



3rd International Symposium
GIA 2013
 Genomics in Aquaculture
 4-6 September 2013, Bodø, Norway

Symposium Programme

Venue: University of Nordland, Bodø, Norway

Tuesday, 3rd September 2013

20:00 - 22:00

Registration and Welcome Cocktail @ Radisson Blu Hotel

Wednesday, 4th September 2013

09:00

Shuttle Bus to the University of Nordland

09:15 - 10:00

Registration

10:00 - 10:30

Opening Speech

SESSION#1: NGS TECHNOLOGIES AND DEVELOPMENT OF CYBER-INFRASTRUCTURE FOR A TELEOST NODE

10:30 - 11:15

Plenary Talk Prof. Adelino Canário

ID 101
10:30**ADVANCES IN EUROPEAN SEA BASS GENOMICS AND FUTURE PERSPECTIVES**

11:15 - 11:45

COFFEE BREAK

11:45 - 12:30

Plenary Talk Prof. Songlin Chen

ID 102
11:45**WHOLE GENOME ASSEMBLY AND SCREENING OF SEX SPECIFIC GENES IN HALF-SMOOTH TONGUE SOLE (*CYNOGLOSSUS SEMILAEVIS*)**

12:30 - 13:30

LUNCH

ID 103
13:30**IDENTIFYING DIAGNOSTIC SNPS IN THE PRESENCE OF SEQUENCING ERRORS**

Ketil Malde, François Besnier and Kevin Glover

ID 104
13:45**APPROACHES IN CHARACTERIZATION OF MICRORNAS AND THEIR TARGETS IN ATLANTIC HALIBUT, A NON-MODEL SPECIES**

Teshome Bizuayehu, Jorge Fernandes, Steinar Johansen and Igor Babiak

ID 105
14:00**FISH-IT - A TELEOST DATABASE**

Nikolas Papanikolaou, Elisavet Kaitetzidou, Anastasis Oulas and Elena Sarropoulou

SESSION#2: OMICS APPLICATIONS IN AQUACULTURE: NUTRITION, STRESS, HEALTH AND REPRODUCTION

14:15 - 15:00

Plenary Talk Prof. Moira Ferguson

ID 201
14:15**GENETIC ARCHITECTURE OF COMPLEX TRAITS IN SALMONID FISHES: ALONG THE BUMPY ROAD TO MARKER ASSISTED SELECTION IN AQUACULTURE BREEDING PROGRAMS**ID 204
15:00**TRANSCRIPTOMIC RESPONSE TO PREBIOTIC DIETARY SUPPLEMENTS IN THE SKIN OF ATLANTIC SALMON (*SALMO SALAR*)**

Giulia Micaleff, Susan Fairley, Jorge M.O. Fernandes, John W. Tinsley, Ralph Bickerdike, Alan S. Bowman and Samuel A.M. Martin

ID 205
15:15**TRANSCRIPTOMIC ANALYSIS OF DEVELOPING ATLANTIC COD - UNDERSTANDING THE MECHANISMS UNDERLYING HIGH GROWTH**

Rolf Edvardsen, Tomasz Furmanek, Kai Lie, Ann-Elise Jordal, Elin Sørhus, Ørjan Karlsen, Terje van der Meeren, Anders Mangor-Jensen and Ivar Rønnestad

ID 206 15:30	TRANSCRIPTOME ANALYSIS- MONITORING DIETARY EFFECTS ON APPETITE AND DIGESTION IN ATLANTIC COD LARVAE DURING ONTOGENY Ann-Elise Jordal, Rolf Edvardsen, Anna Rita Angotzi, Mtdh Le, Ørjan Karlsen, Terje van der Meer and Ivar Rønnestad
15:45 - 16:15	COFFEE BREAK
ID 207 16:15	TOWARDS BETTER UNDERSTANDING THE GENETIC BASIS OF OMEGA-3 SYNTHESIS IN ATLANTIC SALMON IN THE GENOMICS ERA Hooman Moghadam, Matthew Baranski, Anna Sonesson, Bente Ruyter, Tone-Kari Østbye, Marte Kjær, Aleksei Krasnov, Håvard Bakke and Gerd Berge
ID 208 16:30	EXPLORING THE TRANSCRIPTIONAL LANDSCAPE OF THE CIRCADIAN RHYTHM IN THE FAST MUSCLE OF ATLANTIC COD USING NEXT-GENERATION SEQUENCING TECHNOLOGIES Carlo Lazado, Kazue Nagasawa, Hiruni Kumarantunga, Spyros Kollias, Igor Babiak and Jorge M.O. Fernandes
ID 209 16:45	THE APPLICATION OF GENOMIC BIOTECHNOLOGY TO AQUACULTURE WILL BE ESSENTIAL TO MEET FUTURE GLOBAL DEMAND FOR FISH PROTEIN Z M G Sarwar Jahangir, Ronald Eckhardt and Odilza Vital-Fill
ID 210 17:00	FINE MAPPING OF THE MAJOR SEX-DETERMINING LOCUS IN THE TURBOT (<i>SCOPHTHALMUS MAXIMUS</i> L.) Xoana Taboada, Miguel Hermida, Belén G. Pardo, Manuel Vera, Francesc Piferrer, Ana Viñas, Carmen Bouza and Paulino Martínez
ID 211 17:15	TRANSCRIPTOMIC BASES OF REPRODUCTION IN TWO PORTUGUESE POPULATIONS OF THE EUROPEAN CLAM <i>VENERUPIS DECUSSATA</i> Joana Sousa, Massimo Milan, Luca Bargelloni, Marianna Pauletto, Domitilia Matias, Sandra Joaquim, Ana Margarete Matias, Virgile Quillien, Jean-Yves Daniel, Alexandra Leitão and Arnaud Huvet
ID 213 17:30	GLOBAL TRANSCRIPTOME ANALYSIS IDENTIFIES REGULATED TRANSCRIPTS AND PATHWAYS ACTIVATED DURING OOGENESIS AND EARLY EMBRYOGENESIS IN ATLANTIC COD Lene Kleppe, Rolf Brudvik Edvardsen, Tomasz Furmanek, Geir Lasse Taranger and Anna Wargelius
ID 214 17:45	DEEP SEQUENCING REVEALS MINERALIZING NOTOCHORD TRANSCRIPTOME, DURING AXIAL SKELETON ENFORCEMENT FROM NOTOCHORD TO VERTEBRA IN ATLANTIC SALMON (<i>SALMO SALAR</i> L.) Shou Wang, Tomasz Furmanek, Geir Totland, Sindre Grotmol, Harald Kryvi, Christel Krossøy and Anna Wargelius
18:00	Shuttle bus to Bodø city centre
Thursday, 5th September 2013	
09:00	Shuttle Bus to the University of Nordland
	SESSION#2: OMICS APPLICATIONS IN AQUACULTURE: NUTRITION, STRESS, HEALTH AND REPRODUCTION
09:30– 9:45	Addressing by Ms Lisbeth Berg-Hansen, Minister of Fisheries and Coastal Affairs
09:45 - 10:30	Plenary Talk Prof. Matthew Rise
ID 202 09:45	FUNCTIONAL GENOMICS RESEARCH ON ATLANTIC COD: DEFENCE, DIET, AND DEVELOPMENT
ID 215 10:30	TRANSCRIBED SINGLE NUCLEOTIDE POLYMORPHISMS MAP QUANTITATIVE TRAIT LOCI ASSOCIATED WITH RESISTANCE TO <i>AEROMONAS HYDROPHILA</i> IN ROHU CARP (<i>LABEO ROHITA</i>) Nick Robinson, Matthew Baranski, Kanta Das Mahapatra, J Saha, S Das, Y Mishra, P Das, H Barman and Pramoda Sahoo

ID 216 10:45	ASSESSMENT OF THE LONG-TERM EFFECTS OF OIL EXPOSURE ON EARLY LIFE STAGES OF HADDOCK USING TRANSCRIPTOMICS AND FITNESS OBSERVATIONS Elin Sørhus, Rolf Edvardsen, Ørjan Karlsen, Terje Van der Meeren, Trond Nordtug, Anders Thorsen, Christopher Harman and Sonnich Meier
11:00 - 11:30	COFFEE BREAK
11:30 - 12:15	Plenary Talk Dr Simon MacKenzie
ID 203 11:30	BEHAVIOUR, INDIVIDUAL VARIATION AND IMMUNITY
12:15 - 13:00	LUNCH
13:00 - 14:30	POSTER SESSION
14:30 - 16:00	ROUND TABLE DISCUSSION - Diferente Genomics Techniques and their Application in Aquaculture Research
16:00 - 20:00	EXCURSION TO KJERRINGØY
Friday, 6th September 2013	
09:00	Shuttle Bus to the University of Nordland
	SESSION#2: OMICS APPLICATIONS IN AQUACULTURE: NUTRITION, STRESS, HEALTH AND REPRODUCTION
ID 217 09:30	REGULATION OF MUSCLE TRANSCRIPTOME FOLLOWING INFLAMMATION USING IN VITRO APPROACHES Samuel Martin
ID 218 09:45	DIET TYPE AND CHALLENGE BY <i>YERSINIA RUCKERI</i> INFLUENCE THE INTESTINAL MICROBIOTA IN RAINBOW TROUT (<i>ONCORHYNCHUS MYKISS</i>) Hans-Christian Ingerslev, Inger Dalsgaard, Louise Von Gersdorff Jørgensen and Lone Madsen
ID 219 10:00	IDENTIFICATION OF CANDIDATE GENES OF FLAT OYSTER (<i>OSTREA EDULIS</i>) INVOLVED IN RESISTENCE TO BONAMIOSIS BASED ON AN OLIGO-MICROARRAY ANALYSIS Belen G Pardo, Adrián Millán, Carlos Fernández, Antonio Gómez-Tato, Jose A. Alvarez-Dios, Asunción Cao, Andrea Ramilo, Maria J. Carballal, Antonio Villalba and Paulino Martinez
ID 220 10:15	DEVELOPMENT OF COMMON CARP STRAINS GENETICALLY RESISTANT TO THE CYPRINID HERPESVIRUS-3 DISEASE USING BREEDING AND GENOMICS Roni Tadmor, Pawapol Kongchum, Eran Sandel, Sigal Lutzky, Gideon Hulata, Yniv Palti and Lior David
ID 221 10:30	HIGH-THROUGHPUT SEQUENCING OF THE ATLANTIC COD MITO-GENOME AND MITO-TRANSCRIPTOME REVEAL SURPRISING MOLECULAR FEATURES Tor Jørgensen, Bård Karlsen, Åse Emblem, Truls Moum and Steinar Johansen
ID 222 10:45	GENOMIC DIVERGENCE BETWEEN MIGRATORY AND STATIONARY ECOTYPES OF ATLANTIC COD Bård Ove Karlsen, Kevin Klingan, Åse Emblem, Tor Erik Jørgensen, Alexander Jueterbock, Tomasz Furmanek, Galice Hoarau, Steinar Johansen, Jarle Tryti Nordeide and Truls Moum
ID 223 11:00	A COMPARATIVE TRANSCRIPTOME ANALYSIS OF DIFFERENTIAL SALINITY ADAPTATION BETWEEN TWO TILAPIINE SPECIES, MOZAMBIQUE AND NILE TILAPIA Dana Ronkin, Eyal Seroussi and Avner Cnaani
11:15 - 11:45	COFFEE BREAK

SESSION#3: EPIGENOMICS / EPIGENETICS

11:45 - 12:30	Plenary Talk Prof. Peter Aleström
ID 301 11:45	THE ZEBRAFISH MODEL IN AQUACULTURE RESEARCH: ZEBRAFISH EMBRYO DEVELOPMENTAL-OMICS
12:30 - 13:30	LUNCH
13:30 - 14:15	Plenary Talk Prof. Francesc Piferrer
ID 302 13:30	EPIGENOMICS IN AQUACULTURE: PROSPECTS AND CHALLENGES
ID 303 14:15	TRANSGENERATIONAL ACTIONS OF FISH FEED AND THE EFFECT ON EPIGENETIC REGULATION OF GENE TRANSCRIPTION Kaja Helvik Skjærven, John Arne Dahl, Mari Moren, Pål A. Olsvik and Kristin Hamre
ID 304 14:30	MOLECULAR MECHANISMS MEDIATING ENHANCED FEED ACCEPTANCE OF PLANT-BASED DIET IN RAINBOW TROUT FOLLOWING EARLY EXPOSURE AT FIRST FEEDING Mukundh N. Balasubramanian, Stéphane Panserat, Johan Schrama, Mathilde Dupont-Nivet, Edwige Quillet, Françoise Médale, Sadasivam Kaushik and Inge Geurden
ID 305 14:45	PROFILING OF FAST MUSCLE MICRORNAs ASSOCIATED WITH SEXUAL MATURATION AND PHOTOPERIOD TREATMENT IN ATLANTIC COD Kazue Nagasawa, Carlo Lazado and Jorge M.O. Fernandes
ID 306 15:00	HIGH-THROUGHPUT BISULFITE SEQUENCING REVEALS PATTERNS BETWEEN GENE EXPRESSION AND METHYLATION IN THE COMMERCIALY IMPORTANT BIVALVE, <i>CRASSOSTREA GIGAS</i> Mackenzie Gaverty and Steven Roberts
ID 307 15:15	EPIGENETIC REGULATION OF MUSCLE GROWTH BY TEMPERATURE IN SENEGALESE SOLE (<i>SOLEA SENEGALENSIS</i>) Catarina Campos, Luísa M.P. Valente, Luís E.C. Conceição, Sofia Engrola and Jorge M.O. Fernandes
ID 308 15:30	GLOBAL AND LOCAL METHYLATION PATTERN IN TRIPLOID AND DIPLOID ATLANTIC SALMON Anna Wargelius, Tomasz Furmanek, Rolf Edvardsen, Elin Sørhus, Fjellidal Per Gunnar and Tom Hansen
15:45 -16:00	Closing Remarks
16:30	Shuttle bus to Bodø city centre – Free Afternoon
20:00	Gala Dinner

POSTER PRESENTATIONS

Thursday, 5th September (13:00 - 14:30)

- ID P01** **GENE EXPRESSION ANALYSIS DURING SEX DIFFERENTIATION IN TURBOT GONAD OF FISH REARED AT THREE DIFFERENT TEMPERATURES**
Diego Robledo, Jorge Hernández-Urcera, Rosa Cal, Laura Sánchez, Paulino Martínez and Ana Viñas
- ID P02** **GENETIC POLIMORPHISM IN MYTILUS POPULATIONS FROM BALTIC AND NORTH SEAS**
Małgorzata Zbawicka, Tomasz Sańko, Jakob Strand and Roman Wenne
- ID P03** **BAC LIBRARY SCREENING FOR PHYSICAL AND CYTOGENETIC ASSIGNMENT OF BAC CLONES TO THE LINKAGE MAP OF TURBOT (*SCOPHTHALMUS MAXIMUS*)**
Xoana Taboada, José Carlos Pansonato-Alves, Fausto Foresti, Paulino Martínez, Ana Viñas, Belén G. Pardo and Carmen Bouza
- ID P04** **POPULATION GENOMICS CHARACTERISTICS OF THE SOUTHERN BALTIC COD AND SALMON USING BEAD-ARRAY ANALYSIS OF SINGLE NUCLEOTIDE POLYMORPHISMS**
Anita Poćwierz-Kotus, Petereit Christoph, Bernaś Rafał, Piotr Dębowski, Agnieszka Kijewska, Armyasi Mariann, Matthew Kent, Sigbjorn Lien and Roman Wenne
- ID P05** **LOW-COVERAGE WHOLE GENOME SEQUENCING OF MUSSEL MYTILUS GALLOPROVINCIALIS, AN IMPORTANT AQUACULTURE RESOURCE IN GALICIA, SPAIN**
Maria Murgarella, Beatriz Novoa, Antonio Figueras, David Posada and Carlos Canchaya
- ID P06** **DISCOVERY OF NOVEL MICRORNAS IN ZEBRAFISH : TISSUE SPECIFIC AND SEX SPECIFIC ANALYSIS**
Candida Vaz, Jeffrey Wee, Zhi Li, Serene Ping, Vivek Tanavde and Sinnakaruppan Mathavan
- ID P07** **CHARACTERIZATION OF MOLECULAR MARKERS FOR PRIMORDIAL GERM CELLS IN ATLANTIC COD (*GADUS MORHUA*) AND ATLANTIC SALMON (*SALMO SALAR*)**
Christopher Presslauer, Kazue Nagasawa, Jorge M.O. Fernandes and Igor Babiak
- ID P08** **COMPARATIVE TRANSCRIPTOMICS AND MAPPING IN FOUR SPARID SPECIES USING NEXT-GENERATION SEQUENCING**
Costas Tsigenopoulos, Alexandros Tsakogiannis, Tereza Manousaki, Jacques Lagnel, Constantinos Mylonas, Nikolaos Papandroulakis, Dimitrios Chatziplis, Elena Sarropoulou and Georgios Kotoulas
- ID P09** **SETTING THE BASIS FOR QTL AND COMPARATIVE GENOMICS IN TWO SPARID SPECIES, *PAGRUS PAGRUS* AND *PAGELLUS ERYTHRINUS***
Alexandros Tsakogiannis, Tereza Manousaki, Vasso Terzoglou, Katerina Ekonomaki, Nikolaos Papandroulakis, Constantinos Mylonas and Costas Tsigenopoulos
- ID P10** **CHARACTERIZING SEX-SPECIFIC TRANSCRIPTOMIC SIGNATURES IN THE SHARPSNOUT SEABREAM, *DIPLodus PUNTAZO***
Tereza Manousaki, Alexandros Tsakogiannis, Elena Sarropoulou, Jacques Lagnel, Jenny Xiang, Nikolaos Papandroulakis, Constantinos Mylonas and Costas Tsigenopoulos
- ID P11** **VARIANCES IN DIETARY INFLUENCES EXPRESSION OF IMMUNE RELATED GENES OF THE GILTHEAD SEA BREAM (*SPARUS AURATA* L.)**
Fotini Kokou, Steliani Adamidou, Ioannis Karacostas and Elena Sarropoulou
- ID P12** **PHOTIC PLASTICITY OF THE DIVERSE SKELETAL MUSCLE MYOSIN FAMILY OF ATLANTIC COD**
Carlo Lazado, Kazue Nagasawa, Igor Babiak and Jorge M.O. Fernandes
- ID P13** **THE GONADAL miRNA TRANSCRIPTOME OF ATLANTIC COD: DOES SEXUAL MATURATION ALTER THE MICRORNA REPERTOIRE?**
Carlo Lazado, Kazue Nagasawa, Igor Babiak, Arvind Sundaram, Alessia Giannetto and Jorge M.O. Fernandes
- ID P14** **SEX-DEPENDENT AND SEASONAL EXPRESSION OF ESTROGEN RECEPTOR GENES IN ATLANTIC COD GONADS THROUGHOUT A REPRODUCTIVE CYCLE**
Kazue Nagasawa, Christopher Presslauer, Lech Kirtiklis, Igor Babiak and Jorge M.O. Fernandes
- ID P15** **RNA-SEQ REVEALS SEASONAL CHANGES OF THE TRANSCRIPTOME PROFILE IN ATLANTIC COD MUSCLE THROUGHOUT A REPRODUCTIVE CYCLE**
Kazue Nagasawa, Elena Sarropoulou and Jorge M.O. Fernandes

ID P16	MOLECULAR DETECTION OF MORITELLA VISCOSA IN ATLANTIC SALMON (<i>SALMON SALAR</i>) Monica Fengsrud Brinchmann, Siriyappagoudar Prabhugouda, Christopher M Caipang, Martin H Iversen and Kjetil Korsnes
ID P17	INTESTINAL INFLAMMATION AND ITS AMELIORATION IN ATLANTIC SALMON MARKED BY MOLECULAR AND MICROMORPHOLOGICAL CHANGES Ghana Vasanth, D Dalia, Jep Lokesh, Jorge Fernandes, Hilde Ribe and Viswanath Kiron
ID P18	THE SALMONID CHSE-214 CELL LINE: A SUITABLE SYSTEM TO STUDY THE RESPONSE OF TC-1-LIKE TRANSPOSASES TO GENOMIC STRESS J. Braulio Gallardo-Gálvez, Teresa Méndez, Julia Béjar and M. Carmen Alvarez
ID P19	TRANSCRIPTOMIC APPROACH OF NON-MODEL SPECIE <i>CRASSOSTREA CORTEZIENSIS</i> IN RESPONSE TO THE PATHOGEN PERKINSUS MARINUS Ricardo Vazquez-Juarez, Cristina Escobedo-Fregoso and Felipe Ascencio
ID P20	IMMUNE RELATED GENE EXPRESSION OF COD LARVAE FOLLOWING ENHANCEMENT OF LIVE FEED Jonina Johannsdottir, Leifur G Gretarsson, Agnar Steinarsson and Rannveig Bjornsdottir
ID P21	FUNCTIONAL GENOME ANNOTATION AND CANDIDATE GENES IDENTIFICATION IN <i>LITOPENAEUS VANNAMEI</i> SHRIMP Camilla Santos, Pedro Galetti Jr. and Patrícia Freitas
ID P22	SNPs IN HSC70 GENE ASSOCIATED TO MACROBRACHIUM AMAZONICUM GROWTH TRAITS Danielly Veloso Blanck, Patrícia Domingues Freitas and Pedro Manoel Galetti Jr
ID P23	DISCOVERY OF THREE LYSOZYME TYPES FROM DISC ABALONE: GENOMIC ARCHITECTURE AND POSSIBLE EVIDENCES FOR THEIR ROLE IN ANTIBACTERIAL DEFENSE Navaneethaiyer Umasuthan, Bathige S. D. N. K., Saranya Revathy Kasthuri and Jehee Lee
ID P24	ANTIVIRAL ROLE OF CYTOSOLIC SENSORS, LGP2 AND MDA5 IN ROCK BREEM, <i>OPLEGNATHUS FASCIATUS</i> Saranya Revathy Kasthuri, Qiang Wan and Jehee Lee
ID P25	MOLECULAR INSIGHTS INTO A POTENT PLAYER IN ANTIOXIDANT DEFENSE, IDENTIFIED FROM ROCK BREEM (<i>OPLEGNATHUS FASCIATUS</i>) Don Anushka Sandaruwan Elvitigala, H.K.A Premachandra, Whang Ilson and Jehee Lee
ID P26	FOUR COMPLEMENT COMPONENTS (C3, C4, C5 AND C1 INHIBITOR) FROM ROCK BREEM (<i>OPLEGNATHUS FASCIATUS</i>): MOLECULAR ASPECTS IN RELEVANCE TO GENOMIC STRUCTURES AND TRANSCRIPTIONAL PROFILES Niroshana Wickramaarachchi, Gelshan Imarshana Godahewa, Mahanama De Zoysa, Ilson Whang and Jehee Lee
ID P27	DIFFERENTIAL GENE EXPRESSION AND TRANSCRIPTOME CHARACTERIZATION IN EUROPEAN SEA BASS (<i>DICENTRARCHUS LABRAX</i>) LARVAL STAGES Elisavet Kaitetzidou, Jenny Xiang, Constantinos Tsigenopoulos and Elena Sarropoulou
ID P28	UNDERSTANDING CELLULAR AND MOLECULAR RESPONSES IN <i>PENAEUS MONODON</i> TO DEVELOP ORAL VACCINES AGAINST WSSV A.D. Kulkarni, V. Kiron, J.H.W.M. Rombout, M. F. Brinchmann, C.M.A. Caipang and I.S.B.Singh



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