR RAINBOW TROUT *Oncorhynchus mykiss*
- 15:10** **Liv Torunn Mydland**, Margareth Øverland, Odd Helge Romarheim, Thor Landsverk, Anders Skrede  
MICROBIAL PROTEIN – A SUSTAINABLE AQUAFEED INGREDIENT
- 15:30** **Orhan Tufan Eroldogan**, Oguz Tasbozan, Kenan Engin, Hatice Asuman Yilmaz, Mahmut Ali Gökçe, Sefik Surhan Tabakoglu  
EFFECTS OF DIETARY COTTONSEED OIL LEVEL ON GROWTH AND FATTY ACID COMPOSITION OF JUVENILE EUROPEAN SEA BASS *Dicentrarchus labrax*
- 15:50** **Chris André Johnsen**, Christel Solberg, Eldar Åsgard Bendiksen  
LONG-TERM EFFECTS OF HIGH-ENERGY FEEDS WITH REDUCED FISHMEAL INCLUSION ON GROWTH PERFORMANCE AND FLESH QUALITY IN FARMED ATLANTIC SALMON *Salmo salar* L.
- 16:10** **Maike Timm-Heinrich**, Charlotte Jacobsen, Sylvie Eymard, Jørgen Holm  
INFLUENCE OF FEEDING REGIMES ON COMPOSITION AND OXIDATIVE STABILITY OF RAINBOW TROUT *Oncorhynchus mykiss*
- 16:30** **Joana Silva**, Marit Espe, Luís Conceição, Jorge Dias, Luísa Valente  
SENEGALÉSE SOLE JUVENILES *Solea senegalensis* (KAUP, 1858) GROW EQUALLY WELL ON DIETS DEVOID OF FISH MEAL PROVIDED THE DIETARY AMINO ACIDS ARE BALANCED
- 16:50** **Ståle Refstie**, Pablo Leyton, Jón Árnason, Gustavo Lehnebach, Torbjørn Åsgård  
SUSTAINABLE AND COST-EFFICIENT REPLACEMENT OF FISH MEAL BY ANIMAL AND PLANT PROTEIN IN FEEDS FOR ATLANTIC SALMON *Salmo salar*
- 17:10** **Azim Azimi**, Syeed Abbas Hoseini, Mohammad Sudagar, Hasan Aslanparviz  
EFFECT OF PARTIAL REPLACEMENT OF FISH MEAL BY AMPHIPODA *Pontogammarus* spp. MEAL ON GROWTH PERFORMANCE, SURVIVAL AND CARCASS COMPOSITION OF RAINBOW TROUT *Oncorhynchus mykiss* JUVENILES

## INTEGRATED MULTI TROPIC AQUACULTURE

Saturday, August 15 10:50 - 17:30 Room R7

Chairs: Gamze Turan, Yngvar Olsen

- 10:50** **Gamze Turan**, Hatice Tekogul, Edis Koru, Semra Cirik  
CONTRIBUTION OF SEAWEED CULTURE IN IMTA SYSTEMS TO SHAPING THE SUSTAINABLE AQUACULTURE IN TURKEY
- 11:10** **Bert Wecker**, Adrian Bischoff, Nicole Kube, Oliver von Halem, Uwe Waller  
FISH PRODUCTION IN A MARINE ARTIFICIAL RECIRCULATING ECOSYSTEM

- 11:30** **Ole Jacob Broch**, Morten Omholt Alver, Ingrid Helene Ellingsen, Kjell Inge Reitan  
A MODEL STUDY OF MULTI-TROPHIC AQUACULTURE WITH SALMON, MUSSELS AND MACROALGAE
- 11:50** **Lars Gansel**, Thomas A. McClimans, Dag Myrhaug  
FLOW PATTERNS IN AND AROUND FISH CAGES: THEIR IMPORTANCE FOR FISH WELFARE, ENVIRONMENTAL POLLUTION AND INTEGRATED MULTI-TROPHIC AQUACULTURE
- 12:10** **Kirsten Redmond**, Thorolf Magnesen, Øivind Strand, Pia Kupka Hansen, Sonnich Meier  
STABLE ISOTOPES AND FATTY ACIDS AS TRACERS OF THE INCORPORATION OF SALMON FEED IN BLUE MUSSELS *Mytilus edulis*
- 12:30** **LUNCH**
- 14:30** **Ingrid Lupatsch**, Lily Pauls, Robin Shields  
ASSESSING THE POTENTIAL OF CULTURING THE MARINE POLYCHAETE *Nereis virens* TO BIOREMEDIATE SOLID WASTES FROM RECIRCULATING AQUACULTURE SYSTEMS
- 14:50** **Éva Kerepeczki**, Dénes Gál, Réka Heged s, Tünde Kosáros, Alexandra Oberdieck, Hauke Hilz, Gerg Gyalog, Ferenc Pekár  
VALUABLE BY-PRODUCTS OF AQUACULTURE EFFLUENT TREATMENT IN CONSTRUCTED WETLANDS
- 15:10** **Jan Aure**, Cedric Bacher  
MODELING DEPLETION PROCESSES IN AQUACULTURE FARMING
- 15:30** **Marc C. J. Verdegem**, M. Asaduzzaman, M. A. Wahab  
STIMULATING POND PRODUCTION THROUGH ENHANCEMENT AND LINKAGE OF THE PLANKTONIC, PERIPHYTIC AND BENTHIC FOOD WEBS
- 15:50** **Henrice Jansen**, Øivind Strand, M. C. J. Verdegem, A. C. Smaal  
NUTRIENT DYNAMICS OF MUSSEL ROPE CULTURE *M. edulis*
- 16:10** **Ramon Filgueira**, Jon Grant, Øivind Strand  
FULLY-COUPLED BIOLOGICAL-PHYSICAL-CHEMICAL MODEL OF CARRYING CAPACITY IN A NORWEGIAN FJORD
- 16:30** **Karine Grangeré**, Sébastien Lefebvre, Cédric Bacher, Philippe Cugier, Alain Ménesguen  
MODELLING THE ECOPHYSIOLOGICAL RESPONSE OF THE PACIFIC OYSTER *Crassostrea gigas* TO THE SPATIAL VARIABILITY OF ENVIRONMENTAL FACTORS

## TECHNOLOGIES FOR SUSTAINABLE AQUACULTURE PRODUCTION (SUSTAINAQUA)

Saturday, August 15 10:50 - 17:30 Room R9

Chairs: Alexandra Oberdieck, Muki Shpigel

- 10:50** **Alexandra Oberdieck**, I. Kueddelsmann  
SUSTAINAQUA – INTEGRATED APPROACH FOR A SUSTAINABLE AND HEALTHY FRESHWATER AQUACULTURE

- 11:10 Muki Shpigel**  
MULTI-TROPHIC SYSTEMS: BENEFITS AND CONSTRAINTS
- 11:50 Zdenek Adamek**, Denes Gal, Maciej Pilarczyk  
CARP FARMING AS A TRADITIONAL TYPE OF POND AQUACULTURE IN CENTRAL EUROPE: PROSPECTS AND WEAKNESSES IN THE CZECH REPUBLIC, HUNGARY AND POLAND
- 12:10 Dénes Gál**, Éva Kerepeczki, Tünde Kosáros, Ferenc Pekár  
THE POTENTIAL OF WASTE REUSE FROM INTENSIVE AQUACULTURE IN INTEGRATED POND SYSTEMS
- 12:30 LUNCH**
- 14:30 Maciej Pilarczyk**, Joanna Ponicka, Magdalena Stanna  
PADDLEFISH *Polyodon spathula* – A NEW SPECIES FOR CARP POND POLY CULTURE
- 14:50 Bjørn-Steinar Sæther**, Oliver Schneider, Jean-Paul Blancheton, Emanuelle Roque d'Orbcastel  
IDENTIFYING LIMITING FACTORS RESTRICTING SUSTAINABLE DEVELOPMENT OF AQUACULTURE PRODUCTION IN EASTERN-EUROPEAN COUNTRIES
- 15:10 Oliver Schneider**, B. Fuentes, R. Bosma, E. Eding, J. P. Blancheton, B. S. Saether  
SUSTAINABLE PRODUCTION THROUGH THE USE OF RECIRCULATION SYSTEMS (SUSTAINAQ)
- 15:30 Lisbeth Jess Plesner**, A. Jokumsen, P. Bovbjerg Pedersen, A. J. T. Dalsgaard, I. Lund, H. Paulsen, R. S. Rasmussen  
DANISH MODEL TROUT FARMS – TECHNOLOGY AND ENVIRONMENTAL IMPACT
- 15:50 E. H. Eding**, M. Verkuijl  
REUSE OF RECIRCULATING AQUACULTURE SYSTEM EFFLUENTS – DOES IT IMPROVE SUSTAINABILITY?
- 16:10 F. J. Aartsen**  
MARKET VALUE OF SUSTAINABLE AQUACULTURE INDICATORS
- 16:30 Johannes Heeb**, Philippe Wyss  
FILTER OPTIMIZATION IN WASTE HEAT BASED TROPICAL POLY CULTURE PRODUCTION IN SWITZERLAND. EXPERIENCES AND RESULTS OF THE SWISS SUSTAINAQUA CASE STUDY
- 16:50 W. Kemmers**  
PROJECT ECOFUTURA: A SUSTAINABLE WAY OF GROWING FISH AND VEGETABLES TOGETHER BY REUSING BOTH WATER AND NUTRIENTS
- 17:10 Barbara Hayden**, John Zeldis, Niall Broekhuizen  
LAC: A FRAMEWORK FOR MANAGING ENVIRONMENTAL EFFECTS OF AQUACULTURE

# FINFISH AQUACULTURE

Saturday, August 15 10:50 - 17:30 Room R2

Chair: Beatrice Chatain

SATURDAY

- 10:50 M. Saeed Heydarnejad**  
INFLUENCE OF FOOD DISTRIBUTION UPON FOOD ANTICIPATORY ACTIVITY (FAA) AND GROWTH PERFORMANCE IN RAINBOW TROUT *Oncorhynchus mykiss*
- 11:10 Mehrdad Farhangi**, Ahmad Imani, Razieh Yazdanparast, Majid Bakhtiyari, Zoheir S. Saljooghi  
EFFECT OF DIFFERENT FOOD DEPRIVATION PERIODS ON DIGESTIVE ENZYME ACTIVITIES OF RAINBOW TROUT *Oncorhynchus mykiss*
- 11:30 Åshild Krogdahl**, Halvor Holm, Bente Ruyter, Trina Galloway, Gerd Marit Berge, Marie Hillestad  
COD *Gadus morhua* ADJUST DIGESTIVE PROCESSES TO VARIATION IN DIET COMPOSITION
- 11:50 Jaime Orellana**, Martin Sander, Bert Wecker  
THE USE OF PROTEIN SKIMMERS IN THE OPERATION OF COMMERCIAL LIVE-FISH TRANSPORT IN CLOSED WELL-BOATS: A MODEL APPROACH
- 12:10 Steven Summerfelt**, Mark Sharrer, Scott Tsukuda, Michael Gearheart  
PROCESS REQUIREMENTS FOR ACHIEVING FULL-FLOW DISINFECTION USING OZONATION AND UV IRRADIATION
- 12:30 LUNCH**
- 14:30 Anja Gerbeth**, Bernhard Gemende, Andreas von Bresinsky, Günter Bellmann, Ralf-Peter Busse  
RESOURCE-CONSERVING AND ENERGY EFFICIENT METHOD FOR OXYGENATION OF WATER IN RECIRCULATING AQUACULTURE SYSTEMS
- 14:50 Catarina De Matos Martins**, Ep H. Eding, Johan A. J. Verreth  
DO HEAVY METALS ACCUMULATE IN WATER AND FISH FROM RECIRCULATING AQUACULTURE SYSTEMS?
- 15:10 Benedicte Thienpont**, Albert Caballero, Felipe Fernández  
HEAVY METAL CONCENTRATIONS IN WILD AND FARMED GILTHEAD SEA BREAM *Sparus aurata* FROM THE SPANISH COAST
- 15:30 Ali Reza Valipour**, Ali Asghar Khanipour, Shahram Behmanesh, Mohammad Sayyad Bourani  
MAHI SEFID (KUTUM) *Rutilus frisii kutum*: INTRODUCING AS A SUITABLE FISH SPECIES FOR AQUACULTURE IN IRAN
- 15:50 Hassan Salehi**  
COST FACTORS ANALYSIS FOR FINGERLING PRODUCTION OF STURGEON IN IRAN
- 16:10 Mehran Yasemi**, Abbas Esmaili Molla, Mehdi Nikoo, Mehrnaz Farzangohar  
EXPERIMENT ON THE POSSIBILITY OF STURGEON *Acipenser persicus* LARVAE FEEDING WITH TROUT POWDERED DIET

- 16:30 Mojgan Khodadadi**, Maryam Akbarneghad  
LARVAL DEVELOPMENT OF *Barbus grypus* (HEECKEL, 1943)
- 16:50 Mitra Bildarnotashi**  
A STUDY OF CESTODES INFESTATION IN GRASS CARP OF HAMOON LAKE  
*Ctenopharyngodon idella* IN FEB. 2006

## EAS STUDENT GROUP WORKSHOP

Saturday, August 15 14:30 - 17:30 Room R5

Chair: Goncalo Santos

- 14:30 Magdolna Trenovszki**  
EAS - STUDENT GROUP: PERSPECTIVES FOR THE FUTURE
- 14:50 Peter Bossier**, Marieke Reuver, Patrick Sorgeloos  
AQUA-TNET: INTERNATIONAL EDUCATION OPPORTUNITIES FOR STUDENTS
- 15:10 Gavin Burnell**  
PLANNING AND MANAGING YOUR PhD PROGRAMME
- 15:50 Catarina Martins**  
STAND OUT OF THE CROWD WITH A GREAT POSTER PRESENTATION
- 16:30 Marc Verdegem**  
GET YOUR PAPER PUBLISHED
- 16:50 GENERAL DISCUSSION**
- 17:10 EAS-SG GENERAL ASSEMBLY**

## SUNDAY, August 16

### PLENARY

Sunday, August 16 09:00 - 09:45 Room R1

- 09:00 Arne Fredheim**  
TECHNOLOGICAL CHALLENGES AND OPPORTUNITIES IN MEETING FUTURE  
INDUSTRY REQUIREMENTS

### PLENARY

Sunday, August 16 09:45 - 10:30 Room R1

- 09:45 Peter Bossier**, K. Dierckens, B. Van Delsen, T. Defoirdt, P. De Schryver, O. Vadstein, I. A. Aasen, F. J. Gatesoupe, J. Verreth, H. Smidt, J. Skjermo, M. J. C. Verdegem, N. Boon, Y. Olsen, F. Van Breusegem, P. Sorgeloos  
THE ROLE OF MICROBIOTA IN AQUACULTURE TARGET ORGANISMS AND THEIR ENVIRONMENT

## AQUACULTURE GOVERNANCE, POLICY AND (SOCIO-) ECONOMIC RESEARCH

Sunday, August 16 10:50 - 12:30 Room R5

Chairs: Selina Stead, Torgeir Edvardsen

- 10:50 Selina Stead**  
SOCIO-ECONOMIC RESEARCH OPPORTUNITIES IN MARINE POLICY AND COASTAL  
AQUACULTURE GOVERNANCE
- 11:10 Øystein Hermansen, Bent Dreyer**  
CAPTURE-BASED AQUACULTURE ON COD – INTEGRATING TRADITIONAL  
HARVESTING AND AQUACULTURE
- 11:30 Diego Mendiola, Ibon Galparsoro, Esteban Puente, Adolfo Uriarte, Lorenzo Motos**  
DEVELOPMENT OF THE BASQUE COUNTRY MARINE AQUACULTURE PLAN
- 11:50 Bernard Walrut**  
WHEN AN AQUACULTURE FACILITY BECOMES A FISHERY
- 12:10 Jon Shan, R. Mooney, C. Windsor**  
OPTICAL DISSOLVED OXYGEN TECHNOLOGY OUTPERFORMS TRADITIONAL  
METHODS AND GAINS ASTM ACCEPTANCE

## LIFE CYCLE MANAGEMENT - ENVIRONMENT

Sunday, August 16 10:50 - 17:30 Room R7

Chairs: Kjell Maroni, Yves Harache

- 10:50 Jelena Kolarevic, Grete Bæverfjord, Torbjørn Åsgård, Maie Oehme, Harald Takle, Elisabeth Ytterborg, Barb Grisdale-Helland, Ståle J. Helland, Bendik Fyhn Terjesen**  
EFFECTS OF LIGHT INTENSITY AND PERIOD ON FEED INTAKE, GROWTH AND  
RESPIRATION IN ATLANTIC SALMON *Salmo salar* IN FRESHWATER
- 11:10 Mairi Cowan, A. Davie, H. Migaud**  
EFFECTS OF SHADING IN CONJUNCTION WITH CONSTANT GREEN CATHODE  
LIGHTING ON SEXUAL MATURATION OF ATLANTIC COD *Gadus morhua*
- 11:30 Eric Leclercq, John Taylor, Hervé Migaud**  
MANAGEMENT OF SEXUAL MATURATION IN ONGROWING ATLANTIC SALMON *Salmo salar*: DEVELOPMENT OF ON FARM TOOLS
- 11:50 Remen Mette, Frode Oppedal, Rolf Erik Olsen**  
HABITUATION AND ACCLIMATION OF ATLANTIC SALMON *Salmo salar* L. SUBJECTED  
TO FLUCTUATING HYPOXIA
- 12:10 Synnøve Helland, Ingrid Lein, Kirsti Hjelde, Grete Bæverfjord**  
WATER SPEED INDUCES LORDOSIS, REDUCED CONDITION FACTOR AND INCREASED  
CARDIO SOMATIC INDEX IN ATLANTIC COD *Gadus morhua*
- 12:30 LUNCH**

- 14:30** **Magny Thommasen**, Kjell-Arne Rørvik, Henriette Alne, Bendik Terjesen, Harald Takle, Jose Zambonino, Fabian Grammes, Maïke Oehme, Trygve Sigholt, Rolf Berge  
DYNAMIC AND INTEGRATED PRODUCTION BIOLOGY OF FARMED SALMON IN SEA
- 14:50** **Rina Chakrabarti**, Y. V. Rao  
THE APPLICATION OF PLANT INGREDIENT AS IMMUNOSTIMULATOR IN THE DIET OF *Cyprinus carpio*
- 15:10** **Marc Vandeputte**, Jérôme Bugeon, Mathilde Dupont-Nivet, Hervé Chavanne, Pierrick Haffray, Florence Lefèvre, Laurent Labbé, Alain Vergnet, Béatrice Chatain  
PROCESSING QUALITY OF SELECTED FISH: QUASI-ABSENCE OF CORRELATED RESPONSES TO SELECTION FOR GROWTH IN THE BROWN TROUT *Salmo trutta* AND IN THE SEA BASS *Dicentrarchus labrax*
- 15:30** **Nelly Wabete**, Liet Chim  
PHYSIOLOGICAL PROBLEMS IN PENEID PRAWNS CULTIVATED ON THE LOW SIDE OF THEIR THERMOPREFERENCE: CASE STUDY WITH *Litopenaeus stylirostris* REARED IN NEW CALEDONIA
- 15:50** **Hung Quoc Pham**, Elin Kjørsvik, Augustine Arukwe, Anh Tuong Nguyen, Mao Dinh Nguyen  
EFFECT OF SALINITY ON STEROID HORMONE LEVELS, FINAL OOCYTE MATURATION AND OVULATION IN SANDBASS *Psammoperca waigiensis*
- 16:10** **Seyed Hamed Mosavi Sabet**, Zeynab Moradkhani  
DETERMINATION OF THE TEMPERATURE ON INCUBATIONS PERIOD IN SEVERUM *Cichlasoma severum*

## THE CHALLENGES OF NEW FEED RESOURCES 2

Sunday, August 16 10:50 - 17:30 Room R1

Chairs: Sachi Kaushik, Trygve Sigholt

Session Sponsor: BIOMAR

- 10:50** **Turid Synnøve Aas**, Bendik Fyhn Terjesen, Trygve Sigholt, Marie Hillestad, Jørgen Holm, Ståle Refstie, Grete Baevefjord, Maïke Oehme, Kjell-Arne Rørvik, Mette Sørensen, Torbjørn Åsgård  
PHYSICAL PROPERTIES AFFECT THE BIOLOGICAL VALUE OF FISH FEEDS, A CHALLENGE WHEN TESTING NEW FEED INGREDIENTS
- 11:10** **Maïke Oehme**, Turid Synnøve Aas, Mette Sørensen, Gaojie He, Torbjørn Åsgård  
FEED INGREDIENTS, TECHNICAL FEED QUALITY AND PELLETT BREAKAGE IN PNEUMATIC CONVEYING SYSTEMS
- 11:30** **Faezeh Mohammadi**, Hossein Khara, Mahmoud Mohseni  
EFFECT OF GAMMARUS MEAL ON SOME HEMATOLOGICAL AND GROWTH INDICES IN THE GREAT STURGEON *Huso huso*
- 11:50** **Stephan Ende**, S. Krockel, O. Schneider, J. W. Schrama, Johan A. J. Verreth  
HIGHER GROWTH IN *Solea solea* FED NATURAL DIETS COMPARED TO COMMERCIAL FEED: A RESULT OF INTAKE AND EFFICIENCIES!

- 12:10** **Peter Olive**, Thanya Duangchinda, Elizabeth Ashforth  
NET GAIN OF LONG CHAIN PUFA IN A POLYCHAETE BIOTURBATED MESOCOSM:  
A CHALLENGE TO AN ACCEPTED PARADIGM
- 12:30** **LUNCH**
- 14:30** **Ahmad Imani**, Mehrdad Farhangi, Razieh Yazdanparast, Majid Bakhtiyari,  
Zoheir S. Saljooghi, M. Amiri Bagher  
EFFECT OF DIFFERENT STARVATION AND REFEEDING REGIMES ON THE  
COMPENSATORY GROWTH AND FEED UTILIZATION INDICES OF RAINBOW TROUT  
*Oncorhynchus mykiss*
- 14:50** **Kenan Engin**, O. T. Erol Dogan, H. A. Yilmaz, I. Özsahinoglu, O. Tasbozan  
THE EFFECTS OF FISH OIL REPLACEMENT BY CANOLA AND/OR COTTON SEED OIL  
ON AMMONIA AND UREA EXCRETION RATES IN JUVENILE EUROPEAN SEA BASS  
*Dicentrarchus labrax*
- 15:10** **Kathryn Schuller**, Melissa Gregory, Robert Gibson  
CLONING AND CHARACTERIZATION OF A SOUTHERN BLUEFIN TUNA *Thunnus*  
*maccoyii* FATTY ACYL ELONGASE cDNA
- 15:30** **Zabih Ollah Pajand**, K. Haddadimoghadam, F. Chubian, R. Rufchaie  
STUDY OF FEEDING INDEX OF THE PERSIAN STURGEON *Acipenser persicus*  
FINGERLINGS IN THE EARTH PONDS
- 15:50** **Kylie Phillips**, Phil Bremer, Nazimah Hamid, Patrick Silcock, Conor Delahunty,  
Mike Barker  
EFFECT OF DIET, SEASON AND GENDER ON THE SENSORY QUALITY OF SEA URCHIN  
*Evechinus chloroticus* GONADS
- 16:10** **Koenraad Vanhoutte**, L. Roef, M. Stael, T. Atack  
THE EFFECT OF THE USE OF DIFFERENT GREEN WATER METHODOLOGIES AND THE  
USE OF ROTIFERS FED DRIED ALGAE ON EARLY GROWTH AND DEFORMITIES OF  
ATLANTIC COD LARVAE *Gadus morhua*
- 16:30** **Kerati Issarapayup**, Sorawit Powtongsook, Prasert Pavasant  
CULTIVATION OF VEGETATIVE CELLS OF MICROALGA *Haematococcus pluvialis* IN  
FLAT PANEL AIRLIFT PHOTOBIOREACTORS
- 16:50** **Mansoreh Ghaeni**, A. Matinfar, Mehdi Soltani, M. Rabbani  
THE USE OF SPIRULINA IN SHRIMP CULTURE
- 17:10** **Johnny Ogunji**, D. Sutter, B. Rennert, W. Kloas, C. Schulz  
GROWTH PERFORMANCE, BODY COMPOSITION AND HAEMATOLOGICAL  
CHARACTERISTICS OF CARP *Cyprinus carpio* FED DIETS CONTAINING HOUSEFLY  
MAGGOT MEAL

# OFFSHORE AQUACULTURE ENGINEERING

Sunday, August 16 10:50 - 17:30 Room R8

Chairs: Tim Dempster, Michael Chambers

SUNDAY

- 10:50** **Østen Jensen**, Pascal Klebert, Erlend Kristiansen  
IMPROVING THE RELIABILITY OF THE CAGE SINKING-FLOATING PROCESS OF SUBMERSIBLE CAGES
- 11:10** **Simone Mirto**, Giulia Maricchiolo, Gabriella Caruso, Lucrezia Genovese, Rosa Bonaventura, Valeria Matranga  
WELFARE STATUS OF CAGE FARMED SEA BASS *Dicentrarchus labrax*: A COMPARISON BETWEEN SUBMERSIBLE AND SURFACE CAGES
- 11:30** **Win Watson**, Chris Rillahan, Michael Chambers, Hunt Howell  
THE USE OF TELEMETRY AND GUT CONTENTS ANALYSES TO INVESTIGATE THE FEEDING BEHAVIOR OF COD *Gadus morhua* IN AN OFFSHORE AQUACULTURE NET PEN
- 11:50** **Øyvind Korsøen**, T. Dempster, J. E. Fosseidengen, A. Fernø, T. S. Kristiansen  
SAFE DECOMPRESSION PROCEDURES DURING LIFTING OF SUBMERGED CAGES WITH ATLANTIC COD *Gadus morhua*
- 12:10** **Michael Chambers**, Hunt Howell, Win Watson, Dan Ward  
A PRELIMINARY STUDY TO DETERMINE THE FEASIBILITY OF RAISING STEELHEAD TROUT *Onchorhynchus mykiss* IN SUBMERGED NET PENS
- 12:30** **LUNCH**
- 14:30** **Tim Dempster**, Øyvind Korsøen, Frode Oppedal, Jon-Erik Juell, Arne Fredheim, Pål Lader  
CAN SALMON TOLERATE SUBMERGENCE IN COMMERCIAL-SCALE SEA-CAGES?
- 14:50** **Frode Oppedal**, Øyvind Korsøen, Tim Dempster, Per Gunnar Fjellidal, Tore Kristiansen  
REDUCED PERFORMANCE OF LONG-TERM, DEEP AND DARK SUBMERGED ATLANTIC SALMON *Salmo salar* L.
- 15:10** **Asbjørn Bergheim**, M. Gausen, R. Holen, K. Staven, A. Nilsen  
DISSOLVED OXYGEN – A KEY PARAMETER AT LICE TREATMENT IN SALMON CAGES
- 15:30** **Jana Guenther**, C. Carl, L. M. Sunde  
THE GROWTH OF THE HYDROID *Ectopleura larynx* ON NETS IN RELATION TO FISH FARMING PRACTICES IN NORWAY
- 15:50** **Lars Gansel**, Thomas A. McClimans, Dag Myrhaug  
FLOW PATTERNS IN AND AROUND FISH CAGES: THE EFFECTS OF BIOFOULING ON THE FLOW IN AND AROUND NET PENS AND THE RESULTING FORCES
- 16:10** **Øystein Patursson**, M. Robinson Swift, Igor Tsukrov, Knud Simonsen, Kenneth Baldwin, David W. Fredriksson, Barbaros Celikkol  
FLOW THROUGH AND AROUND FISH FARMING NETS

- 16:30** **Boaz Zion**, Ilan Karplus, Assaf Barki  
THE BEHAVIORAL MEMORY OF FISH IN RESPONSE TO ACOUSTIC TRAINING FOR SEA RANCHING
- 16:50** **Martin Fjøre**, Jo Arve Alfredsen  
SPECIFICATION OF A SOFTWARE TOOL FOR INTERPRETATION OF FISH TELEMETRY DATA FROM FISH FARMS

## MICROBIOLOGY IN AQUACULTURE SYSTEMS

Sunday, August 16 10:50 - 17:30 Room R9

Chairs: Jorunn Skjermo, François-Joël Gatesoupe

- 10:50** **Alaa El-Dahhar**  
THE USE OF HYDROGEN PEROXIDE (HUWA. SAN®) TR25 AS ALTERNATIVE FOR THE DISINFECTION OF TILAPIA BROODSTOCK AND EGGS DURING THE HATCHING PERIODS
- 11:10** **R.A.Y.S. Asanka Gunasekara**, Anamaria Rekecki, Pieter Cornillie, Peter Bossier, Wim Van den Broeck  
COMPARATIVE MORPHOLOGY OF THE INTESTINAL TRACT IN EARLY AXENIC AND MONOGNOTOBIOTIC *Artemia franciscana* NAUPLII USING HISTOLOGY AND THREE-DIMENSIONAL RECONSTRUCTIONS
- 11:30** **Torunn Forberg**, Olav Vadstein, Augustine Arukwe  
HOST RESPONSES TO BACTERIA IN GNOTOBIOTIC ATLANTIC COD *Gadus morhua* LARVAE
- 11:50** **Anamaria Rekecki**, R. A.Y.S. A. Gunasekara, Kristof Dierckens, Herman Favoreel, Nico Boon, Peter Bossier, Wim Van den Broeck  
ANALYSIS OF GFP-LABELLED BACTERIA IN THE GASTROINTESTINAL TRACT OF GERM-FREE SEA BASS LARVAE BY CONFOCAL MICROSCOPY
- 12:10** **Khalil Azizpour**, Amir Tokmechi  
BIOCHEMICAL CHARACTERIZATION OF LACTIC ACID BACTERIA ISOLATED FROM RAINBOW TROUT OF WEST AZARBAIJAN, IRAN
- 12:30** **LUNCH**
- 14:30** **Atul Desai**, Graeme Mansfield, Stephanie Collins, Murray Drew, Andrew G. Van Kessel, Janet Hill  
EVALUATION OF THE EFFECTS OF DIET COMPOSITION ON INTESTINAL MICROBIOTA OF RAINBOW TROUT *Oncorhynchus mykiss* USING CPN60-BASED METHODS
- 14:50** **Peter De Schryver**, A. Kumar Sinha, P. Singh Kunwar, K. Baruah, N. Boon, W. Verstraete, G. De Boeck, P. Bossier  
THE BACTERIAL STORAGE COMPOUND POLY- $\beta$ -HYDROXYBUTYRATE (PHB) INCREASES GROWTH PERFORMANCE AND INTESTINAL MICROBIAL DIVERSITY IN EUROPEAN SEA BASS JUVENILES *Dicentrarchus labrax*

- 15:10** **Eduardo Martínez-Manzanares**, P. Rosas-Ledesma, J. M. León-Rubio, S. Arijo, M. C. Balebona  
EVALUATION OF THE SURVIVAL OF A PROBIOTIC BACTERIA IN THE GASTROINTESTINAL TRACT OF *Solea senegalensis* USING A RED FLUORESCENT PROTEIN LABELLED STRAIN
- 15:30** **Natrah Fatin Mohd Ikhsan**, Defoidrt Tom, Wiyoto Wiyoto, Patrick Sorgeloos, Peter Bossier  
EFFECT OF FRESHWATER MICROALGAE ON QUORUM SENSING DISRUPTION ACTIVITIES
- 15:50** **Silvana Teresa Tapia-Paniagua**, I. García de la Banda, C. Lobo, M. Chabrillón, R. Rico, J. M. León Rubio, M. A. Morriño  
EFFECT OF DIETARY ADMINISTRATION OF PROBIOTICS ON INTESTINAL MICROBIOTA OF SENEGALESE SOLE *Solea senegalensis*
- 16:10** **Carlo Lazado**, Christopher Marlowe Caipang, Monica Brinchmann, Kiron Viswanath  
ATLANTIC COD GUT-DERIVED BACTERIA – THEIR IMMUNOSTIMULATORY FUNCTIONS AND PHYTASE ACTIVITY
- 16:30** **Ståle Refstie**, Grete Baeverfjord, Rudi Ripman Seim, Odd Elvebø  
YEAST CELL WALL  $\beta$ -GLUCAN AND MANNANOSE AFFECT GUT HEALTH, PERFORMANCE, AND SEA LICE RESISTANCE IN ATLANTIC SALMON *Salmo salar* FED SUNFLOWER AND SOYBEAN MEAL
- 16:50** **Hojat Jafaryan**, Ali Pordelan, Sh. Papii, V. Chamanara, S. Khojamlii  
THE USE OF BAKER'S YEAST *Saccharomyces cerevisiae* AND PROBIOTIC BACILLUS ON THE GROWTH PERFORMANCE IN RAINBOW TROUT *Oncorhynchus mykiss* LARVAE
- 17:10** **Hojat Jafaryan**, A. Golpor, M. Adibi  
THE EFFECT OF BAKER'S YEAST ON BODY COMPOSITION OF PERSIAN STURGEON *Acipenser persicus* LARVAE BY USING *Daphnia* sp.

## SHELLFISH AQUACULTURE

Sunday, August 16 10:50 - 17:30 Room R2

Chairs: Kjell Reitan, Cedric Bacher

- 10:50** **Anne A. Hageberg**, Arne Ervik, Inge Døskeland  
AKAVIS – A NEW GIS INTERFACE TOOL IN AQUACULTURE PLANNING
- 11:10** **Ø. Strand**, L. Asplin, J. Aure, T. Strohmeier, C. Bacher, P. J. Cranford, J. Grant, A. Smaal  
RESEARCH APPROACHES TO MEET NEEDS OF CARRYING CAPACITY ASSESSMENT AND MANAGEMENT TOOLS FOR SHELLFISH AQUACULTURE IN NORWAY
- 11:30** **Tineke Troost**, Jeroen Wijsman, Luca van Duren  
A MODEL TOOL TO ASSESS ECOSYSTEM-ENGINEERING EFFECTS OF SHELLFISH

- 11:50** **Marcel Fréchet**, Jean-François Dumais  
SELF-THINNING DYNAMICS IN EXPERIMENTAL SCALLOP POPULATIONS
- 12:10** **Aline Gangnery**, Vincent Justome, Frank Maheux, Soazig Manach, Sophie Parrad, Olivier Pierre-Duplessix, Emilie Rabiller  
EVIDENCE OF SPATIAL STRUCTURES OF HYDROBIOLOGICAL PARAMETERS IN THE BAY DES VEYS (NORMANDY, FRANCE) IN RELATION WITH HYDRODYNAMISM AND PRESENCE OF CULTIVATED OYSTERS
- 12:30** **LUNCH**
- 14:30** **D. Brigolin**, T. Lovato, S. Ciavatta, G. Marchi, A. Rubino, R. Pastres  
AN INTEGRATED SPATIALLY EXPLICIT MODEL FOR THE ASSESSMENT OF THE IMPACT OF OFF-SHORE MUSSEL FARMING ON N AND P BIOGEOCHEMICAL CYCLES
- 14:50** **Tove Beate Leren**, Bjarne Gjerde, Yoav Barr, Julie Maguire  
DEVELOPING A SELECTIVE BREEDING PROGRAMME FOR THE GREAT SCALLOP *Pecten maximus*
- 15:10** **S. Galinou-Mitsoudi**, Y. Savvidis, A. Moriki,, D. Petridis, X. Dimitriadis  
MUSSEL PRODUCTION IN RELATION TO ECOHYDRAULIC CONDITIONS IN THE CULTURE AREA OF NW THESSALONIKI GULF (NW AEGEAN, GREECE)
- 15:30** **Michol Ghezso**, Georg Umgiesser, Silvia Silvestri, Michele Pellizzato  
MODEL OF LAGRANGIAN DISPERSION AND SETTLEMENT OF MANILA CLAM LARVAE IN VENICE LAGOON: A FIRST BIO-ECONOMIC ASSESSMENT OF CLIMATE CHANGES IMPACTS
- 15:50** **John C. Bonardelli**, Arne Duinker  
CHALLENGES AND QUALITY FACTORS IMPACTING ON NORWAY'S EXPORT POTENTIAL
- 16:10** **Marianne Alunno-Bruscia**, Cédric Bacher, Øivind Strand, Rune Rosland, Peter Cranford, Jon Grant, Aad C. Smaal  
MULTI-SITE COMPARISON OF THE GROWTH OF CULTURED BLUE MUSSELS *Mytilus edulis* BY USING DYNAMIC ENERGY BUDGET THEORY
- 16:30** **Arya Vazirzadeh**, Ashkan Ezhdehakoshpour, Abdolmajid Hajimoradloo, Kamran Rezaei, Ahmad Imani  
RISE AND FALL OF MARINE SHRIMP AQUACULTURE IN IRAN
- 16:50** **Rune Rosland**, Øivind Strand, Cedric Bacher, Jan Aure, Tore Strohmeier  
APPLYING DEB MODEL TO SIMULATE MUSSEL GROWTH VARIABILITY IN LONG-LINE FARMS AS A FUNCTION OF STOCKING DENSITY AND FARM DESIGN

## EU FORUM

Sunday, August 16 14:30 - 16:50 Room R5

Chairs: Jacques Fuchs, Stamatis Varsamos

SUNDAY

- 14:30** **S. Varsamos**, DG RTD E4 “Agriculture, Forest, Fisheries & Aquaculture”  
OPPORTUNITIES FOR RESEARCH FOR AQUACULTURE AND BIOTECHNOLOGY IN FP7
- 15:10** **G. Petralia**, DG RTD T4 “SME’s”  
OPPORTUNITIES FOR RESEARCH FOR SME’S IN FP6 AND FP7
- 15:50** **S. Cabot**, DG SANCO “Feeds”  
OVERVIEW OF AQUACULTURE RELATED POLICIES ELABORATED BY DG SANCO
- 16:10** **JC Cueff**, Head of Unit, DG MARE A2 “Common Fisheries Policy and Aquaculture”  
THE EU STRATEGY FOR THE SUSTAINABLE DEVELOPMENT OF THE EUROPEAN  
AQUACULTURE

## SCREENING OF MALFORMATIONS IN FISH LARVAE AND JUVENILES. CAN DATA MINING HELP US IMPROVE PRODUCTION? (FINEFISH)

Sunday, August 16 16:50 - 17:30 Room R5

Chair: Grete Bæverfjord, Synnøve Helland

- 16:50** **Grete Bæverfjord**  
PRESENTATION OF SCREENING TECHNIQUES AND THEIR INTERPRETATION
- 17:10** **QUESTION & ANSWER SESSION**

# MONDAY, August 17

## PLENARY

Monday, August 17 09:00 - 09:45 Room R1

- 09:00** **O. M. Rødseth**, A. Storset  
NEW MOLECULAR BIOLOGY APPLICATIONS AND TECHNOLOGICAL IMPROVEMENTS  
IN FISH BREEDING

## PLENARY

Monday, August 17 09:45 - 10:30 Room R1

- 09:45** **Courtney Hough**  
THE STRATEGIC RESEARCH AGENDA OF THE EUROPEAN AQUACULTURE  
TECHNOLOGY AND INNOVATION PLATFORM

## LIFE CYCLE MANAGEMENT - ANIMAL

Monday, August 17 10:50 - 16:30 Room R7

Chairs: Elin Kjørsvik, Bela Urbanyi

- 10:50** **Preeta Kochanian**, Jasem G. Marammazi, Mohammad Zakeri, Ahmad Savari, Vahid Yavari, Mahsa Haghi  
INFLUENCE OF VARIED LEVELS OF DIETARY PROTEIN AND ENERGY ON GROWTH, SPAWNING PERFORMANCE, EGG AND LARVAL BIOCHEMICAL COMPOSITION AND QUALITY OF *Acanthopagrus latus*
- 11:10** **Preeta Kochanian**, Sheida Azizi, Rahim Peyghan, Hassan Morovvati, Rahim Abdi, Alireza Khansari, Abdolali Movahedinia  
CHANGES IN CHLORIDE CELL MORPHOMETRICS OF COMMON CARP *Cyprinus carpio* IN RESPONSE TO SALINITY
- 11:30** **Stefan Meyer**, Sune R. Sørensen, Myron A. Peck, Josianne G. Støttrup  
VIABILITY OF BALTIC COD *Gadus morhua* EGGS AND LARVAE AFTER MARKING WITH ALIZARIN COMPLEXONE
- 11:50** **Shin-Kwon Kim**, K. Nomura, H. Tanaka, M. Yokoyama, H. Matsunari, T. Yamamoto, H. Furuita, K. Ishihara, M. Kaneniwa  
WHAT KIND OF NUTRIENTS DOES THE LEPTOCEPHALUS DIGEST AND ABSORB FROM DIET?
- 12:10** **Simone Modugno**, Fernando Gelli, Karin Brigit Holthaus, Federico Brunelli, Pier Luigi Trentini, Carla Rita Ferrari, Attilio Rinaldi, Alberto Fonzo, Daniele De Luca, Aldo Tasselli  
EXAMPLE OF APPLICATION OF THE SILVERING INDEX (VAN DEN THILLART) IN SOME NORTH-EAST ITALY LAGOONS AS AN ACTIVE TOOL OF CONSERVATION AND PRESERVATION OF ITALIAN EEL STOCK *Anguilla anguilla* (LINNAEUS, 1758)

- 12:30 LUNCH**
- 14:30 Joana Dias, Ian Davies, Mike Snow**  
REAL-TIME PCR AS A TOOL FOR THE MANAGEMENT OF MUSSEL AQUACULTURE SEED AREAS
- 14:50 Nikolina Kovatcheva, Roman Vasilyev**  
RUSSIAN-NORWEGIAN PERSPECTIVES OF DEVELOPMENT RED KING CRAB *Paralithodes camtschaticus* AQUACULTURE IN THE BARENTS SEA
- 15:10 Roman Vasilyev, Nikolina Kovatcheva**  
MONITORING OF THE RED KING CRAB *Paralithodes camtschaticus* PHYSIOLOGICAL STATE IN AQUACULTURE CONDITIONS
- 15:30 GholamHossein Mohammadi, Mojgan Khodadadi, Ehsan Nasr, Hajat Safikhani**  
FECUNDITY REPRODUCTIVE CYCLE OF A LOCAL POPULATION OF *Gammarus pulex* IN SEPIDAN (FARS PROVINCE, IRAN)
- 15:50 Mohammad Sayyad Bourani, Behrooz Abtahi, Mahmoud Bahmani, Ludmila Krayushkina, Mohaddeseh Ahmadnezhad**  
THE EFFECT OF SIZE ON OSMOREGULATION ABILITY, CHLORIDE CELLS AND Na<sup>+</sup>, K<sup>+</sup>-ATPase ACTIVITY IN *Salmo trutta caspius* JUVENILES

### MULTIFACTORIAL DISEASE

Monday, August 17 10:50 - 16:30 Room R5

Chairs: Grete Bæverfjord, Patrick Smith

Session Sponsor: Intervet Schering - Plough Animal Health

- 10:50 Ingrid Olesen, Aamer Shehzad, Jørgen Ødegård, Rune Stigum Olsen, Trygve Poppe**  
PREVALENCE AND GENETIC VARIATION OF EPICARDITIS AND CARDIAC ABNORMALITIES IN FARMED ATLANTIC SALMON
- 11:10 Kirsti Hjelde, Ingrid Lein, Synnøve Helland, Øyvind Andersen, Grete Bæverfjord**  
DEVELOPMENT OF SPINAL DEFORMITIES IN FARMED ATLANTIC COD *Gadus morhua*
- 11:30 Elisabeth Ytteborg, Grete Bæverfjord, Kirsti Hjelde, Jacob Torgersen, Harald Takle**  
TEMPERATURE INDUCED VERTEBRAL DEFORMITIES: MECHANISMS INVOLVES EXTRA CELLULAR MATRIX AND MINERALIZATION DEFICIENCY
- 11:50 Jana Ryckaert, Frank Pasmans, Els Tobback, Luc Duchateau, Freddy Haesebrouck, Peter Bossier**  
HEAT SHOCK PROTEINS PROTECT PLATYFISH *Xiphophorus maculatus* FROM *Yersinia ruckeri* INDUCED MORTALITY
- 12:10 Samaneh Mousavi, Hosain Khara, Aliasghar Saeedi, Maryam Ghiyasi**  
SEASONAL STUDY OF INCIDENCE OF STREPTOCOCCOSIS AND STAPHYLOGOCCOSIS IN ELECTED RAINBOW TROUT *Oncorhynchus mykiss* FARMS IN MAZANDARAN PROVINCE IN IRAN

- 12:30 LUNCH**
- 14:30 Peter Bossier**, Le Hong Phuoc, Mathias Corteel, Nguyen Cong Thanh, Hans Nauwynck, Maurice Pensaert, Victoria Alday-Sanz, Wim Van Den Broeck, Patrick Sorgeloos  
EFFECT OF DOSE AND CHALLENGE ROUTES OF *VIBRIO* spp. ON CO-INFECTION WITH WHITE SPOT SYNDROME VIRUS IN *Penaeus vannamei*
- 14:50 Zohreh Mashak**, Afshin Akhoondzadeh Basti, Bizhan Moradi, Behrooz Moradi  
THE SURVEY OF TWO MAJOR SEA-FOODBORNE PATHOGENS IN SALTED COLD SMOKED FISH IN MAZANDARAN PROVINCE (IRAN)
- 15:10 Majid Mohammadnejad Shamoushaki**, Roia Assareh, Masoud Samadian, Zabih Pajand  
DETERMINATING THE LETHAL CONCENTRATION (LC50/96h) OF HERBICIDE “ROUNDUP” ON *Rutilus frisi kutum*, *Rutilus rutilus caspicus* AND *Cyprinus carpio* FINGERLINGS (1-3g)
- 15:30 Amita Saxena**, Chandra Dutt Sharma  
HAEMATOLOGICAL VARIATIONS IN FEW TELEOSTS
- 15:50 Majid Mohammadnejad Shamoushaki**, Erfan Shahkar, Emadoldin Shamoushaki  
DETERMINATING THE LETHAL CONCENTRATION (LC50/96h) OF CHLOROPYRIFOS AND DIAZINON ON *Rutilus rutilus caspicus* FINGERLINGS (1-3g)
- 16:10 Giovanna Marino**, Patrizia Di Marco, Alessandra Priori, Tommaso Petochi, Silvia Livi, Maria Grazia Finoia, Alessandro Longobardi, Valeria Donadelli  
EFFECTS OF COLD EXPOSURE AND FASTING ON STRESS AND METABOLIC RESPONSES IN WILD SEA BREAM *Sparus aurata* FROM TWO DIFFERENT GEOGRAPHICAL AREAS

**EAS THEMATIC GROUP EUROSHELL –  
SRA FOR THE EUROPEAN SHELLFISH SECTOR**

Monday, August 17 10:50 - 16:30 Room R9

Chairs: Aad Smaal, René Robert

- 10:50 Gavin Burnell**  
AN ECOSYSTEM APPROACH TO SHELLFISH AQUACULTURE AND ITS INTEGRATION WITHIN SHELLFISHERIES MANAGEMENT
- 11:10 R. Pastres**, J. G. Ferreira  
THE ROLE OF MODELS FOR THE SUSTAINABLE MANAGEMENT OF SHELLFISH FARMING
- 11:30 R. Robert**  
REVIEW ON EUROPEAN HATCHERY-NURSERY DEVELOPMENTS
- 11:50 Peter Cranford**, William Li, Øivind Strand, Tore Strohmeier  
FOOD DEPLETION BY MUSSEL AQUACULTURE: SPATIAL SCALE AND INDICATORS OF PRODUCTION AND ECOLOGICAL CARRYING CAPACITY

- 12:10** **J. G. Ferreira**, R. Pastres, A. Martinho, J. J. Melo, A. Oliveira, C. Saurel, C. V. Soares, C. Vale, P. Sarmento-Coelho, M. H. Alves, M. Lacerda, D. Paulo, F. Reis  
ENVIRONMENTAL SUSTAINABILITY OF OFFSHORE SHELLFISH AQUACULTURE – ASSESSMENT USING INTEGRATED MODELLING
- 12:30** **LUNCH**
- 14:30** **R. González-Araya**, C. Quéré, C. Mingant, I. Quéau, L. Lebrun, R. Robert  
ECOPHYSIOLOGICAL AND BIOCHEMICAL RESPONSES OF *Ostrea edulis* BROODSTOCK FED FOUR DIFFERENT SINGLE DIETS DURING CONDITIONING
- 14:50** **J. Marchetti**, Erell Olivo, Gaël Bougaran, Catherine Rouxel, Loïc Le Dean, René Robert, Jean-Paul Cadoret  
OPTIMIZING CULTURE CONDITIONS FOR CONTINUOUS PRODUCTION OF *Isochrysis affinis galbana* IN A NEW COMMERCIAL HATCHERY PHOTOBIOREACTOR
- 15:10** **G. Christophersen**, S. Andersen, S. R. Erga, T. Magnesen  
THE CHALLENGE OF REDUCING THE PRODUCTION TIME OF JUVENILE SCALLOPS *Pecten maximus* INTENDED FOR SEA RANCHING
- 15:30** **Pauline Kamermans**, Arnon Uppabullung, Peter Herman, Aad Smaal  
NEW TECHNOLOGY TO PROVIDE SEED FOR BOTTOM CULTURE OF BLUE MUSSELS *Mytilus edulis* IN THE NETHERLANDS
- 15:50** **Aad Smaal**, Rene Robert  
INTRODUCTION AND DISCUSSION ON THE EUROSHELL STRATEGIC RESEARCH AGENDA

## RECIRCULATING AQUACULTURE SYSTEMS (RAS)

Monday, August 17 10:50 - 16:30 Room R8

Chairs: Laszlo Varadi, Oliver Schneider

- 10:50** **Catarina De Matos Martins**, Ep H. Eding, Johan A. J. Verreth  
GROWTH RETARDATION IN RECIRCULATING AQUACULTURE SYSTEMS: MYTH OR REALITY?
- 11:10** **Steven Summerfelt**, Christopher Good, Carla Welsh, John Davidson  
WATER QUALITY AND TREATMENT PROCESS EFFICIENCIES IN REPLICATED RECIRCULATING SYSTEMS OPERATED WITH AND WITHOUT OZONATION
- 11:30** **Christopher Good**, John Davidson, Carla Welsh, Kevin Snekvik, Steven Summerfelt  
THE EFFECTS OF OZONATION ON WATER QUALITY AND THE HEALTH AND PERFORMANCE OF RAINBOW TROUT *Oncorhynchus mykiss* IN LOW-EXCHANGE WATER RECIRCULATING AQUACULTURE SYSTEMS
- 11:50** **Christopher Good**, John Davidson, Carla Welsh, Kevin Snekvik, Steven Summerfelt  
HEALTH AND PERFORMANCE OF RAINBOW TROUT *Oncorhynchus mykiss* IN LOW-EXCHANGE WATER RECIRCULATING AQUACULTURE SYSTEMS WITH HIGH OR LOW DISSOLVED CARBON DIOXIDE

- 12:10** **Paul-Daniel Sindilariu**, Alexander Brinker  
PARTICLE MANAGEMENT IN RECIRCULATING SMOLT FARMS, EQUIPPED WITH IMPROVED MOVING BED TECHNOLOGY
- 12:30** **LUNCH**
- 14:30** **Jaime Orellana**, Martin Sander, Uwe Waller, Bert Wecker  
THE EFFECT OF OZONE ON THE AMOUNT, PARTICLE SIZE DISTRIBUTION, AND NUTRIENT COMPOSITION OF TOTAL SUSPENDED SOLIDS IN A MODERN MARINE RECIRCULATION SYSTEM
- 14:50** **Bernhard Gemende**, Anja Gerbeth, Andreas von Bresinsky, Günther Bellmann, Georg Stähler, Ralf-Peter Busse  
APPLICATION OF MEMBRANE TECHNOLOGY IN RECIRCULATING AQUACULTURE SYSTEM
- 15:10** **Stefan Reiser**, Sven Wuertz, Jan Schroeder, Werner Kloas, Reinhold Hanel  
EFFECTS OF OZONE ON WELFARE INDICATORS OF JUVENILE TURBOT *Psetta maxima* IN RECIRCULATION AQUACULTURE SYSTEMS
- 15:30** **Edward Schram**, Benoit Vincon, Baptiste Verniau, Oliver Schneider  
HOMO-TYPICALLY CONDITIONED REARING WATER AFFECTS WEIGHT VARIATION AND POSSIBLY GROWTH OF JUVENILE TURBOT *Scophthalmus maximus*
- 15:50** **Zoheir S. Saljooghi**, Gholamreza Rafiei, Akbar Malekpur, Mehrdad Farhangi, Ahamd Imani, Majid Bakhtiyari  
A NEW METHOD TO REMOVE ANIONS FROM RECIRCULATING AQUACULTURE SYSTEM
- 16:10** **Shalom Fox**, Amit Gross, Ori Lahav, Yuval Alfiya, Noam Mozes  
DEVELOPMENT AND OPTIMIZATION OF A FIELD SCALE DENITRIFICATION UNIT AS PART OF A SUSTAINABLE MARINE LAND BASED RECIRCULATED AQUACULTURE SYSTEM

# POSTERS

Located Near Room R7

## FROM WASTE TO TASTE POSTERS

### Board #

- 1 **Hamed Azarbad**  
ECOLOGICAL FUNCTION OF MARINE BIVALVES IN BIOLOGICAL WASTE WATER PURIFICATION PROCESSES
- 2 **Tünde Kosáros**, D. Gál, G. Lakatos, F. Pekár  
PERIPHYTON UTILIZATION IN A COMBINED INTENSIVE-EXTENSIVE FISH FARMING SYSTEM
- 3 **Mahmoudreza Ovissipour**, Abdol Mohammad Abedian, Ali Motamedzadegan, Barbara Rasco, Asbjorn Gildberg, Ali Taheri, Elahe Mohagheghi  
FISH PROTEIN HYDROLYSATE PRODUCTION FROM PERSIAN STURGEON *Acipenser persicus* VISCERA USING ALCALASE
- 4 **Fernando Afonso**, Luis Batista, Susete Martins-Dias  
PHYTOREMEDIATION FOR AQUACULTURE SUSTAINABILITY

POSTERS

## BENEFITING FROM ACCELERATING GENOMIC RESEARCH POSTERS

### Board #

- 6 **Sibel Colak**, M. Baki Yokes  
16S rRNA SEQUENCE ANALYSIS OF CRAYFISH *Astacus leptodactylus* (ESCHOLTZ, 1823) POPULATIONS FROM TURKEY
- 7 **Christopher Marlowe Caipang**, Monica Brinchmann, Kiron Viswanath  
ESTABLISHING A LINK BETWEEN VACCINATION AND IMMUNE RESPONSE IN ATLANTIC COD *Gadus morhua*: THE CASE OF *Vibrio anguillarum*
- 8 **Teresa Ostaszewska**, Piotr Grochowski, Maciej Kamaszewski, Tiziano Verri, Konrad Dabrowski, Jerzy Sliwinski, Ercument Aksakal  
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