



**CHALMERS**

**WEFTA 2011**



41<sup>st</sup> WEFTA Meeting, 27-30 September 2011, Gothenburg, Sweden  
www.wefta2011.org

41<sup>st</sup> West European Fish Technologists Association (WEFTA)  
Annual Meeting

*“Seafood for the Modern Consumer”*

FULL PROGRAM

**Wednesday 28 September**

- 09.00-09.15 Opening ceremony:  
*Ingrid Undeland, Professor Food Science, Chair WEFTA 2011, Chalmers University of Technology, Gothenburg, Sweden*  
*Anna Jöborn, Director, Department for Research and Assessment, Swedish Agency for Marine and Water Management, Gothenburg, Sweden*
- 09.15-09.45 WEFTA Award winner 2010:  
“Past and present challenges of fish technologists - where will new tools and methods lead us in the future?”  
*Torger Børresen, Research Director, DTU Food, Technical University of Denmark*
- 09.45-10.20 **SCIENTIFIC SESSION 1: Towards sustainable sources of seafood – aquaculture and rest raw materials**  
***I. Aquaculture part***  
***Chairs:*** Friederike Ziegler, Sweden and Susanna Airaksinen, Finland
- 09.45 **Keynote lecture:** Microalgae – a novel resource in food and feed production  
*René Wijffels*  
*Wageningen University, Wageningen, the Netherlands*
- 10.15 Inclusion of the microalga *Isochrysis* aff. *galbana* in organic diets of European sea bass juveniles: effects on growth, feed utilisation and fillet composition  
*Bianca Maria Poli, S. Venturini, F. Tulli, G. Chini Zittelli, E. Tibaldi, G. Giorgi, L. Rodolfi, and M.R. Tredici*  
*Florence University, Firenze, Italy*
- 10.20-10.50 Coffee break
- 10.50-12.15 **SCIENTIFIC SESSION 1, CONT**

- 10.50 The effect of protein and lipid source in organic feed for (organic) rainbow trout on sensory quality  
*Grethe Hyldig, D. Green-Petersen, C. Jacobsen, C. Baron, A. Jokumsen, I. Lund, and H. Hauch Nielsen*  
*DTU Food – National Food Institute Denmark, Kgs. Lyngby, Denmark*
- 11.05 The Norway lobster (*Nephrops norvegicus*) condition and quality as foodstuff depending on diet  
*Susanne P. Eriksson, K. Nordström, H. Styf, L. Svanberg, K. Ringdahl, J. Lövgren and B. Hernroth*  
*University of Gothenburg, Fiskebäckskil, Sweden*
- 11.20 Effects of feed, feeding regime and growth rate on flesh quality, collagen cross-links and plasma hormones in farmed Atlantic salmon  
*Chris André Johnsen, Ø. Hagen, M. Adler, E. Jönsson, P. Kling, R. Bickerdike, C. Solberg, B. T. Björnsson, and E. Åsgard Bendiksen*  
*University of Nordland, Bodø, Norway*
- 11.35 Effect of genetic background and sex on Atlantic salmon muscle collagen properties and the relationship with muscle texture  
*Helena M. Moreno, M. C. Gómez-Guillén, M. Pilar Montero, C. Jacq, T. Mørkøre, and A. J. Borderías*  
*Institute of Food Science, Technology and Nutrition (CSIC), Madrid, Spain*
- 11.50 Quality of portion-size meagre (*Argyrosomus regius*) cultured in earth ponds  
*A. Gonçalves, M. de Sá, É. Fabiane Furlan, T. Gama Pereira, C. Cardoso, N. Bandarra, P. Pousão-Ferreira, L. Ribeiro, and Maria Leonor Nunes*  
*National Institute of Biological Resources – INRB, I.P./L-IPIMAR, Lisboa, Portugal*
- 12.05 The role of feed (ingredients) in the development of flavours in oysters (*Crassostrea gigas*) cultured in land based systems  
*Jasper van Houcke, J.B. Luten, A.C. Smaal, and J.P.H. Linssen*  
*HZ University of Applied Sciences, Vlissingen, The Netherlands*
- 12.10 Estonian farmed rainbow trout competitiveness in red fish market  
*Loreida Timberg, K. Koppel, and R. Kuldjärv*  
*TFTAK, Competence Centre of Food and Fermentation Technologies, Tallinn, Estonia*
- 12.15-13.15 Lunch
- 13.15-14.15 **SCIENTIFIC SESSION 1, CONT**  
***II. Rest raw material part***  
**Chairs: Hóraldur Joensen, Faroe Islands and Anna Badiani, Italy**
- 13.15 High quality fish oil and proteins from herring rest raw material: influence by process conditions  
*Ana Karina Carvajal, R. Slizyte, I. Storrø, and M. Aursand*  
*SINTEF Fisheries and Aquaculture, Norway*

- 13.30 Life Cycle Assessment (LCA) focused on carbon footprint applied to seafood products - a basis for consumer choices. Case study comparing MSC certified Alaska pollock caught by pelagic trawls with cod caught by long-lines.  
Veronica Sund  
*SIK - The Swedish Institute for Food and Biotechnology, Gothenburg, Sweden*
- 13.45 Life Cycle Assessment (LCA) of using underutilized marine raw materials processed by the pH-shift method to replace fish mince in seafood products  
Friederike Ziegler, V. Sund, and I. Undeland  
*SIK - The Swedish Institute for Food and Biotechnology, Gothenburg, Sweden*
- 13.50 Surimi seafood from byproducts containing omega-3 fatty acids  
Margrét Geirsdóttir, P. Hamaguchi, Ó. Þ. Hilmarsson, I. Klonowzki, and H. G. Kristinsson  
*Matis, Biotechnology & Biomolecular division, Icelandic Food Research, Reykjavík, Iceland*
- 13.55 Farmed sea bass and seabream by-products: A new opportunity for high quality heat-induced gel products  
Carlos Cardoso, R. Mendes, P. Vaz-Pires, and M.L. Nunes  
*National Institute of Biological Resources, Lisbon, Portugal*
- 14.00 The Vendace Project – an applied project for sustainable development in the largest lake in Sweden – Vänern  
Elén Faxö, C. Eklund-Jonsson, I. Undeland, J. Karlsson, L. Dominique,  
*Food & Health Concept Centre, Gothenburg, Sweden*
- 14.05 **Poster presentations Session 1 (1 min oral introduction will be given by each poster presenter)**
- Poster 1.1 Potential for line-mussel production in the Great Belt (Denmark)  
Daniel Pleissner, K. Lundgreen, L. Bøttiger and H. U. Riisgård  
*Marine Biological Research Centre, University of Southern Denmark, Kerteminde, Denmark*
- Poster 1.2 Mussel meal - A sustainable high protein component in organic feed  
Odd Lindahl  
*The Swedish Royal Academy of Science, Fiskebäckskil, Sweden*
- Poster 1.3 Growth and survival of juvenile freshwater crayfish (*Astacus leptodactylus* esch. 1823) fed artemia enriched with commercial emulsions  
Seval Bahadır Koca, N. Ozgur Yigit, I. Diler, O. Uzunmehmetoglu, and B. Yazıcıoglu  
*Suleyman Demirel University, Egirdir Fisheries Faculty, Isparta, Turkey*
- Poster 1.4 European whitefish tailored to benefit the whole value chain  
Susanna Airaksinen, J-P. Suomela, M. Sandell, J. Koskela, and M. Kankainen  
*Finnish Game and Fisheries Research Institute, Turku, Finland*

- Poster 1.5      Analysis of the bioactivity of fish protein hydrolysates used as feed enrichment for Atlantic cod (*Gadus morhua*) larvae  
*Hólmfríður Sveinsdóttir, H. L. Heimisdóttir, J. Jóhannsdóttir, P. Y. Hamaguchi, A. B. Bergsson, H.G. Kristinsson, and S. Svavarsson*  
*Matís ohf. - Icelandic Food and Biotech R&D, Reykjavík, Iceland*
- Poster 1.6      Antioxidant activity of hydrolysates from discarded crustaceans  
*José Maria Vieites Fernandez, P. Ramos-Ariza, R. Gómez-Mariño, M. García-López, C.G. Sotelo, and R.I. Pérez-Martín*  
*Instituto de Investigaciones Marinas (IIM-CSIC), Vigo. Spain*
- Poster 1.7      Feed based on vegetable materials changes the muscle proteome of the carnivore rainbow trout  
*Flemming Jessen, T. Wulff, J. Bach Mikkelsen, and H. Hauch Nielsen*  
*National Food Institute, DTU, Kgs. Lyngby, Denmark*
- Poster 1.8      Seafood consumption in Portugal - Why do Portuguese eat so much fish?  
*Cheila Almeida, S. Vaz and F. Ziegler*  
*SIK - The Swedish Institute for Food and Biotechnology, Gothenburg, Sweden*
- 14.15-14.45    Coffee and Posters
- 14.45-17.10    **SCIENTIFIC SESSION 2: Product development and product communication within the seafood sector**  
**Chairs:** John Fagan, Ireland and Begoña Perez Villarreal, Spain
- 14.45            **Keynote lecture:** Consumer and market trends within the seafood sector; alignment of innovation process  
*Ole Kragh Malle*  
*Royal Greenland A/S, Svenstrup, Denmark*
- 15.15            The use of cooks, industry experts and consumers in developing new seafood products  
*Morten Heide and M. Carlehøg*  
*Nofima, Tromsø, Norway*
- 15.30            Effect of meal composition on culinary quality of fish in a pasteurised MicVac ready-meal  
*E. Holtz, Hanna Rüdel, O. Olofsson, A. Broberg, G. Hall, and L. Ahrné*  
*MicVac AB, Gothenburg, Sweden*
- 15.45            Development of flavored freeze-dried pink salmon (*Oncorhynchus gorbuscha*)  
*Alexandra Oliveira, D. Nguyen, L. Gurer, Q. Fong, P. Bechtel, B. Himelbloom, and C. Crapo*  
*University of Alaska Fairbanks, Kodiak, USA*
- 16.00-16.10    Short break
- 16.10            Innovative consumer-oriented product development of enriched seafood  
*Kolbrún Sveinsdóttir, R. Jónsdóttir, M. Geirsdóttir, and E. Martinsdóttir*  
*Matís ohf, Reykjavík, Iceland*
- 16.25            Innovative use of seafood in industrial households. Consumers' expectations  
*Marit Rødbotten, A. Segtnan, A. Vorre Skuland, B.E. Olsen, P. Lea, J.*

*Pickova, M. Åsli, T. Mørkøre, and J.T. Rosnes*  
*Nofima, Ås, Norway*

- 16.40 Innovative and attractive fish dishes  
*Jan Thomas Rosnes, T. Mørkøre, M. Rødbotten, B.E. Olsen, M. Åsli, J. Pickova, and J. Hansen*  
*Nofima, Stavanger, Norway*
- 16.45 New ready to use seafood products with texture adaptations for elderly  
*Irene Peral Díez and R. Llorente Holgado*  
*AZTI Tecnalia, Parque Tecnológico de Bizkaia, Bizkaia-Spain*
- 16.50 The past and future of seafood promotion in Turkey  
*T. Tolon and Dilek Emiroglu*  
*Ege University Faculty of Fisheries, Izmir, Turkey*
- 16.55 French consumers' impressions of fresh, frozen and thawed cod; Results from a focus-group study  
*Themistoklis Altintzoglou, M. Heide, and M. Carlehög*  
*Nofima, Tromsø, Norway*
- 17.00 Development of new business concepts for the seafood sector  
*Jorunn Sofie Hansen, G. Håbesland, D. Skipnes, and A. Vorre Skuland*  
*Nofima, Stavanger Norway*
- 17.05 **Poster presentations Session 2 (1 min oral introduction will be given by each poster presenter)**
- Poster 2.1 Foreign trade profile and trends of processed seafood products in Turkey  
*T. Tolon, H. Saygi, and Dilek Emiroglu*  
*Ege University Faculty of Fisheries, Izmir, Turkey*
- Poster 2.2 Overview of the Fisheries Sector in Turkey  
*Dilek Emiroglu and D. Günay*  
*Ege University Faculty of Fisheries, Izmir, Turkey*
- Poster 2.3 Development of innovative functional product from farmed species: utilization of meagre (*Argyrosomus regius*) and dietary grape fibres  
*R. Mendes, Carlos Cardoso, B. Ribeiro, H. Silva, C. Serrano, C. Ramos, and P. Cameira dos Santos*  
*National Institute of Biological Resources, L-IPIMAR, Lisbon, Portugal*

19.00 Welcome reception, Reception Hall, Gothenburg City Hall

## Thursday 29 September

09.00-10.25 **SCIENTIFIC SESSION 3: Innovative process and detection technologies for seafood**  
**Chairs:** José Beltran, Spain and Michaela Archer, UK

09.00 **Keynote lecture:** Potentials of nano-processing within the seafood sector  
*Amparo Lopez-Rubio*  
*Novel Materials and Nanotechnology lab, IATA-CSIC, Spain*

- 09.30 Separation of marine oil components by advanced membranes - Possibilities and advantages  
*Andrea Meniconi, A.T. Boam, P. Skavaas*  
*Evonik Membrane Extraction Technology Ltd, Wembley, United Kingdom*
- 09.45 Proteomic approach to monitor the oxidative status of proteins in seafood products  
*M. Pazos, L. Méndez, Rodrigo Maestre, J.M. Gallardo, and I. Medina.*  
*Instituto de Investigaciones Marinas (IIM-CSIC), Vigo, Spain*
- 10.00 Development of a PCR Elisa System to Authenticate the Species of the *Thunnus* Genus and *Katsuwonus pelamis*  
*Francisco J. Santaclara, R. I. Pérez, and C. G. Sotelo*  
*Instituto de Investigaciones Marinas (IIM-CSIC), Vigo, Spain*
- 10.05 Simple shelf life prediction models for wireless sensor networks in fish supply chains  
*Tómas Hafliðason, G. Ólafsdóttir, B. Margeirsson, and S. Bogason*  
*University of Iceland, Reykjavik, Iceland*
- 10.10 Product adjusted packaging  
*Anlaug Adland Hansen*  
*Nofima, Ås, Norway*
- 10.15 **Poster presentations Session 3 (1 min oral introduction will be given by each poster presenter)**
- Poster 3.1 Modeling and simulation of salmon fish in superchilling technology.  
*Lilian Daniel Kaale, T. M. Eikevik, and K. Kolsaker*  
*Norwegian University of Science and Technology (NTNU), Trondheim, Norway*
- Poster 3.2 Operational performance of the desalting process of cod pieces: Pilot study  
*Graziele Gustinelli Arantes de Carvalho, L. S. Sant'Ana, P. Martin, and P. de Magalhães Padilha*  
*UNESP, São Paulo, Brazil*
- Poster 3.3 Comparison of two mitochondrial DNA sequences for the identification of Scomber species  
*Iciar Martinez, A. Velasco, R. Perez-Martin, E. Forås, M. Yamashita, and C. G Sotelo*  
*Instituto de Investigaciones Marinas (IIM-CSIC), Vigo, Spain*
- Poster 3.4 Differencing sea bass fillets frozen in different conditions by impedance measured at frequencies from 1 to 100 MHz  
*T. Janči, H. Medić, N. Marušić, T. Petrak, I. Lacković, and Sanja Vidaček*  
*University of Zagreb, Croatia*
- 10.25-10.55 Coffee and Posters
- 10.55-12.25 **SCIENTIFIC SESSION 3, CONT**  
Chairs: Stein Ove Østvik, Norway and Tómas Hafliðason, Iceland

- 10.55 Sensory testing of seafood products in the frame of the DLG Food Quality Contest  
Jörg Oehlenschläger  
DLG (German Agricultural Society) Buchholz i. d. N., Germany
- 11.10 Endpoint temperature assessment in surimi through visible spectroscopy – dealing with different water levels  
Svein Kristian Stormo, A. Holten Sivertsen, K. Heia, and D. Skipnes  
Nofima, Tromsø, Norway
- 11.25 Advanced imaging for automated inspection of 3D, color, surface scattering and subsurface scattering properties of fish and fish products  
J. R. Mathiassen, Ekrem Misimi, and S. O. Østvik  
SINTEF Fisheries and Aquaculture, Trondheim, Norway
- 11.40 Using image analysis to monitor biological changes in consume fish  
Bjørn Skovlund Dissing, S. Frosch, and M. Engelbrecht Nielsen  
Technical University of Denmark, Lyngby, Denmark
- 11.55 USE of low field NMR to Estimate freezing storage time and quality changes in hake (*Merluccius merluccius*, L.)  
I. Sánchez-Alonso, I. Martinez, J. Sánchez-Valencia, and Mercedes Careche  
Instituto de la Estructura de la Materia (IEM-CSIC), Madrid, Spain
- 12.10 Use of hyperspectral imaging for classifying fresh salmon (*Salmo salar* L.) according to the type of packaging used during storage  
Izumi Sone, R. L. Olsen, A. H. Sivertsen, G. Eilertsen, and K. Heia  
Nofima, Tromsø, Norway
- 12.15 Automated image analysis as a tool to quantify gaping and morphological features in smoked salmon slices  
Grigory V. Merkin, L. H. Stien, K. Pittman, and R. Nortvedt  
University of Bergen, High Technology Centre, Bergen, Norway
- 12.20 Fresh fish on your iPhone  
Joop Luten  
Nofima, Tromsø, Norway
- 12.25-13.25 Lunch
- 13.25-15.05 **SCIENTIFIC SESSION 4: Retaining high quality through the seafood processing chain**  
Chairs: Caroline Baron, Denmark and Sootawat Benjakul, Thailand
- 13.25 **Keynote lecture:** Why water is a key to seafood quality  
Tyre C. Lanier and C.D. Stevenson  
North Carolina State University, USA
- 13.55 Methemoglobin in oxidation of marine lipids  
Vera Kristinova, L. Skrabalova, I. Størro, and T. Rustad  
Norwegian University of Science and Technology and SINTEF, Trondheim, Norway

- 14.10 Effects of the anti-caking agent potassium ferrocyanide ( $K_4[Fe(CN)_6]$ ) on lipid oxidation of salted cod (*Gadus morhua*) during salting, storage and rehydration  
*Minh Van Nguyen, K. A. Thorarinsdottir, G. Thorkelsson, A. Gudmundsdottir, and S. Arason*  
*University of Iceland, Reykjavik, Iceland*
- 14.25 Antioxidant potential of water hyacinth (*Eichornia crassipes*): *In vitro* antioxidant activity and phenolic composition  
*Alagarsamy Surendraraj, K.H. S. Farvin, and R. Anandan*  
*Institute of Food and Dairy Technology, Tanuvas, Chennai, India*
- 14.40 Effect of the Maillard reaction on antioxidant activity and functional properties of a sugar – shrimp hydrolysate system  
*Claire Sabourin, N. Decourcelle, Y. Grohens, T. Benvegna, T. Aubry, and F. Guérard*  
*Université de Bretagne Occidentale, Plouzané, France*
- 14.45 Determination of quality and shelf life of rainbow trout (*Oncorhynchus mykiss*) coated with crab (*Potamon potamios*, Olivier 1804) chitosan during storage  
*A. Günlü, Şengül Bilgin, Y. Bolat, L. İzci, S. Bahadır Koca, and S. Çetinkaya*  
*University of Süleyman Demirel, Isparta, Turkey*
- 14.50 **Poster presentations session 4 (1 min oral introduction will be given by each poster presenter)**
- Poster 4.1 Extended shelf life of industrially rehydrated salt cured cod by preservation with citric acid and potassium sorbate baths  
*B. Berlyanto Sedayu, H. Herland, C. Van Keer, Heidi A. Nilsen*  
*Nofima, Tromsø, Norway*
- Poster 4.2 Lipid oxidation and textural properties of refrigerated fish emulsion sausages as influenced by tannic acid and kiam wood extract  
*S. Maqsood, Soottawat Benjakul, and A. Khansaheb Balange*  
*Prince of Songkla University, Songkhla, Thailand*
- Poster 4.3 Effects of olive leaf extracts on fish fillets  
*Can Altinelataman, U. Çelik, E. Misimi, T. Dinçer, E. Burcu Şen, and A. Erdem*  
*Ege University, İzmir, Turkey*
- Poster 4.4 The effects of natural antioxidant extracts (thymus, green tea, sage and laurel) on the fatty acid content of fish burgers made from minced chub mackerel (*Scomber japonicus*)  
*Y. Özogul, E. Balıkçı, A. Şimşek, Deniz Ayas, M. Kenar, Ç. Kaçar, H. Yazgan, S. Gökdoğan*  
*Mersin University, Mersin, Turkey*
- Poster 4.5 The effects of natural antioxidant extracts (thymus, green tea, sage and laurel) on the biogenic amine contents of fish burgers made from minced chub mackerel (*Scomber japonicus*)  
*Y. Ozogul, Y. Uçar, E. Kuley, F. Ozogul, E. Balıkçı, and Deniz Ayas*  
*Mersin University, Mersin, Turkey*
- Poster 4.6 Combined effect of packaging and chitosan on the shelf-life of fresh Mediterranean swordfish (fillet steaks) stored under refrigeration (4°C)



*M. Tsiligianni, Ekaterini Papavergou, N. Soultos, T. Magra, and I.N. Savvaidis*  
*Aristotle University of Thessaloniki, Thessaloniki, Greece*

- Poster 4.7 Press juice from herring (*Clupea harengus*) as a glaze for frozen herring fillets  
*Lillie R. Cavonius and I. Undeland*  
*Chalmers University of Technology, Gothenburg, Sweden*
- Poster 4.8 Oxidative stability of frozen mackerel batches - A multivariate data analysis approach  
*M. Helbo Ekgreen, S. Frosch, Caroline P. Baron*  
*DTU Food – National Food Institute, Kgs Lyngby Denmark*
- Poster 4.9 Quality changes during frozen storage of farmed Atlantic salmon (*Salmo salar*) at -40°C and -20°C  
*A. Palihawadana, E. Sirnes, M. Bjornevik, Ørjan Hagen and C. Solberg*  
*University of Nordland, Bodø, Norway*
- Poster 4.10 How raw composition influences the development of lipid oxidation in mackerel (*Scomber scombrus*) muscle  
*Rodrigo Maestre, M. Pazos, and I. Medina*  
*Instituto de Investigaciones Marinas (IIM-CSIC), Vigo, Spain*
- Poster 4.11 Roughhead grenadier: from trap to dish  
*Kari Lisbeth Fjørtoft, B.T. Nystrand, S. Bakke, and J. Kennedy*  
*Møreforskning Marin AS, Ålesund, Norway*
- Poster 4.12 Myosin denaturation in salmon meat distributed in chilled or frozen form  
*Kunihiko Konno, W. Thavaraj, and Y. Konno*  
*Hokkaido University, Hokkaido, Japan*
- Poster 4.13 Comparing the activity of polyphenol oxidase enzyme in different parts of deep water pink shrimp (*Parapenaeus longirostris*) by using Ll-dopa substrate  
*Sukran Cakli, T. Dincer, A. Cadun, H. Rehbein, S. Tolasa, E. B.Y. Sen, O.A. Erdem, N. Demirtas, S. Dogan, C. Kocak, and A. Tokac*  
*Ege University, İzmir, Turkey*
- Poster 4.14 Quality changes during salt curing of codfish (*Gadus morhua*)  
*Helena Oliveira, A. Gonçalves, S. Pedro, M.L. Nunes, P. Vaz-Pires, R. Costa*  
*ICBAS - Instituto de Ciências Biomédicas de Abel Salazar, Porto, Portugal*
- Poster 4.15 Effects of different extraction conditions on the phenolic compounds of extracts from *Sargassum angustifolium*; in microwave-assisted extraction  
*Aria Babakhani Lashka, M. Rezaei, K. Rezaei, and S.J. Seifabadi*  
*Tarbiat Modares University, Noor, Iran*

15.05-15.35 Coffee and Posters

15.35-17.00 **SCIENTIFIC SESSION 4, CONT**

Chairs: Loreida Timberg, Estonia and Ufuk Çelik, Turkey

15.35 How to upgrade sensory potential of salmon by-product hydrolysates used as high quality source of protein?

*Christelle Kouakou, R. Baron, J-P. Berge, L. Lethaut, C. Prost, and M. Cardinal*

LUNAM University and IFREMER, Nantes, France

- 15.50 Effect of heat treatment on enzymes, chemical composition and long time storage in the marine zooplankton *Calanus finmarchicus*  
Maria Bergvik, I. Overrein, M. Bantle, J.O. Evjemo, and T. Rustad  
Norwegian University of Science and Technology (NTNU), Trondheim, Norway
- 16.05 Sodium reduction in minced fish products: Effect on physicochemical properties  
Kirsti Greiff, I. G. Aursand, U. Erikson, K.I. Draget, and T. Rustad  
SINTEF Fisheries and Aquaculture, Trondheim, Norway
- 16.20 Comparative study on protein cross-linking and gel enhancing effect of microbial transglutaminase on different fish muscle proteins  
S. Chanarat and Soottawat Benjakul  
Prince of Songkla University, Hat Yai, Songkhla, Thailand
- 16.25 Obtaining a restructured seafood product from non-functional fish muscle by adding konjac glucomannan  
B. Herranz, B. Solo-de-Zaldivar and A. Javier Borderías  
Institute of Food Science and Technology and Nutrition. (ICTAN) (CSIC), Madrid, Spain
- 16.30 Thermal denaturation properties of catfish myosin as compared with those of tilapia  
Thavaroj Wichulada and K. Kunihiro  
Hokkaido University, Hokkaido, Japan
- 16.35 Mushy tail or 'skyrhumar' in Icelandic langoustines  
Heather Philp and G. Marteinsdottir  
University of Iceland, Reykjavik, Iceland
- 16.40 Generating a year-around profitable trade of live handpicked scallops (*Pecten maximus*) with an optimal quality  
A. K. Woll, Snorre Bakke, K. L. Fjørtoft, and H. Myrseth  
Møreforskning Marin, Ålesund, Norway
- 16.45 Effect of gelatin hydrolysate on physicochemical properties of surimi subjected to different freeze-thaw cycles  
Phanat Kittiphattanabawon, S. Benjakul, W. Visessanguan, and F. Shahidi  
Prince of Songkla University, Hat Yai, Songkhla, Thailand
- 16.50 Quality assessment of fresh fish by biochemical approaches  
François Leduc, F. Krzewinski, A. N'Guessan, P. Malle, O. Kol, and G. Duflos  
ANSES, Laboratoire des produits de la pêche, Boulogne-sur-Mer, France
- 16.55 Improving sensorial characteristics of *Engraulis ringens* ripened fillets  
Raquel Llorente Holgado and I. Peral Díez  
AZTI Tecnalia, Parque Tecnológico de Bizkaia, Bizkaia-Spain
- 19.00 Conference dinner at River Café

## Friday 30 September

- 09.00-10.30 **SCIENTIFIC SESSION 5: Nutritional and safety aspects of seafood consumption**  
**I. Nutrition part**  
Chairs: Steve Otwell, USA and Fabienne Guerard, France
- 09.00 **Keynote lecture:** Early fish consumption – key to avoid allergy in childhood?  
Agnes Wold  
*University of Gothenburg, Sweden*
- 09.30 Effects of a fish or meat diet during perinatal and postweaning periods on insulin sensitivity, adiposity and lipid profile in adult offspring  
Aysha Hussain, N. Jansson, R. Jakubowicz, and A. Holmång  
*Sahlgrenska Academy, University of Gothenburg, Sweden*
- 09.45 Bioactive peptides from Atlantic mackerel (*Scomber scombrus*)  
Nazlin K Howell and C. Kasase  
*University of Surrey, UK*
- 10.00 Effect of alkaline pH-shift processing on *in vitro* digestibility of herring (*Clupea harengus*) protein  
Sofia Marmor and I. Undeland  
*Chalmers University of Technology, Gothenburg, Sweden*
- 10.15 Comparison of *in-vitro* chemical and cellular based antioxidant assays on bioactive marine peptides  
Patricia Y. Hamaguchi, H. Sveinsdóttir, R. Jónsdóttir, and H. G. Kristinsson  
*Mátis ohf. - Icelandic Food and Biotech R&D, Reykjavík, Iceland*
- 10.20 **Poster presentations Session 5 (1 min oral introduction will be given by each poster presenter)**
- Poster 5.1 High levels of long chain polyunsaturated fatty acids in cord serum predict allergy development in childhood  
Malin Barman, S. Johansson, A. E. Wold, A.-S. Sandberg, and A. Sandin  
*Chalmers University of Technology, Gothenburg, Sweden*
- Poster 5.2 Extraction and characterization of naturally occurring bioactive peptides from different tissues from Salmon (*Salmo salar*)  
Susan Skanderup Falkenberg and H. Hauch Nielsen  
*Technical University of Denmark, National Food Institute, Kgs. Lyngby, Denmark*
- Poster 5.3 Effect of sunlight on the survival of pathogenic *E. coli* in freshwater and sea water  
Surendraraj Alagarsamy, K.H. S. Farvin, and N. Thampuran  
*Institute of Food and Dairy Technology, Tanuvas, Chennai, India*
- Poster 5.4 The effects of sex and seasonality on the metal levels of different muscle tissues of mature blue swimmer crabs (*Portunus pelagicus* Linnaeus 1758) in Mersin bay, north-eastern Mediterranean, Turkey  
Deniz Ayas, Y. Ozogul  
*Mersin University, Mersin, Turkey*

- Poster 5.5 Benefits and risks associated to the consumption of salmon commercialized in Portugal  
*C. Afonso, S. Costa, C. Cardoso, H. M. Lourenço, N. Bandarra, M. F. Martins, S. Gonçalves, and Maria Leonor Nunes*  
*Instituto Nacional dos Recursos Biológicos (INRB, I.P./L-IPIMAR), Lisboa, Portugal*
- Poster 5.6 The influences of natural zeolite (cliptinolite) on ammonia and biogenic amine formation by food-borne pathogen  
*S. Gokdogan, Y. Özogul, Y. Uçar, E. Kuley, F. Özogul, C. Kacar, and Deniz Ayas*  
*Mersin University, Mersin, Turkey*
- Poster 5.7 Regional occurrence of heavy metals in the common whelk *Buccinum undatum* – Implications for an evolving industry in Norway  
*Snorre Bakke, S. Frantzen, and C. Børnes*  
*Mjøreforsking Marin, Ålesund, Norway*
- 10.30-11.00 Coffee and posters
- 11.00-12.20 **SCIENTIFIC SESSION 5, CONT**  
***I. Nutrition part***  
**Chairs:** Britt Gabrielsson, Sweden and Svein Kristian Stormo, Norway
- 11.00 Beta-hydroxy-gamma-trimethyl amino butyric acid (L-carnitine) contents of commercially important raw and cooked seafood by HPLC method  
*Deniz Ayas, Y. Özogul, F. Özogul, E. Kuley, and A. Şimşek*  
*Mersin University, Adana, Turkey*
- 11.15 Functional ingredients in brown seaweed, *Fucus vesiculosus*  
*Hólmfríður Sveinsdóttir, J. Ó. Jónsson, P. Y. Hamaguchi, H. Benediktsson, H. G. Kristinsson, R. Jónsdóttir*  
*Matís ohf. - Icelandic Food and Biotech R&D, Reykjavík, Iceland*
- 11.30 Uncovering global impact of fish and enriched-polyunsaturated fatty acids diet in mice by systems biology  
*Intawat Nookaew, B. G. Gabrielsson, A-S. Sandberg, and J. Nielsen*  
*Chalmers Technical University, Gothenburg, Sweden*
- 11.45 Investigations into fish lipid oxidation during gastrointestinal conditions  
*Karin Larsson, L.R. Cavonius, M. Alminger, and I. Undeland*  
*Chalmers University of Technology, Gothenburg, Sweden*
- 12.00 Septic mortality is decreased in mice fed a diet rich in n-3 fatty acid or treated with n-3 resolvin metabolites  
*Sara Svahn, L. Grahnemo, S. Nilsson, and J.O. Jansson*  
*Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden*
- 12.05 Fatty acid profiling of European seabass (*Dicentrarchus labrax*) flesh as a means of authenticating production origin?  
*M. Pirini, D. Brandolini, D. Remondini, M. Trentini, Magda Rotolo, A. Badiani, and S. Testi*  
*Università di Bologna, Ozzano Emilia (BO), Italy*

- 12.10 Multi-elemental analysis by Inductively Coupled Plasma - Atomic Emission Spectroscopy (ICP-AES) of European seabass (*Dicentrarchus labrax*) from several sources  
Marina Silvi, A. Guerrieri, D. Remondini, M. Trentini, M. Rotolo, S. Testi, M. Pirini, and A. Badiani  
Università di Bologna, Cesenatico (FC), Italy
- 12.15 Selenium response to diverse household cooking methods as applied to 15 species of finfish and shellfish caught in the Mediterranean sea  
R. Orletti, E. Rocchegiani, A. Guerrieri, M. Silvi, L. Tarsi, S. Testi, and Anna Badiani  
Università di Bologna, Ozzano Emilia (BO), Italy
- 12.20-13.20 Lunch
- 13.20-15.00 **SCIENTIFIC SESSION 5 CONT**  
**II. Safety part**  
Chairs: Johan Robbens, Belgium and Helena Oliviera, Portugal
- 13.20 Fresh Start: HACCP 2011 for seafood commerce in the USA  
Steve Otwell  
University of Florida, Gainesville, USA
- 13.35 Food safety of salt-cured products. Effects of salt-curing, rehydration on survival, growth and invasiveness of *Listeria* spp  
Grete Lorentzen, S. Mennen, R. L. Olsen, I. Bjørkevoll, H. Mikkelsen, and T. Skjerdal  
Nofima, Tromsø, Norway
- 13.50 Microbiological properties of sushi during storage  
H. Herland, M. S. Wesmajervi Breiland, Heidi A. Nilsen, G. Lorentzen, and M. Cooper  
Nofima, Tromsø, Norway
- 14.05 Effect of CO<sub>2</sub> enriched atmospheres on the survival of *Listeria monocytogenes*, *Salmonella enteritidis*, *Vibrio parahaemolyticus* and *Aeromonas hydrophila* in sea bream (*Sparus aurata*) fillets  
L. Provincial, E. Guillén, M. Gil, V. Alonso, P. Roncalés, and Jose A. Beltrán  
University of Zaragoza, Zaragoza, Spain
- 14.20 Parvalbumins in herring (*Clupea harengus*): Characteristics and stability during processing  
Hartmut Rehbein and M. Schwarz  
Max Rubner-Institute, Hamburg, Germany
- 14.25 Retention and viability of *Anisakis simplex* larvae in the mechanical separation of muscle during surimi process simulation  
Fabiola Olivares, C. de las Heras, A. Mendizábal and M. Tejada  
Instituto de Ciencia y Tecnología de Alimentos y Nutrición (ICTAN), Madrid, Spain

- 14.30 Serotypes of *L. monocytogenes* isolated from RTE seafood in Northern Greece  
*Nikolaos Soutos, E. Iossifidou, Th. Lazou, D. Sergelidis, G. Drakopoulos and I. Konstantelis*  
*Aristotle University of Thessaloniki, Thessaloniki, Greece*
- 14.35 Determination of selected toxic elements by ICP-MS in Atlantic mackerel *Scomber scombrus* imported to Turkey  
*T. Yurdusever, C. Altinelataman, and Ufuk Çelik*  
*Ege University, Izmir, Turkey*
- 14.40 When meat meets fish – muscle as food, some personal reflections  
*Bo Ekstrand*  
*Aarhus University, Denmark*
- 14.55-15.15 CLOSING CEREMONY  
Information about next meeting  
Student's presentation award and poster award
- 15.20- Coffee

