ISFNF 2018 SCIENTIFIC PROGRAM

JUNE 3RD, SUNDAY

15:00 – 20:00	**Technical Secretariat opens for registration at the Auditorium Alfredo Kraus**
20:30 -22:00	**Welcome cocktail at Poema del Mar**

JUNE 4TH, MONDAY

08:30 – 09:00	**Opening Ceremony**
09:00 – 10:30	**Session 1: Nutrition and Product Quality** *Chairs: Ronald Hardy and Marisol Izquierdo*
09.00	Evolutionary aspects of the dietary omega-6/omega-3 fatty acid ratio *Dr. Artemis P. Simopoulos*
09.30	Physichemical properties, flavor associated amino acid composition and inosinic acid content and healthcare fatty acids constituents influenced by nucleotides in the muscle of grass carp (*Ctenopharyngodon idellus*) *Prof. Lin Feng*
09.45	Use of prebiotics and probiotics in Tropical Gar (Atractosteus Tropicus) Juveniles *Dr. Emyr Saúl Peña-Marín*
10.00	Effect of elevated temperature on astaxanthin deposition and distribution in the fillet of Atlantic salmon (*Salmo salar* L.) post-smolt *Mr. Martin Grünenwald*
10.15	Site specific environmental conditions shape the productivity of Atlantic salmon farming in Tasmania – insights towards nutritional advancement *Mr. Matthew K. Jago*
10:30 – 11:15	**Coffee Break**
	Poster Session 1: Nutrition and Product Quality *Chairs: Genevieve Corraze and Orhan Tufan Eroldogan* Presentations of posters P.1.01 – P.1.16
11:15 – 12:45	**Session 2.1: Nutritional Requirements I** *Chairs: Brett Glencross y Lidia Robaina*
11.15	The role of branched-chain amino acids in the aquaculture of red drum, *Sciaenops ocellatus* l. – defining dietary requirements and elucidating antagonistic effects *Prof. Delbert Gatlin*
11.30	Dietary leucine modulates growth performance, glucose metabolism, antioxidant and immunity related signaling molecules in juvenile blunt snout bream, *Megalobrama amblycephala* *Prof. Mingchun Ren*
11.45	Effects of dietary leucine levels on growth performance, feed utilization, neuro-endocrine growth axis and TOR- related signaling molecule expression in juvenile hybrid grouper (*Epinephelusfus coguttatus* ♀ × *Epinephelus lanceolatus* ♂) *Dr. Gao Yujie*

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12.00 Dietary methionine spares taurine in sub-adult yellowtail kingfish (*Seriola lalandi*)
Ms. Caroline Candebat

12.15 Evaluation of synchronicity of methionine in the hemolymph of Pacific white shrimp *Litopenaeus vannamei* fed diets containing different methionine sources
Dr. Donald Davis

12.30 Research progress of color formation and its nutritional regulation of Chinese mitten crab (*Eriocheir sinensis*)
Prof. Xugan Wu

12:45 – 14:15 Buffet-Lunch

14:15 – 15:45 Session 2.2: Nutritional Requirements II
Chairs: Shuichi Satoh and Carmen María Hernández-Cruz

14.15 Feeding and nutrition of pikeperch *Sander lucioperca* during early life stages – state of knowledge and perspectives
Prof. Patrick Kestemont

14.30 Effect of increasing dietary levels of n-3 long-chain polyunsaturated fatty acids on liver composition and histopathology of meagre (*Argyrosomus regius*, Asso 1801) fingerlings
Ms. Marta Carvalho

14.45 Requirements of omega-3 fatty acids in Atlantic salmon. Effects of graded feed additions of very long chain n-3 PUFAs on the fatty acid composition of intestinal phospholipid species.
Prof. Magny S. Thomassen

15.00 Creeping up to freshwater: complementation of the DHA biosynthetic pathway in the lineage of freshwater sole (Pleuronectiformes: Achiridae)
Mr. Yoshiyuki Matsushita

15.15 The hepatotoxicity of palmitic acid in zebrafish involves the intestinal microbiota
Prof. Zhigang Zhou

15.30 Performance, feed utilization and hepatic molecular metabolic response of weaned juvenile Atlantic bluefin tuna (*Thunnus thynnus,* L.): effect of lipid level and source
Dr. Monica Betancor

15:45 – 16:30 Coffee Break

Poster Session 2: Nutritional Requirements
Chairs: Shi-Yen Shiau y Grethe Rosenlund
Presentations P.2.01 – P.2.47

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16:30 – 18:00	**Session 2.3: Nutritional Requirements III** *Chairs: Johan Schrama and Luisa Valente*	
	16.30	Variability across and within fish species in energy utilization efficiency *Dr. Johan Schrama*
	16.45	Adipocyte response to nutrient deprivation in Atlantic salmon is influenced by its endogenous lipid composition *Dr. Marta Bou*
	17.00	Optimum selenium, manganese and copper levels in diets high in plant based feedstuffs for gilthead seabream (*Sparus aurata*) fingerlings *Mr. David Dominguez*
	17.15	Effects of different dietary selenium sources on antioxidant status and oxidative stress-related parameters in rainbow trout juveniles fed plant ingredients *Dr. Stephanie Fontagné-Dicharry*
	17.30	Assessment of twelve dietary macro and trace minerals on growth and tissue composition of black tiger prawns, *Penaeus monodon*, using a Plackett-Burman screening design *Dr. Ha Truong*
	17.45	Using an in vitro model of the fish liver to study the role of phosphorus availability on cell proliferation, cell metabolism, and intracellular trace metal homeostasis. *Dr. Matteo Minghetti*
18:00 – 20:00	**Mini Symposium 1** "Modelling approaches in aquafeeds evaluation" Organized by Sparos	
20:00	**Daily program ends**	

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JUNE 5TH, TUESDAY

08:30 – 10:30 **Session 3.1: Feed Ingredients & Technology I**
Chairs: Genevieve Corraze and Shen Shi Shiau

08.30 Recent developments in aquaculture feeds - an industry perspective
Dr. Alex Obach

09.00 Shooting ourselves in the "food": the unintended consequences of demonising fishmeal and fish oil
Prof. Giovanni M. Turchini

09.15 Omega-3 Canola Oil effectively replaces fish oil as a dietary source of docosahexaenoic acid (DHA) in feed for Atlantic salmon in freshwater and seawater
Prof. Bente Ruyter

09.30 Heterologous synthesis of omega-3 long chain polyunsaturated fatty acids in transgenic plants: a terrestrial source of fish oils
Prof. Johnathan Napier

09.45 An alternative source of long chain omega-3 fatty acids from novel canola oil for salmonid farming. Feeding trial report
Dr. Diliara Iassonova

10.00 Novel feed resources from blue and green renewable biomass
Prof. Margareth Øverland

10.15 Are terrestrial plants the solution to sustainable aquafeeds?
Dr. Karl Shearer

10:30 – 11:15 **Coffee Break**

Poster Session 3.1: Feed Ingredients & Technology I
Chairs: Stephanie Fontagné-Dicharry and Oscar Monroig
Presentations P.3.01 – P.3.34

11:15 – 12:45 **Session 3.2: Feed Ingredients & Technology II**
Chairs: Bente Ruyter and Francisco Javier Moyano

11.15 Effects of removal of three proteinaceous antinutrients from a soybean variety and level of heat treatment on nutritional value, gut microbiota and capacity for induction of enteritis in Atlantic salmon (*Salmo salar*, L)
Prof. Åshild Krogdahl

11.30 The utilisation of soy protein in aquafeeds by gold-spot grouper *Epinephelus coioides*
Dr. Igor Pirozzi

11.45 Aquatic macrophytes and almond oil-cake: Potential source of protein for *Labeo rohita*
Prof. Jaigopal Sharma

12.00 Effects of α-ketoglutarate supplementation in low-phosphorous diets on growth performance, phosphorus metabolism and NaPi-II mRNA expression of songpu mirror carp
Dr. Qiyou Xu

12.15 Feed resources in Norwegian salmon farming in 2016
Dr. Turid Synnøve Aas

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12.30 Effects of low fishmeal diets on growth and gastro-intestinal luminal and digestive conditions of European sea bass (*Dicentrarchus labrax* L.) juveniles
Dr. Luca Parma

12:45 – 14:15 Buffet-Lunch

14:15 – 15:45 Session 3.3: Feed Ingredients & Technology III
Chairs: Giovanni Turchini and Lidia Robaina

14.15 Modeling the bioaccessibility of nutrients in the gut of the gilthead seabream (*Sparus aurata*) using the response surface methodology: constraints and possibilities
Prof. Francisco J. Moyano

14.30 Comparative study on the apparent availability of zinc, selenium and manganese as inorganic metal salts or chelated sources in plant-based feeds for Atlantic salmon (*Salmo salar*) in seawater
Ms. Marta Silva

14.45 Poultry meal in red claw crayfish (*Cherax quadricarinatus*) diets in comparison to fish meal and vegetable protein mix
Prof. Orhan Tufan Eroldogan

15.00 The effect of poultry protein concentrate and phosphorus supplementation on growth, digestibility and nutrient retention efficiency in barramundi *Lates calcarifer*
Dr. Michael Salini

15.15 Tailoring of insects as aquafeed ingredients
Dr. Nina S Liland

15.30 The oil fraction and partially defatted meal of black soldier fly larvae (*Hermetia illucens*) affect differently growth performance, feed efficiency, nutrient deposition, blood glucose and lipid digestibility of rainbow trout (*Oncorhynchus mykiss*)
Dr. André Dumas

15:45 – 16:30 Coffee Break

Poster Session 3.2: Feed Ingredients & Technology II
Chairs: Douglas Tocher and Ana Farías
Presentations P.3.35 – P.3.71

16:30 – 18:00 Session 3.4: Feed Ingredients & Technology IV
Chairs: Elisabeth Cruz and Ashild Krogdahl

16.30 Health and flesh quality of Atlantic salmon fed a modern low fishmeal diet supplemented with Antarctic krill, *Euphausia superba*
Prof. Turid Mørkøre

16.45 A microalgal oil containing EPA+DHA can be an effective source of omega 3 for Atlantic salmon post-smolts
Dr. Ester Santigosa

17.00 Different physiological roles of insulin receptors in mediating nutrient metabolism in zebrafish
Prof. Dong Han

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17.15 The potential applications of stable isotopes in experimental nutrition studies
Mr. Siqin Gerile

17.30 Impact of dietary ingredient composition on fecal characteristics, nutrient availability and waste production in common carp reared in RAS
Dr. Antony Jesu Prabhu

17.45 Fatty acid metabolism and performance in Atlantic salmon as affected by dietary oils and seasonality: results from a long-term, on-farm growth trial
Mr. Thomas Mock

18:00 – 19:00	**Mini Symposium 2** "Applying yeast nutritional solutions for improved performance and health in trout and marine fish". Organized by Phileo.
19:00	**Daily program ends**

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JUNE 6TH, WEDNESDAY

08:30 – 10:30 **Session 4: Early Nutritional Interventions**
Chairs: Kangsen Mai and Fátima Linares

08.30 Nutritional programming in gilthead sea bream (*Sparus aurata*): Improvements towards better utilisation of low n-3 LC-PUFA diets
Mr. Serhat Turkmen

08.45 Dietary influence of omega-3 fatty acids on performance and lipid metabolism in three Atlantic salmon genetic groups selected by divergent Δ-6 desaturase capacity
Dr. Esmail Lutfi Royo

09.00 Selected strain of gibel carp shows better utilization on dietary carbohydrate
Prof. Shouqi` Xie

09.15 Transcriptomic and epigenetic effects of high dietary arachidonic acid in the next generation
Ms. Anne-Catrin Adam

09.30 Molecular and functional characterisation of two elovl4 elongases involved in the biosynthesis of very long-chain (> C24) polyunsaturated fatty acids in black seabream *Acanthopagrus schlegelii*
Dr. Min Jin

09.45 Vitamin E stimulates the secretion of gonadotropin hormone of broodstock tongue sole (*Cynoglossus semilaevis*): Evidences from *in vitro* and *in vivo* studies
Dr. Weifang Wang

10.00 Effect of rearing temperature on the digestive function in Cobia fry
Prof. Manuel Yúfera

10.15 Effect of dietary inorganic and organic selenium supplementation on reproduction and egg quality in rainbow trout (*Oncorhynchus mykiss*)
Ms. Pauline Wischhusen

10:30 – 11:00 **Coffee Break**

Poster Session 4: Early Nutritional Interventions
Chairs: Deborah Fracalossi and Javier Roo
Presentations P.4.01 – P.4.25

Poster Session 5: Integrative Tools in Aquaculture
Chairs: Ron Hardy and Manuel Yúfera
Presentations P.5.01 – P.5.23

11:00 – 13:30 **Session 5: Integrative Tools in Aquaculture Nutrition**
Chairs: Shouqi Xie and Jaume Pérez-Sánchez

11.00 Integrative omics approaches in gilthead sea bream (*Sparus aurata*): from nutrients to metabolites
Prof. Jaume Pérez-Sánchez

11.15 The effect of season on the gilthead seabream liver metabolome: from FT-IR fingerprints to interpretable metabolic profiles
Dr. Tomé Santos Silva

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11.30 The circadian transcriptome of marine fish (*Sparus aurata*) larvae: synchrony matters
Dr. Erick Perera

11.45 EPA and LA affect adipogenesis and lipid metabolism-related genes expression in *in vitro* and *in vivo* models of rainbow trout (*Oncorhynchus mykiss*)
Dr. Isabel Navarro

12.00 Mir-34 and sirt1/foxo1: insights of hepatic glycolipid metabolism in *Megalobrama amblycephala*
Dr. Linghong Miao

12.15 Ex vivo characterization of methionine absorption in the intestinal tract of rainbow trout (*Oncorhynchus mykiss*) using 14C radiolabeled methionine flux and gene expression
Ms. Van To

12.30 The study of the fish microbiome: the story behind the results
Dr. Karina Gajardo

12.45 Precision cut liver slice culture as a platform for studying lipid metabolism in Atlantic salmon
Mr. Thomas Harvey

13.00 Effect of low fish meal and fish oil diet on growth performance, hepatic fatty acid composition and *fads2* expression of juvenile gilthead sea bream (*Sparus aurata*) from nutritional programmed broodstock
Mr. Hanlin Xu

13.15 Integrative 1H-NMR metabolomic investigation of the effect of alternative diets on rainbow trout plasma
Mr. Simon Roques

13:30 Empowering health and defenses in Atlantic salmon with functional supplements: a comparative analysis between pre- and probiotic effects on intestinal function, metabolism and immune response
Dr. Ana Teresa Gonçalves

13:45 Daily program ends

Wednesday Afternoon: Different social activities and tours available to jointly discover the Island.

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JUNE 7TH, THURSDAY

08:30 – 10:30 **Session 6.1: Nutrition and Health I**
Chairs: Rune Wagboo and Silvia Torrecillas

08.30 Status, challenges and advances in global aquaculture
George W. Chamberlain

09.00 A possible connection between oxidative stress and production related diseases in Atlantic salmon (*Salmo salar* L)
Prof. Kristin Hamre

09.15 Dietary prebiotics and phytogenics in low fish meal and fish oil based diets for European seabass (*Dicentrarchus labrax*): effects on stress resistance
Prof. Daniel Montero

09.30 Effect of a specific composition of short- and medium- chain fatty acid 1-Monoglycerides on growth performances and gut microbiota of gilthead sea bream (*Sparus aurata*)
Ms. Emi Gliozheni

09.45 Autochthonous intestine bacteria used as microbial feed additives confer some protection to Senegalese sole with the infectious agent *Photobacterium damselae sp. piscicida*
Dr. Sónia Batista

10.00 Recovery effect of dietary β-glucan on the hypersaline stress induced immunity damage and gut microbiota in Nile tilapia
Prof. Erchao Li

10.15 Bidirectional mechanism of astaxanthin in growth performance, immune capacity, gut morphology and intestinal microbiota mediation of golden pompano (*Trachinotus ovatus*)
Dr. Jin Niu

10:30 – 11:15 **Coffee Break**

Poster Session 6: Nutrition and Health
Chairs: Delbert Gatlin and Enric Gisbert
Presentations P.6.01 – P.6.48

11:15 – 12:45 **Session 6.2: Nutrition and Health II**
Chair: Kristin Hamre and Carlos Martínez-Palacios

11.15 Effects of glycinin and β-conglycinin on growth performance, digestion and intestinal morphology in juvenile Chinese mitten crabs (*Eriocheir sinensis*)
Dr. Xiaodan Wang

11.30 Intestinal health and function of Atlantic salmon fed feed ingredients of insect origin
Mr. Yanxian Li

11.45 Environmental concentrations of antibiotics impair zebrafish gut health
Prof. Meiling Zhang

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12.00 Modelling responses to virus and functional amino acids in immune cells from diploid and triploid Atlantic salmon reared at different temperature
Dr. Sofie Charlotte Remø

12.15 Dietary amino acids inclusion in fishmeal-free diet for gilthead seabream (Sparus aurata) juveniles induces opposite effects depending on feeding time.
Mr. Lourenço Ramos Pinto

12.30 Growth performance, skin strength and consequent infestation of sea lice caligus rogercresseyi on Atlantic salmon salmo salar fed diets containing AVAILA®ZN zinc amino acid complex
Dr. Mihai Sun

12:45 – 14:15 Buffet-Lunch

14:15 – 15:45 Session 6.3: Nutrition and Health III
Chair: Alessio Bonaldo and Daniel Montero

14.15 The activation of farnesoid X receptor inhibits inflammation via antagonizing NF-κB in large yellow croaker (*Larimichthyscrocea sp.*)
Prof. Qinghui Ai

14.30 The effect of mycotoxin contaminated feed on performance and health status of *Litopenaeus vannamei*
Dr. Astrid Koppenol

14.45 Non-integrated nutrition promotes hepatic inflammation and apoptosis involving MAPK signaling pathway in largemouth bass (*Micropterus salmoides*) and the clinical function of bile acids
Prof. Min Xue

15.00 Plant sterols and cholesterol in the diet of Atlantic salmon (*Salmo salar* L.)
Dr. Nini H. Sissener

15.15 Dietary tryptophan deficiency and supplementation compromises European seabass immune status, inflammatory mechanisms and disease resistance
Ms. Marina Machado

15.30 Evaluation of the optimum dietary γ-aminobutyric acid (GABA) level in juvenile Nile tilapia, *Oreochromis niloticus*
Prof. Sungchul C. Bai

15:45 – 16:30 Coffee Break

Poster Session 7: Functional Foods in Aquaculture
Chairs: Rune Wagboo and Rina Chakrabarti
Presentations P.7.01 – P.7.30

16:30 – 17:30 Session 7: Functional Foods in Aquaculture
Chair: Delbert Gatlin and Mónica Betancor

16.30 Dietary use of mannan oligosaccharides in greater amberjack juveniles: effects on growth performance, immune gene expression and disease resistance against *Neobenedenia girellae*
Mr. Álvaro Fernández-Montero

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16.45 Effects of α-lipoic acid on growth performance, body composition, antioxidant status and lipid catabolism of juvenile Chinese mitten crab *Eriocheir sinensis* fed two lipid levels
Prof. Liqiao Chen

17.00 The effect of dietary lipoic acid supplementtion on growth, survival and feeding efficiency of *Chirostoma estor* larvae
Prof. Carlos Martínez-Palacios

17.15 Benefits of spray-dried plasma (SDP) dietary inclusion on skin and epidermal mucus of a fish model marine species: histological, transcriptomic and proteomic approaches
Mr. Borja Ordóñez-Grande

17:30 – 18:15	**Mini Symposium 3** "Functional feed additives: add more to your aquafeed!". Organized by Nutriad.
18:15	**Closing Ceremony**
20:00	**Departure for Gala Dinner from Parque Santa Catalina**

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POSTER LIST

EXHIBITION: JUNE 4TH & 5TH

June 4th, Monday

10:30 – 11:15 **Poster Session 1: Nutrition and Product Quality**

Chairs: Genevieve Corraze and Orhan Tufan Eroldogan

Presentations P.1.01 – P.1.16

P.1.01 On farm seasonal feed utilisation and proximate composition of post-smolt Atlantic salmon (*Salmo salar*)
Mr. Matthew K. Jago

P.1.02 Growth performance, fatty acid profile and meat quality of large Nile tilapia "*Oreochromis niloticus*" fed diets supplemented with linseed oil and raised under suboptimal temperature
Dr. Wilson Massamitu Furuya

P.1.03 Reducing long chain omega 3 polyunsaturated fatty acids in formulated diets for harvest size Yellowtail Kingfish (*Seriola lalandi*) – is there a trade-off between levels of omega-3 and omega-9 in some tissues?
Ms. Samantha Chown

P.1.04 Nutritional evaluation of seafood available to consumers in the UK
Dr. Matthew Sprague

P.1.06 Whole body proximate, amino acid, fatty acid and elemental composition of Atlantic salmon (*Salmo salar* L.) at harvest size from commercial farming in Norway 2017.
Mr. Torbjørn Åsgård

P.1.07 Growth performance and nutrient utilisation of Senegalese sole fed vegetable oils in plant protein-rich diets from juvenile to market size
Ms. Ana Basto

P.1.08 Nutritional effects on dark fillet spots of Atlantic salmon (*Salmo salar* L.)
Prof. Turid Mørkøre

P.1.09 Formulated pacific bluefin tuna diets improve flesh quality and increase shelf life of sashimi-grade product
Dr. Alejandro Buentello

P.1.10 Effects of storage conditions on peroxide values of commercial fish oils
Mr. Kutsal Gamsız

P.1.11 Effect of modified atmosphere packaging on microbiological and physico-chemical properties of microencapsulated diet
Ms. Supalug Kattakdad

P.1.12 Assessment of different protein/lipid ratios in diets for sea urchin, *Paracentrotus lividus*
Mr. Luís Baião

P.1.13 Effects of dietary components on absorption and retention of astaxanthin in Atlantic salmon (*Salmo salar* L.)
Mr. Trine Ytrestøyl

P.1.14 Sensory quality of Atlantic salmon (S. *salar*) fed no fish meal–no fish oil diets

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Dr. Grethe Rosenlund

P.1.15 Fish nutrition role in sensory quality traits of final products and consumer preferences
Dr. Juan Calanche

P.1.16 Effects of dietary protein level and non-protein energy source on muscle growth mechanisms in rainbow trout (*Oncorhynchus mykiss*) juveniles
Dr. Hélène Alami-Durante

10:30 – 11:15 **Poster Session 2: Nutritional Requirements**
Chairs: Shi-Yen Shiau and Grethe Rosenlund
Presentations P.2.01 – P.2.47

P.2.01 Regulation of miR-33a and cholesterol metabolism related gene expression in rainbow trout (*Oncorhynchus mykiss*) : in vivo and in vitro approaches
Dr. Sandrine Skiba-Cassy

P.2.02 The Effects of Soy Lecithin-Enriched Artemia on Growth and Survival of the Early Stages of Green Tiger Shrimp (Penaeus semisulcatus)
Dr. H. Asuman Yilmaz

P.2.03 CHARACTERIZATION OF 3-HYDROXY-3-METHYLGLUTARYL (HMG) COA REDUCTASE AND ITS REGULATION BY DIETARY SOYBEAN MEAL AND CHOLESTEROL IN GIANT GROUPER
Dr. Yu-Hung Lin

P.2.04 Lipophagy is essential for lipid metabolism in fish
Prof. Zhen-Yu Du

P.2.05 A comparative approach improving efficiency of finishing period in gilthead sea bream (*Sparus aurata*) and european sea bass (*Dicentrarchus labrax*)
Prof. Orhan Tufan Eroldogan

P.2.06 Growth and stress axis responses to dietary cholesterol in Nile tilapia *Oreochromis niloticus* in brackish water
Prof. Erchao Li

P.2.07 Effects of different dietary levels EPA + DHA on egg quality of greater amberjack (*Seriola dumerili*).
Ms. Samira Sarih

P.2.08 Effect of dietary ARA/EPA/DHA ratios on gilthead sea bream (*Sparus aurata*) growth performance and hepatic intermediary metabolism
Mr. Rui Magalhães

P.2.09 Essential fatty acid metabolism and requirements of the cleaner fish, ballan wrasse *Labrus bergylta*: Defining pathways of long-chain polyunsaturated fatty acid biosynthesis
Dr. Oscar Monroig

P.2.10 Practical dietary long-chain omega-3 polyunsaturated fatty acid requirements for large Yellowtail Kingfish (*Seriola lalandi*)
Ms. Samantha Chown

P.2.11 Mixes of plant oils for Nile tilapia at optimal and cold suboptimal temperature
Prof. Débora Machado Fracalossi

P.2.12 Dietary DHA/EPA ratio affected tissue fatty acid profiles, antioxidant capacity, hematological characteristics and expression of lipid-related genes but not growth in juvenile black seabream (*Acanthopagrus schlegelii*)
Dr. Min Jin

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P.2.13 Saturated fatty acids in diets are better utilized by juvenile tiger puffer *Takifugu rubripes* than n-6 fatty acids
Dr. Houguo Xu

P.2.14 Elucidating the biosynthesis of long-chain polyunsaturated fatty acid in a freshwater fish species, *Clarias gariepinus*
Ms. Angela Oboh

P.2.15 Effects of dietary nucleotide on growth and fatty acid composition of juvenile rainbow trout Oncorhynchus mykiss
Dr. Yutaka Haga

P.2.16 The nutrient metabolic characteristics of a low-carnitine zebrafish model
Prof. Zhen-Yu Du

P.2.17 Respiratory metabolism of juvenile spiny lobster (*Sagmariasus verreauxi*) under different feeding conditions
Mr. Shuangyao Wang

P.2.18 Modelling protein, amino acid and energy requirements of tiger grouper *Epinephelus fuscoguttatus*
Dr. Igor Pirozzi

P.2.19 Effects of dietary protein and lipid levels on growth performance, feed utilization and body composition of tahuina larva (*Cichlasoma trimaculatum*, *Amphilophus trimaculatus*)
Dr. Francisco Javier Toledo Solis

P.2.20 Effect of different dietary methionine and lysine supplementation on growth performance in practical diets for adult Common Carp (*Cyprinus carpio*)
Dr. Juyun He

P.2.21 Long-chain polyunsaturated fatty acid biosynthesis in Japanese eel Anguilla japonica: Cloning and functional characterisation of fatty acid desaturase 1 (Fads1)
Dr. Naoki Kabeya

P.2.22 Feeding of juvenile cobia Rachycentron canadum: evaluation of practical feeds, comparison of commercial fish meal replacers, and estimation of essential amino acids requirements
Mr. Thiago Raggi

P.2.23 Metabolic response to dietary taurine levels in European sea bass (*Dicentrarchus labrax*, L) juveniles
Ms. Nicole M. Pires

P.2.24 Supplementation of essential amino acids as a strategy to reduce dietary protein levels for Jian carp, *Cyprinus carpio* var. Jian
Dr. Mingchun Ren

P.2.25 Dietary arginine levels affect the synthesis from glutamic acid to arginine in juvenile hybrid grouper (*Epinephelus fuscoguttatus* ♀ × *Epinephelus lanceolatus* ♂)
Dr. Wu Xiaoyi

P.2.26 Effects of dietary lysine levels on growth, feed utilization and related gene expression of juvenile hybrid grouper (*Epinephelus fuscoguttatus* ♀ × *Epinephelus lanceolatus* ♂)
Dr. Gao Yujie

P.2.27 Is dietary taurine supplementation beneficial for Senegalese sole juveniles?
Dr. Cláudia Aragão

P.2.28 Response of Nile tilapia to decreasing levels of dietary protein balanced for essential amino acids
Dr. Karthik Masagounder

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P.2.29 Supplementation of dl-methionyl-methionine reduces the dependancy on fishmeal in diets for juvenile *Litopenaeus vannamei*
Dr. Karthik Masagounder

P.2.30 Estimating lysine and phosphorus requirements of rainbow trout and nile tilapia as a function of body weight using a factorial nutrient requirement
Ms. Fatemeh (Neda) Nemati Shizari

P.2.31 Importance of different CA/P ratios in pikeperch (*Sander lucioperca*) during the early life stage
Ms. Najlae El Kertaoui

P.2.32 Effect of inclusion of krill meal in on-growing diets on growth, survival, nutritional utilization and fry quality of seabream
Dr. Reda Saleh

P.2.33 Copper levels in diets high in vegetable ingredients for gilthead seabream (*Sparus aurata*) fingerlings
Mr. David Dominguez

P.2.34 Optimum manganese levels in diets high in vegetable ingredients for gilthead seabream (*Sparus aurata*) fingerlings
Mr. David Dominguez

P.2.35 Optimum selenium levels in diets high in vegetable ingredients for gilthead seabream (*Sparus aurata*) fingerlings
Mr. Zakarya Sehnine

P.2.36 Phosphorus: problems and solutions
Dr. Shozo Sugiura

P.2.37 Vitamin K nutritional requirements, functions and underlying mechanisms in fish: new insights from a 6 year integrative research effort.
Dr. Ignacio Fernandez

P.2.38 Choline supplementation improves growth performance of juvenile yellowtail kingfish (*Seriola lalandi*)
Ms. Angela Liu

P.2.39 Effects of glucose administration on glucose and lipid metabolism in two strains of gibel carp (*Carassius gibelio*)
Dr. Junyan Jin

P.2.40 Seasonal variations in kinetics parameters of digestive proteases in freshwater fish may help to maximize their efficiency in protein digestion
Dr. Eugene Rogozhin

P.2.41 Influence of actual stomach pH values and water temperature on the activity of pepsin in stomach of rainbow trout (*Onchorhynchys mykiss*)
Ms. Olga Golovaneva

P.2.42 Development of digestive enzyme activity in larvae of *Sphoeroides annulatus* feeding with different protocols
Dr. Mario Galaviz

P.2.43 The physiological and metabolic differences between visceral and subcutaneous adipose tissues in Nile tilapia (*Oreochromis niloticus*)
Prof. Zhen-Yu Du

P.2.44 FEEDNETICS: a tool to assist fish farms to plan feeding strategies and manage feed stocks
Mr. Filipe Soares

P.2.45 Recent advances in Totoaba, *Totoaba macdonaldi* nutrition
Dr. Lus M López

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P.2.46 WorldFish research in fish feeds and nutrition
Dr. Rodrigue Yossa

P.2.47 Systemic metabolic strategies of grass carp in response to inappropriate carbohydrate or fat diets
Ms. Xu-Fang Liang

June 5th, Tuesday

10:30 – 11:15 **Poster Session 3.1: Feed Ingredients & Technology I**
Chairs: Stephanie Fontagné-Dicharry and Oscar Monroig
Presentations P.3.01 – P.3.34

P.3.01 In vitro assessment of inmune and inflammatory response in gilthead sea bream (*Sparus aurata*, L.) intestine
Prof. Miguel Jover-Cerdá

P.3.02 Pseudo-stem by-product from Canarian banana crop (*Musa acuminata colla*): preliminary study on the inclusion for tilapia diets.
Ms. Sara Ramírez-Bolaños

P.3.03 Assessment of protein and phosphorus bioaccessibility of selected lupin species and varieties by simulating the gastrointestinal digestion of rainbow trout (*Oncorhynchus mykiss*)
Dr. Adrian Hernandez

P.3.04 European marketable lupin varieties as potential protein-rich ingredients in aquaculture
Ms. Sara Magalhães

P.3.05 Review of recent research demonstrating that low-gossypol cottonseed protein will extend the use of fish meal in the diets of several aquaculture species
Mr. Tom Wedegaertner

P.3.06 The integrative response of Atlantic salmon to fish meal replacement: from nutrigenomics to physiology
Dr. Ana Teresa Gonçalves

P.3.07 Brewers by-products as alternative ingredients for partial substitution of fish meal in aquaculture feed
Mr. David San Martin

P.3.08 Effects on the growth and blood serum parameters of plant protein concentrates on the diets for rainbow trout (*Oncorhynchus mykiss*) fingerlings.
Dr. L. Héctor Hernández Hernández

P.3.10 Apparent digestibility coefficients of protein feedstuffs for Nile tilapia (*Oreochromis niloticus* L.) under intensive farming conditions
Prof. Luiz Edivaldo Pezzato

P.3.11 Potential for using corn ddgs in European catfish (*Silurus glanis*) diets
Mr. Norbert Révész

P.3.12 Evaluation of proteases and carbohydrases in tilapia diets
Ms. Alexandra Amorocho

P.3.13 Paecilomyces variotii as a replacement for soy protein in salmonid diets, a suitability study
Ms. Alexandra Leeper

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P.3.14 High incorporation of plant protein in the diet of Nile tilapia, *Oreochromis niloticus* using exogenous protease
Dr. Mohamed Hassaan

P.3.15 The effect of non-starch polysaccharide composition and enzyme supplementation on growth performance and nutrient digestibility in Nile tilapia
Mr. Roel Maas

P.3.16 Better performance, nutrient digestibility and digestive enzyme production in Yellow catfish fed fishmeal free diets supplemented with a protease complex
Dr. M A Kabir Chowdhury

P.3.17 Fishmeal replacement with plant and animal proteins and supplementation of exogenous phytase and protease in diets for juvenile cobia (*Rachycentron canadum*)
Mr. Rafael Coelho

P.3.18 The effect of exogenous enzymes in the diet of Common carp (C. *carpio*) on growth performance and feed utilization
Mr. Wouter Meeus

P.3.19 Fishmeal replacement by feather meal and feather meal hydrolysate in rainbow trout (O. *mykiss*)
Mr. Wouter Meeus

P.3.20 Partial replacement of fishmeal protein by poultry by-product meal protein and soybean meal protein in diets for juvenile hybrid grouper (*Epinephelus fuscoguttatus* ♀ × *Epinephelus lanceolatus* ♂)
Dr. Wu Xiaoyi

P.3.21 Apparent nutrient digestibility of PAPs from poultry rendering and insect meals in rainbow trout (O. *mykiss*) and European seabass (D. *labrax*)
Dr. Gloriana Cardinaletti

P.3.22 Dietary impacts of sulphuric acid extracted fish bone compounds on tissue astaxanthin deposition and astaxanthin utilization in Atlantic salmon (*Salmo salar*)
Dr. Sissel Albrektsen

P.3.23 Evaluation of the effects of tuna fish hydrolysate inclusion in diets for Pacific white shrimp (*Litopenaeus vannamei*) reared in floating cages under commercial conditions
Dr. Kurt Servin

P.3.24 Effect of partial wild derived fish meal replacement on bile acid production and liver structure in Yellowtail Kingfish, *Seriola lalandi*
Mr. Benjamin H. Crowe

P.3.25 Graded levels of fish protein hydrolysates affect growth, free amino acid concentrations, and protein metabolism related gene expression in juvenile turbot (*Scophthalmus maximus* L.)
Dr. Yuliang Wei

P.3.26 Fish meal quality and rapid digestibility assessment methods: Towards using less, but using it better
Ms. Jessica Conlan

P.3.27 Potential of aquaculture by-products for fish meal and fish oil production in Turkey
Mr. Kutsal Gamsız

P.3.28 Evaluation of defatted krill meal as partial and total fishmeal replacement in diets for gilthead seabream (*Sparus aurata*) juveniles
Ms. Sara Moutinho

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P.3.29 In vitro protein digestion of hydrolyzed and fermented soy protein concentrates with specie-specific digestive enzymes of whiteleg shrimp
Dr. Patricia Sugui

P.3.30 In vitro bacterial and viral response in head kidney leukocytes of Atlantic salmon (*Salmo salar*) fed dietary insects meal
Ms. Oda Stenberg

P.3.31 Invertebrate meals as a sustainable aquafeed component
Dr. Alex Wan

P.3.32 Feeding Tenebrio meal during larval stage of Nile Tilapia improved fish productive performance and feed utilization
Dr. Priscila Rosa

P.3.33 Influence of insect-based diets on growth performance and body composition in fresh- and sea-water phase Atlantic salmon
Dr. Ikram Belghit

P.3.34 Free, dipeptide and tripeptide forms of lysine and leucine affected the growth, free amino acid concentrations, and protein metabolism-related gene expression of juvenile turbot (*Scophthalmus maximus* L.)
Prof. Mengqing Liang

15:45 – 16:30 **Poster Session 3.2: Feed Ingredients & Technology II**
Chairs: Douglas Tocher and Ana Farías
Presentations P.3.35 – P.3.72

P.3.35 Dietary N-carbamoylglutamate supplementation enhanced the growth and the endogenous synthesis of arginine of hybrid sturgeon juveniles under dietary arginine deficiency
Dr. Liansheng Wang

P.3.36 Effect of taurine supplementation to non or low fishmeal diet on growth, intestinal morphology and cytokines gene expression of juvenile red sea bream, *Pagrus major*
Ms. Fengyu Li

P.3.37 Growth performance and metabolism of juvenile European seabass (*Dicentrarchus labrax*) fed diets supplemented with arginine, and two lipids levels
Prof. Lilian Dena dos Santos

P.3.39 Does dietary fatty acid profile affect performance and intestinal lipid-related genes expression in gilthead sea bream?
Mr. Albert Sánchez-Moya

P.3.40 Omega-3 fatty acid bioconversion in large Atlantic salmon via the manipulation of dietary short-chain to long-chain omega-3 fatty acid ratios
Mr. Thomas Mock

P.3.41 Regulation of growth, fatty acid profiles, antioxidant capacity and expression of lipid related genes by different dietary lipid in juvenile swimming crab, *Portunus trituberculatus*
Ms. Peng Sun

P.3.42 Effects of dietary fish oil replaced by soybean oil on growth, biochemical and antioxidant responses, fatty acid composition and related gene expression of inflammation of juvenile large yellow croaker (*Larimichthys crocea*)
Mr. Xueshan Li

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P.3.43 Efficacy of novel long chain omega-3 canola oil to replace fish oil in practical diets of Pacific white shrimp
Dr. Donald Davis

P.3.44 Zebrafish as model animal for the evaluation of health effects of seaweeds
Dr. Alexander Jaramillo-Torres

P.3.45 Estimation of *Gracilaria verrucosa*, *Enteromorpha prolifera*, algae residue and fungi residue for juvenile tiger puffer (*Takifugu rubripes*)
Prof. Mengqing Liang

P.3.46 Evaluation of microalgae biomass as feed ingredient for aquafeeds: analysis of toxicity in SAF-1 and DLEC fish cell lines and heavy metal content
Dr. Virginia Casas Arrojo

P.3.47 Evaluation of microalgae biomass as feed ingredient for aquafeeds: chemical characterization
Dr. Juan Luis Gómez Pinchetti

P.3.48 Evaluation of microalgae biomass as feed ingredient for aquafeeds: *In vitro* protein hydrolysis by digestive proteases of marine fish
Dr. Antonio Jesús Vizcaíno

P.3.49 Evaluation of microalgae biomass as feed ingredient for aquafeeds: cell wall disruption with exogenous enzymes
Dr. Juan Luis Gómez-Pinchetti

P.3.50 Assessing algal biomasses as potential ingredients in microdiets for Senegalese sole (*Solea senegalensis*) larvae
Mr. Wilson Pinto

P.3.51 Replacement of fish oil with a mixture of microalgae meal (*Schizochytrium limacinum* and *Nannochloropsis oceanica*) in diets of rainbow trout (*Oncorhynchus mykiss*) post-smolts: Implication on growth performance, health and product quality.
Dr. Edison Serrano

P.3.52 Effects of dietary fish oil replacement by microalgae, *Schizochytrium sp*. on growth performance, body composition and fatty acid profile of juvenile red seabream, *Pagrus major*
Mr. Taekyoung Seong

P.3.54 Effects of glucose-glycine melanoidins on apparent digestibility coefficients of minerals in the rainbow trout *Oncorhynchus mykiss*
Dr. Lorenzo Márquez

P.3.55 Efficacy of Availa®Zn And Availa®Se for White shrimp (*Litopenaeus vannamei*)
Dr. Mihai Sun

P.3.57 Impact of ionic composition in the intestinal fluid of salmonids and amino acids on solubility of dietary zinc *in vitro*
Dr. Antony Jesu Prabhu

P.3.58 Dynamics of the digestion of phosphorus in Rainbow Trout (*Oncorhynchus mykiss*) with emphasis on phytate and bone phosphorus
Ms. Flavia Mota Damasceno

P.3.59 Effect of bile salt supplementation on the fat digestibility of non-starch polysaccharide containing diets in rainbow trout (*Oncorhynchus mykiss*)
Mr. Thomas Staessen

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P.3.60 Does a high-starch diet affect the muscular and hepatic metabolome in barramundi (*Lates calcarifer*)?
Dr. Mariana Palma

P.3.61 The effects of amylose and amylopectin levels on glucose metabolism of pacu *Piaractus mesopotamicus*
Dr. Leonardo Susumu Takahashi

P.3.62 Effects of taste components on growth performance and digestive function in Red seabream (*Pagrus major*) fed free fishmeal soybean concentrate-based diet
Ms. Siriporn Tola

P.3.63 Effects of dietary astaxanthin on growth performance and lipid accumulation of juvenile tiger puffer *Takifugu rubripes*
Dr. Houguo Xu

P.3.64 Effect of automatic feeding system in productivity of White shrimp (*Litopenaeus vannamei*) farmed in semi-extensive ponds
Mr. Juan Carlos Valle

P.3.65 Mechanism on feed intake regulation of *Lateolabrax japonicus* when fishmeal was replaced by plant protein
Dr. Xiaofang Liang

P.3.66 Impact of dissolved oxygen level on feed intake and growth performances of tilapia reared in tanks
Ms. Delphine Weissman

P.3.68 Hardness and disintegration stability of extruded feed affects fish performance
Dr. André S Bogevik

P.3.69 Effects of an unprecedented summer heatwave on the growth performance, flesh colour and plasma biochemistry of marine cage-farmed Atlantic salmon (*Salmo salar*)
Dr. Nick Wade

P.3.70 Integrated multitrophic aquaculture system (IMTA) for European seabass and sea urchin production versus monoproduction of European seabass
Mr. Rui Magalhães

P.3.71 Nutritional value of *Hermetia illucens* and *Tenebrio molitor* partially defatted and non-defatted meals for European seabass: in vivo apparent nutrient digestibility
Ms. Ana Basto

P.3.72 Evaluation of sacha inchi oil as alternative lipid resource in diets for juveniles of rainbow trout *Oncorhynchus mykiss*
Mr. Bruno Tadeo Marota Lima

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POSTER LIST

EXHIBITION: JUNE 6TH & 7TH

June 6th, Wednesday

10:30 – 11:15 **Poster Session 4: Early Nutritional Interventions**

Chairs: Deborah Fracalossi and Javier Roo

Presentations P.4.01 – P.4.27

P.4.01 COPEPODS OR ROTIFERS? EVALUATING THE USE OF DIFFERENT FEEDING PROTOCOLS FOR LARVAE OF ATLANTIC BLUEFIN TUNA (Thunnus thynnus. L)
Prof. Gabriel Mourente

P.4.02 Microalgae replacement by *Ulva rigida* in Pacific oysters (*Crassostrea gigas*) diet: effects on broodstock conditioning, gonadal maturation and spawning success
Prof. Luisa M.P. Valente

P.4.03 Fatty acid compositon of oocytes and eggs from wreckfish (*Polyprion americanus*) females fed with different diets
Ms. Fátima Linares

P.4.04 Dietary fish oil replacement by soybean oil: Effect on plasma vitellogenin, sex steroids and ovarian steroidogenesis in Chinese strip-necked turtles (*Mauremys sinensis*)
Dr. Meiling Hong

P.4.05 Does arachidonic acid affect the maturation and reproduction performance in virgin RAS-reared pikeperch breeders?
Dr. Zsuzsanna Sándor J.

P.4.06 Arginine influences the *Rhamdia quelen* reproduction
Prof. Elizabeth Romagosa

P.4.07 Effect of food restriction on reproductive performances and egg quality in rainbow trout (*Oncorhynchus mykiss*)
Dr. Sandrine Skiba

P.4.08 Early nutritional intervention using yeast in diets for smoltifying Atlantic salmon (*Salmo salar L*)
Dr. Brankica Djordjevic

P.4.09 Nutritional imprinting in salmon fry
Dr. Tone-Kari K Østbye

P.4.10 Nutritional programming in juveniles of the whiteleg shrimp (*Litopenaeus vannamei*) followed by a strong early feed restriction at post-larval stage
Mr. Stephane Panserat

P.4.11 Genetic variation in digestibility in Atlantic salmon (*Salmo salar*)
Ms. Hanne Dvergedal

P.4.12 Embryonic development in eggs of *Oreochromis niloticus*: digestive enzymes
Ms. Mayara de Moura Pereira

P.4.13 Quantifying the endogenous production of omega-3 (n-3) long-chain polyunsaturated fatty acids (EPA and DHA) in Atlantic salmon (*Salmo salar*)
Prof. Douglas R Tocher

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P.4.14 Biosynthesis of very long-chain (>C24) polyunsaturated fatty acids in gilthead seabream (*Sparus aurata*) and Senegalese sole (*Solea senegalensis*): Investigating early ontogeny and nutritional regulation
Mr. Miguel Torres Rodríguez

P.4.15 Effects of intraperitoneal injection of sulfur compounds on taurine synthesis in juvenile red sea bream (*Pagrus major*)
Ms. Tomoko Itoh

P.4.16 Long term effect of dietary methionine deficiency at the first feeding on hepatic metabolism in juveniles of rainbow trout
Ms. Sarah Séité

P.4.17 Effects of microencapsulated diets containing fish meal or plant meal and supplemented with various levels of water-soluble vitamins on growth, survival and stress resistance of common carp (*Cyprinus carpio* L.) larvae
Dr. László Ardó

P.4.18 Effect of dietary manganese and zinc supplementation on growth and bone status of Senegalese sole post-larvae
Mr. Michael Viegas

P.4.19 Activitiy of catalase enzyme in tilapia larvae: supplemented diets with organic minerals
Ms. Mayara de Moura Pereira

P.4.20 Influence of organic and inorganic minerals in tilapia larvae diets: catalase enzyme
Prof. Elizabeth Romagosa

P.4.21 Experience of growing pikeperch (*Sander lucioperca*) larvae on artificial feeds
Mr. Anatoliy Lyutikov

P.4.22 Hatchery performance of nile tilapia (*Oreochromis niloticus*) on a aquaponic system: egg quality, larval growth and ontogenic development of the digestive enzymes activities in larvae
Dr. Leire Arantzamendi

P.4.23 Improving fish viability under challenging temperatures
Dr. Sofia Engrola

P.4.24 Water temperature differentially affects the feed transit time through stomach and intestine in Cobia fry
Dr. Manuel Yúfera

P.4.25 Food management and economic viability of tambaqui (*Colossoma macropomum*) cultivated in nurseries in Cacaulândia, Rondônia – Brazil.
Prof. Xavier Meante Raica Esteves

P.4.26 Rotifers substitution in the larval feeding of Chilean corvina Cilus gilberti
Dr. Ana Farías

P.4.27 Influence of dietary fatty acid profile on reproductive performance in gilthead seabream, Sparus aurata broodstock selected for high or low fads2 expression
Mr. Ferosekhan Shajahan

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10:30 – 11:15 Poster Session 5: Integrative Tools in Aquaculture
Chairs: Ron Hardy and Manuel Yúfera
Presentations P.5.01 – P.5.23

P.5.01 Response to dietary carbohydrates in European seabass (*Dicentrarchus labrax*) in muscle by an NMR-based metabolomics approach
Dr. Ludgero Tavares

P.5.02 The potential metabolic role of the bacterial community of fish gut and their prey in a euthrophic shallow lake
Dr. Elena Kashinskaya

P.5.03 Untargeted GC-MS metabolomics reveals metabolic differences in the Chinese mitten-hand crab (*Eriocheir sinensis*) fed with dietary palm oil or olive oil
Dr. Xiaodan Wang

P.5.04 Growth, osmoregulation capacity and metabolomics analysis of the Pacific white shrimp (*Litopenaeus vannamei*) fed different lipid sources under two salinities
Dr. Ke Chen

P.5.05 Metabolic response of Nile tilapia (*Oreochromis niloticus*) to acute and chronic hypoxia stress
Dr. Liqiao Chen

P.5.06 Transcriptomic response to different dietary soy lecithin levels in female *Portunus trituberculatus*
Dr. Liyun Ding

P.5.07 Combination regulation of transcriptomics and miRNA in fish oil oxidative stress and emodin protection in *Megalobrama amblycephala*
Prof. Bo Liu

P.5.08 Evaluating the immunostimulant effect of a experimental diet on gills mucosal tissue using transcriptomic tools: from gene expression to the biological context
Dr. Felipe E. Reyes-López

P.5.09 Development of high-throughput proteomic resources for the Giant Tiger Prawn, *Penaeus monodon*, and implications for nutrition research
Dr. Nick Wade

P.5.10 Isolation and characterization of elovl5 and elovl2 elongases from tambaqui (*Colossoma macropomum*)
Mr. Renato Ferraz

P.5.11 Hepatic glucose metabolic responses to digestible dietary carbohydrates in two isogenic lines of rainbow trout
Dr. Stephane Panserat

P.5.12 Molecular characterization, tissue distribution of carnitine palmitoyltransferase genes and effects of dietary fish oil replacement on their expression in the heptatopancreas of Chinese mitten crab *Eriocheir sinensis*
Ms. Li Liu

P.5.13 Effects of the replacement of vegetable oil on the serum lipid metabolism in large yellow croaker (*Larimichthys crocea*)
Ms. Si Zhu

P.5.14 Life-stage associated remodeling of lipid metabolism regulation in Atlantic salmon
Mr. Gareth Gillard

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P.5.15 Effect of plant-based diets with varying ratios of ω6 to ω3 fatty acids on growth, tissue composition, hepatic gene expression and fatty acid biosynthesis in atlantic salmon (*Salmo salar*)
Mr. Tomer Katan

P.5.16 A systemic study of lipid metabolism regulation in salmon larvae and early juvenile fed vegetable oil
Mr. Yang Jin

P.5.17 Cysteamine pathway: a major taurine synthesizing pathway in common carp *Cyprinus carpio*
Ms. Maria Mojena Gonzales-Plasus

P.5.18 Targeted gene expression panels and microbiota analysis provide insight into the effects of alternative production diet formulations on channel catfish nutritional physiology
Prof. Brian Small

P.5.19 Regulating reproduction: RNA-seq analysis of variation in ovarian arachidonic acid levels in domesticated *Penaeus monodon*
Dr. Nick Wade

P.5.20 Hypomethylated CG islands of sirtuin promoters in gilthead sea bream (*Sparus aurata*)
Ms. Paula Simó-Mirabet

P.5.21 MicroRNAs associate with glucose metabolism in different organs of blunt snout bream (*Megalobrama amblycephala*)
Dr. Linghong Miao

P.5.22 Dietary carbohydrate promotes de novo lipogenesis in barramundi (*Lates calcarifer*) as estimated using deuterated water ($2H_2O$)
Dr. Ivan Viegas

P.5.23 Comparative analysis of digestive enzymes of sympatric pair of whitefishes (Altai Region, Russia)
Dr. Mikhail Solovyev

June 7th, Thursday

10:30 – 11:15 **Poster Session 6: Nutrition and Health**
Chairs: Delbert Gatlin and Enric Gisbert
Presentations P.6.01 – P.6.49

P.6.01 *In vitro* evaluation of crude extracts of *Bacillus pumilus*, *Bacillus safensis* and *Pseudoalteromonas piscicida* against shrimp pathogenic bacteria and their potential antibacterial activity
Dr. Lucia Elizabeth Cruz Suarez

P.6.02 Effect of mannaoligosaccharides on African catfish (*Clarias gariepinus*) production
Dr. Ayodeji Adeoye

P.6.03 Systematic review and meta-analysis highlight a paucity of published information regarding specific dietary influences on omega-3 fatty acid levels in fillet tissue of Atlantic salmon
Mr. David Francis

P.6.04 How high-fat diet regulates the lipid accumulation in fish by intestinal microbiota
Dr. Meiling Zhang

P.6.05 Analyzing epidermal mucus metabolites as non-invasive methodology on gilthead sea bream welfare: effects of dietary additives
Mr. Ignasi Sanahuja

P.6.06 Evaluation of cassava chips as an alternative feed ingredient in hybrid tilapia (*Oreochromis niloticus x Oreochromis mossambicus*) aquaculture from gut health perspective
Ms. Alyssa MacDonald

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P.6.07 Threonine deficiency decreased intestinal immunity and aggravated inflammation associated with NF-κB and TOR signaling pathways in juvenile grass carp (*Ctenopharyngodon idella*) after infection with *Aeromonas hydrophila*
Prof. Lin Feng

P.6.08 GutMatters – A new project: "Defining and improving intestinal health in farmed salmon in Norway"
Prof. Åshild Krogdahl

P.6.09 Effects of life stages, smolt types (S0 and S1) and a functional feed on performance and gut health of Atlantic salmon (*Salmo salar*) under arctic conditions
Mr. Jie Wang

P.6.10 Intestinal health of Atlantic salmon fed yeast produced from non-food biomasses
Ms. Mette Hofossæter

P.6.11 Gut health and digestive function in the cleaner fish Ballan wrasse (*Labrus bergylta*)
Dr. Trond M. Kortner

P.6.12 Effect of yeast (*Saccharomyces cerevisiae*) products on African catfish (*Clarias gariepinus*) production
Dr. Ayodeji Adeoye

P.6.13 Effect of different dietary n-3 long-chain polyunsaturated fatty acids levels on stress response of meagre (*Argyrosomus regius*, Asso 1801) juveniles
Ms. Marta Carvalho

P.6.14 Can dietary vitamins modulate kidney antioxidant status of rainbow trout under high rearing conditions?
Dr. Cristina Elena Trenzado

P.6.15 Effects of vitamin E supplementation in the diet of Rohu
Dr. Naheed Bano

P.6.16 Effect on haematological parameters and plasma metabolites of dietary tryptophan supplementation in *Dicentrarchus labrax* reared at two density conditions
Dr. Amalia Pérez-Jiménez

P.6.17 Effect on growth performance and feed utilization of dietary tryptophan supplementation in *Dicentrarchus labrax* reared at two density conditions
Dr. Amalia Pérez-Jiménez

P.6.18 Stress-attenuating diets with amino acid supplements do not alter the energy metabolism in meagre (*Argyrosomus regius*)
Dr. Marcelino Herrera

P.6.19 Mucus metabolites to determine the netting stress in meagre: effects of preventive supplementation with specific amino acids
Dr. Laura Fernández-Alacid

P.6.20 Methionine and aurine effects on post inflammation oxidative stress in European sea bass (*Dicentrarchus labrax*) juveniles
Dr. Filipe Coutinho

P.6.21 Dietary citric acid supplementation alleviates soybean meal induced intestinal oxidative damage and micro-ecological imbalance in juvenile turbot, *Scophthalmus maximus* L.
Dr. Yanjiao Zhang

P.6.22 Effects of different dietary selenium sources on growth performance, liver and muscle composition, antioxidant status, stress response and expression of related genes in gilthead seabream (*Sparus aurata*)
Ms. Marwa Mechlaoui

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P.6.23 Performance of rainbow trout (*Oncorhynchus mykiss*) fed diets varying in fishmeal and crude protein levels exposed to normal-growing or chronic-stress conditions
Dr. Ronald W. Hardy

P.6.24 Molecular characterization of enzyme families controlling the urea cycle and their transcriptional responses to inflammation in rainbow trout (*Oncorhynchus mykiss*)
Mr. Thomas Clark

P.6.25 Changes in antioxidant status, immune response and ammonia stress tolerance of juvenile Pacific white shrimp (*Litopenaeus vannamei*) fed different levels of dietary myo-inositol
Mr. Lixia Tian

P.6.26 Arginine or citrulline supplementation in diets for European seabass deteriorates host immune condition and inflammatory response
Dr. Rita Azeredo

P.6.27 Dietary glutamine supplementation on innate immune response of Nile tilapia subjected to bacterial challenge
Dr. Pedro L. P. F. Carvalho

P.6.28 Effects of dietary inosine 5'monophosphate on growth performance, immune response, and salinity tolerance of gibel carp
Mr. Haokun LIU

P.6.29 Progress towards a better understanding of the impact of diet on immunity of farmed Atlantic salmon (*Salmo salar*)
Dr. Albert Caballero-Solares

P.6.30 Growth, head kidney lipid composition, and gene expression in *Salmo salar* fed varying levels of different ω-3 and ω-6 PUFA
Dr. Chris Parrish

P.6.31 Evaluation of Immunostimulatory properties of Achyranthes aspera in rohu *Labeo rohita* in pond conditions
Prof. Rina Chakrabarti

P.6.32 Effect of down-stream processing of bakers yeast (*Saccharomyces cerevisiae*) on digestibility and immune response in Atlantic salmon (*Salmo salar*)
Dr. Jon Øvrum Hansen

P.6.33 Origanum vulgare administered in fish diets enhance humoral and cellular immunity of gilthead seabream (*Sparus aurata* L.)
Mr. José María García Beltrán

P.6.34 Immuno-biochemical response and hepatic oxidative status of *Labeo rohita* fingerlings fed detoxified Jatropha Protein Isolate
Dr. Femi Fawole

P.6.35 Beneficial combination of β–glucan with different dietary lipid sources on growth, immune response, fatty acid profile and expression of several genes involved in immunology, lipid biosynthesis and eicosanoid process in common carp (*Cyprinus carpio*)
Ms. Thi Mai Nguyen

P.6.36 Effects of dietary administration of fenugreek seeds on metabolic parameters and immune status of gilthead seabream (*Sparus aurata* L.)
Mr. José Maria García-Beltran

P.6.37 Aflatoxin B1 damages the structural integrity of immune organs as well as the potential mechanisms in fish
Prof. Wei-Dan Jiang

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P.6.38 Dietary replacement of fish-meal impaired immune capacity, induced intestinal damage and changed the member phospholipid composition of juvenile Pacific white shrimp, *Litopenaeus vannamei* at low salinity
Dr. Shiwei Xie

P.6.39 Influence of dietary lipid source and culture density on liver histology and antioxidant status of rainbow trout
Dr. Cristina Elena Trenzado

P.6.40 Pectin interferenced the enterohepatic circulation and biosynthesis of bile acid in *Pelteobagrus fulvidraco* and induced hepatic adipose infiltration
Prof. Chunfang Cai

P.6.41 Assessment of liver lipid accumulation in Atlantic salmon (*Salmo salar*) fed an insect-based diet
Mr. Petter Gjesdal

P.6.42 The effect of fish density and dietary supplementation of vitamin C, manganese, zinc and selenium on the development of systemic granulomatosis in juvenile meagre (*Argyrosomus regius*)
Mr. M.A. Ruiz

P.6.43 Incidence of systemic granulomatosis is modulated by the feeding sequence, type of enrichment and dietary supplementation of vitamin E and C in meagre (*Argyrosomus regius*) larvae
Mr. M.A. Ruiz

P.6.44 Dietary vitamin C supplementation stimulates fin regeneration process in zebrafish (*Danio rerio*)
Prof. Margarida Maria Barros

P.6.45 Impact of dietary potassium diformate on bacterially-challenged tilapia under commercial conditions
Dr. Christian Lückstädt

P.6.46 An *Ecklonia arborea* phlorotannins-rich extract as a potential feed additive against Vibrio parahaemolyticus causative of acute hepatopancreatic necrosis disease (AHPND) in shrimp
Dr. Lucía Elizabeth Cruz-Suárez

P.6.47 Effects of dietary *Spirulina platensis* on growth, immune response, disease resistance and gene expression of Toll-like receptor 2 pathway in gibel carp (*Carassius auratus gibelio var*. CAS III)
Prof. Xiaoming Zhu

P.6.48 Use of essential oils in feeds for gilthead seabream for preventing parasitic infections by *Sparicotyle chrisophrii*
Dr. Alicia Estévez

P.6.49 The effect of dietary n-3 LC-PUFA on antioxidative capability of juvenile Japanese seabass *Lateolabrax japonicas*
Mr. Hanlin Xu

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15:45 – 16:30 **Poster Session 7: Functional Foods in Aquaculture**
Chairs: Rune Wagboo and Rina Chakrabarti
Presentations P.7.01 – P.7.30

P.7.01 Use of microdiets enriched with probiotics (*Lactobacillus acidophilus* and *Lactobacillus plantarum*) as growth and survival promoters for pike silverside larvae (*Chirostoma estor*)
Mr. Eduardo Martínez-Angeles

P.7.02 Effect of yeast (*Xanthophyllomyces dendrorhous*) and plant (Saint John's wort, lemon balm, and rosemary) extract-based functional diets on antioxidant and immune status of Atlantic salmon (*Salmo salar*) subjected to crowding stress
Dr. Eva Vallejos-Vidal

P.7.03 Short-term effects of functional additives in gut health, oxidative status and innate immunity of gilthead seabream juveniles
Mr. Bruno Reis

P.7.04 Effects of dietary immunostimulants on the immune condition in gilthead sea bream (*Sparus aurata*)
Mr. Firmino Joana

P.7.05 Effect of β-glucans extracted from yeast cell-wall mutants on the survival and expression of immune-related genes in gnotobiotic *Artemia franciscana* upon *Vibrio harveyi* infection
Mr. Biao Han

P.7.06 Dietary prebiotics and phytogenics in low fish meal and fish oil based diets for european seabass (*Dicentrarchus labrax*): an effective tool to boost mucosal tissues health and disease resistance?
Dr. Silvia Torrecillas

P.7.07 Exopolysaccharides from Lactobacillus rhamnosus GG ameliorate hepatic steatosis in HFD-fed zebrafish in collaboration with gut microbiota
Mr. Zhen Zhang

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