



2nd International Congress on Seafood Technology
Anchorage, Alaska
10-13 May 2010

Prospectus

Background

Fisheries and aquaculture, as a food production industry, have been advancing rapidly over the last decades. Fish is now the most internationally-traded food product, with some 37 percent by volume being traded across national borders. This can be traced to the fact that fish is now a popular food commodity with a positive health image and that it generally carries low tariffs. Aquaculture has become a major success story, with its 250 plus species in production, and now globally furnishes some 48 percent (2008) of all fish for human consumption. To help boost the demand for fishery products is the increasingly strong evidence with regards to the positive health effects of fish consumption, despite the fact that fish can carry various contaminants, such as PCB's, dioxins and mercury.

Over the last decades there have been significant developments in food processing technology that have opened up various new possibilities for more value-added products, longer shelf life, and more secure distribution of fresh food, to name only a few. This is particularly important for fish and fishery products, due to their inherently short shelf life and their highly oxidative polyunsaturated lipids. Thus, fish are not only some of the most perishable of protein foods of animal origin, but also the sheer number of the very diverse species that are commercially utilized makes fish a very challenging raw material when it comes to processing and distribution.

In recent decades developing countries have achieved remarkable results in supplying the international market with fish and fishery products. Despite the stringent technical and hygienic demands of the major importers, they now supply over 50 percent of all imports. FAO has, through various programmes over the years, been heavily involved in assisting developing countries in meeting these demands, not the least of which is the now the internationally accepted Hazard Analysis Critical Control Points (HACCP) approach.

In the past, FAO convened various conferences/congresses on seafood technology, the last of which was held in 1973. In fact, since then, most fisheries technological conferences have dealt with processing technology from the perspective of safety and quality. An International Congress on Seafood Technology was held 18-21st of May 2008 by the Faculty of Fisheries of Ege University of Turkey. FAO is now joining forces with the co-organizers of that congress, i.e. the University of Alaska, Fairbanks.

Objectives of the Congress

The main objective of this Congress would be to review the best available knowledge in the main technological fields relating to seafood processing, shelf life extension and distribution. The most significant progress that has been made over the last 10-15 years in the various fields of seafood processing will reviewed by commissioned papers.

This would be in line with the objectives of the FAO Code of Conduct for Responsible fisheries, Article 11, which relates to post-harvest practices and trade.

A second objective is to call for papers and posters regarding various aspects of seafood processing, research and development in aquaculture, by-products and seafood safety, IT, robotics, and probiotics.

Participation

The Congress should bring together scientists, technologists, seafood processors, importers and exporters of fishery products, bankers and business developers, government administrators responsible for policy development, NGOs and other interested parties.

Structure and Procedure

The Congress would be structured in two parts:

First, 20 overview plenary lectures on the main technical issues would be presented. These would be delivered by prominent experts selected by the Scientific Committee. Presentations would be 30 minutes in length, followed by 5 minutes of short interventions and questions. These commissioned papers should include a brief historical introduction as well as future developments. Maximum length of the commissioned papers would be 20 pages, including tables and figures. Salient points from the discussions would be recorded and included in the proceedings, which would be in English with abstracts in 3 to 6 languages. Simultaneous translation of the presentations would be offered. Papers should be ready before the Congress starts. It is intended to publish proceedings from this part of the Congress with a commercial publisher. The Organizing Committee will attempt to negotiate with the publisher for enough free copies to have one copy of the proceedings sent to every FAO Member Country.

Second, there will be concurrent sessions with shorter presentations (15 minutes, with 5 minutes for questions). There will be a call for papers for this part.

Poster sessions will be held throughout the Congress. Also, industry related to seafood processing is invited to participate in an Expo that will span the Congress time.

For practical purposes the organizers have agreed that FAO will concentrate on commissioning papers for the first part of the Congress and University of Alaska on the second.

Organizing Committee

The task of the Organizing Committee is the overall responsibility for the structure and successful conduct of the Congress. The composition of the Organizing Committee is as follows:

Lahsen Ababouch, Food and Agriculture Organization of the United Nations (FAO), Rome, Italy. Lahsen.Ababouch@fao.org

Murat Balaban, FITC, University of Alaska. mob@sfos.uaf.edu

Sukran Cakli, Ege University, Turkey. cakli@mail.ege.edu.tr (Chair of the 1st Conference)

Paula Cullenberg, MAP and Alaska SeaGrant. anpjc@uaa.alaska.edu

Kevin O'Sullivan, Commercial Fisheries Dev. CED. kevin.osullivan@alaska.gov

Randy Rice, Alaska Seafood Marketing Institute. rice@alaskaseafood.org

Hart Schwarzenbach, Peter Pan Seafoods. harts@ppsf.com

Grimur Valdimarsson, Food and Agriculture Organization of the United Nations (FAO), Rome, Italy. Grimur.Valdimarsson@fao.org

Scientific Committee

The task of the Scientific Committee is to select speakers for the individual papers and to ensure that the quality of these is in conformity with expected standards. The composition of the Scientific Committee is as follows:

Lahsen Ababouch, Food and Agriculture Organization of the United Nations (FAO), Rome, Italy. Lahsen.Ababouch@fao.org

Murat Balaban, Fishery Industrial Technology Center, University of Alaska, United States of America. mob@sfos.uaf.edu

Torger Børresen, National Institute of Aquatic Resources (DTU Aqua), Denmark. tb@aqu.dtu.dk

Takashi Hirata, Graduate School of Agriculture, Kyoto University, Japan. hiratan@kais.kyoto-u.ac.jp

Hordur Kristinsson, Laboratory of Aquatic Food Biomolecular Research, Department of Food Science and Human Nutrition, University of Florida, United States of America. hordur@ufl.edu

Chengchiu Liu, Laboratory of Marine Bioresources Utilization, College of Food Science, Shanghai Ocean University, People's Republic of China. chengchuliu@yahoo.com

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Congress Fee

FAO would contribute from its Regular Programme to cover the Congress costs and to support participation from developing countries. A congress fee would be charged to other participants in order to cover necessary costs.

Content

Part 1: Commissioned Papers

1. Developments in freezing, refrigeration, cold chains and transportation. *Developments in freezing technology (IQF, block freezing, etc.), temperatures used, chilling systems and temperatures, refrigerants used, temperature controls, container systems and controls.*
2. Handling of fresh fish on board fishing vessels. *Handling systems on board, use of ice, different systems of storage, different types of ice (block, flake, seawater ice, slush ice), bleeding/gutting systems, traceability issues.*
3. Sashimi and sushi products. *Production of fish for the raw fish market, wild fish, fattened juveniles, aquaculture fish, quality issues, marketing issues and prospects.*
4. Food chain approach: slaughtering and keeping live fish. *Production, distribution and marketing of live fish, distribution techniques, slaughtering techniques, animal welfare.*
5. Salting drying and traditional canning of fish. *Technological developments for dried and salted products, canned fishery products. Markets and outlook.*
6. Heat treated fishery products in glass, pouches and trays. *Pasteurization of fishery products, sous-vide, commercially sterilized products in plastic pouches and plastic containers, markets, prospects.*
7. Processing molluscs, crustaceans and cephalopods. *Harvesting, cleaning, de-shelling, product development, markets, traceability.*
8. Advances in the development and use of fish processing equipment. *Advances in mechanical fish processing cutting devices, in-plant transportation systems, sorters and graders. Advances in more hygienic designs. Use of computer vision to sort according to size, colour and shape, portioning technology (“weight before cutting”), vision-based weighing, automatic information-gathering throughout the process.*
9. The use of vacuum packaging and modified atmospheres. *Developments in vacuum packaging of fish, materials and technologies, trends. Use of modified atmospheres, including carbon monoxide for colour stabilization.*
10. Surimi-type processing technologies. *Traditional surimi production technologies, marketing. Surimi from water soluble proteins, uses and markets. Rules of origin issues.*
11. Processing algae for human consumption and colloids. *The species used, production, processing, preservation and packaging, value addition, marketing.*
12. Advances in the production of fishmeal, fish oil and silage as animal feed. *Fishmeal production technology: development of different drying techniques, use of stickwater, use of enzymes and antioxidants, packaging, traceability issues, controlling non-mixing with meat meals, analyses and sampling regimes, the regulatory environment. The current situation with silage production: from small pelagics and from fish waste.*
13. Fishery by-products for human consumption. *Fish roe for caviar, milt, fish oil for human consumption, omega3 concentrates (capsules), fish livers, fish heads, tongues, cheeks, frames, swim bladders.*

14. Frozen fish as a raw material for reprocessing. *Freezing of fish for thawing and reprocessing. Thawing methods, reprocessing methods, effects on quality. Market trends, legal issues.*
15. Fermented fishery products. *Fermented fish products: fish sauces, small pelagics, anchovies, herring.*
16. Economics of value addition for fish and fishery products. *Value added fishery products have been defined as “delivering value and satisfaction”. What are the economics of producing such products, i.e. adding more value than the added cost? How are the revenues from such products distributed to the different actors in the value chain?*
17. Traceability of products in practice: successes and limitations. *Major systems in practical use, paper based, bar codes, RFID tags, systems to access traceability data. From sea to harbour, from harbour and aquaculture facility to processing and market.*
18. Developments in packaging technologies. *Vacuum packaging, skin packaging, use of laminate films with oxygen barrier, active packaging.*
19. Specialized products derived from fish. *Chitosan, shark cartilage, commercial enzymes, fish skin.*
20. Novel fish processing technologies: future developments. *UV light treatment, light pulses, minimal processing, use of ionizing radiation, electromagnetic radiation, hurdle processing, high pressure treatment, antibacterial compounds and probiotic bacteria, use of NMR technology and sensor technology.*

Part 2: Volunteered papers

Suggested topics for the concurrent sessions:

Sustainability practices from Alaska
 Total utilization, by-products
 Aquatic products and health (w-3 fatty acids and others)
 Safety and quality
 Education
 Processing of aquacultured products
 Economics, marketing
 Regulations, standards, certification
 Traceability
 Infrastructure requirements
 Appropriate technology
 Robotics and other Information Technologies (IT)
 Novel processes and products

There will be social events, such as the Opening Ceremony, possible visits to processing plants, Closing Ceremony, and the announcement of location for 3rd Congress.