



**8th Joint Meeting
Seafood Science and Technology Society of the Americas
Atlantic Fisheries Technology Conference
and
1st North Carolina Marine Biotechnology Symposium**

Holiday Inn SunSpree Resort
Wrightsville Beach, North Carolina
October 19-22, 2008

Sunday, October 19

- 4:00 – 7:00 p.m. **Registration**
- 5:00 – 6:00 p.m. Annual SST Executive Committee Meeting
Annual AFTC Executive Committee Meeting
- 6:00 – 7:00 p.m. Joint SST and AFTC Executive Committees Meeting
- 7:00 – 9:00 p.m. **Opening Reception**

Monday, October 20

- 7:30 a.m. Registration and continental breakfast
- 8:15 a.m. **Opening Remarks**
Barry Nash, North Carolina Sea Grant
- 8:20 a.m. **Welcome Address**
Mike Voiland, North Carolina Sea Grant
- 8:30 a.m. **Congress Address - Maximizing value from sustainable ocean resources**
Video conference from Italy
Grimur Valdimarsson, Director, Fish Products and Industry Division,
Food and Agriculture Organization of the United Nations

Session 1 – International Trade and Sustainable Fisheries

- Moderator Barry Nash, North Carolina Sea Grant
- 9:00 a.m. **Sea Grant planning and implementation for safe and sustainable seafood focus team**
Terry Smith, National Sea Grant
- 9:20 a.m. **Packaging sustainability for the seafood industry**
Barbara Blakistone, National Fisheries Institute
- 9:40 a.m. **Seafood Information Network – live online web demonstration**
Richard Watson, Sea Fish Industry Authority, United Kingdom
- 10:00 a.m. Break

Session 2 – Developments in Aquaculture

- Moderator Scott Baker, North Carolina Sea Grant
- 10:15 a.m. **Keynote Address - Marine finfish aquaculture in North Carolina: Current research and commercial pilot initiatives**
Wade O. Watanabe, Professor and Aquaculture Program Coordinator, Center for Marine Science, University of North Carolina Wilmington

- 10:45 a.m. **Recent progress on development of nutritionally-balanced, cost-effective and environmentally-friendly diets for the culture of black sea bass (*Centropristis striata*) and southern flounder (*Paralichthys lethostigma*)**
MD Shah Alam, Wade O. Watanabe and Katherine B. Sullivan
Center for Marine Science, University of North Carolina Wilmington
- 11:05 a.m. **Statewide niche market demand for farm-raised black sea bass *Centropristis striata* in North Carolina**
James D. Wilde, Christopher F. Dumas and Wade O. Watanabe, Center for Marine Science, University of North Carolina Wilmington
- 11:25 a.m. **Polyunsaturated fatty acids may be selectively retained by some fishes and saturates selectively catabolized: Evidence from nutritional studies with moronids and implications for feed finishing strategies**
Christopher C. Kohler, Jesse T. Trusshenski, Heidi A. Lewis, Shawn M. Meyer and Ryan L. Lane, Fisheries and Illinois Aquaculture Center, and Department of Zoology, Southern Illinois University
- 11:45 a.m. **Light treatment of farmed cod (*Gadus morhua*)**
Christel Solberg, Heather Bryant and Ørjan Hagen, Bødo University College, Norway
- 12:30 p.m. **Luncheon Address**
David Green, North Carolina State University
Joseph W. Reardon, Director, Food and Drug Protection Division, North Carolina Department of Agriculture and Consumer Services
- 1:00 p.m. **Poster Displays (Concurrent)**
- Optimization of gelatin extraction from silver carp skin**
Gokhan Boran and Joe M. Regenstein, Cornell University
- Wild American shrimp education and marketing**
Liz Brown, University of Georgia
- The Anchorage, Alaska International Smoked Seafood Conference; Review of the meeting and lessons learned**
Liz Brown, University of Georgia
- Antioxidant and antimicrobial activity from six species of edible Irish seaweeds**
Sabrina Cox, Nissreen Abu-Ghannam and Shilpi Gupta, Dublin Institute of Technology
- Modeling the individual cell – Lag phase of *Listeria monocytogenes* in vacuum packed cold-smoked salmon**
Sapna D. Chitlapilly, Nissreen Abu-Ghannam and Enda J. Cummins
Dublin Institute of Technology
- Changes in the levels of *Vibrio vulnificus* and total and pathogenic *V. parahaemolyticus* in Louisiana Gulf Coast oysters during harvest**
Stephenie Drake, Brooke Whitney, Miguel Gutierrez, Amrish Chawla, Richelle Beverly, Marlene Janes, Jon Bell, John Supan, Jay Levine and Lee-Ann Jaykus, North Carolina State University
- Bioactive properties of hydrolysate flavors from blue whiting (*Micromesistius poutassou*)**
Patricia Hamaguchi, Hordur G. Kristinsson, Sivakumar Raghavan, Bergur Benediktsson, Anna M. Johannesdóttir, Margret Geirsdóttir, Sigrun M. Halldorsdóttir, Gudjon Thorkelsson and Ragnar Johannsson, Matis – Icelandic Food Research and University of Florida
- Consumer awareness and willingness to pay for high pressure processing of ready-to-eat food**
Doris Hicks, Lori Pivarnik, Ryan McDermott, Nicole Richard, Dallas Hoover and Kamila Kniel, Delaware Sea Grant, University of Rhode Island, and University of Delaware

Inactivation of *Vibrio parahaemolyticus* and *Vibrio vulnificus* in pure culture, whole live and half shell oysters (*Crassostrea virginica*) by x-ray

Barakat S. M. Mahmoud, Jeff Dillon and David D. Burrage, Mississippi State University

Antioxidant activity of alkali-treated tilapia protein hydrolysates and its different fractions

Sivakumar Raghavan, Hordur G. Kristinsson and Patricia Hamaguchi, University of Florida and Matis – Icelandic Food Research

Inhibitory activity of tilapia protein hydrolysates in human mononuclear cells

Sivakumar Raghavan and Hordur G. Kristinsson, University of Florida

Multiple genes seasonally regulated in rainbow smelt: a microarray and qPCR analysis

Robert C. Richards, Connie E. Short, William R. Driedzic and K. Vanya Ewart, NRC Institute for Marine Biosciences and Memorial University of Newfoundland

PCR-RFLP for the differentiation of species in raw and processed salmon products

Rosalee Rasmussen, Michael T. Morrissey and Jessica Walsh, Oregon State University

Immune modulation of early Atlantic cod larvae by a treatment with probiotic bacteria

Hólmfríður Sveinsdóttir and Ágústa Guðmundsdóttir, University of Iceland

Effect of EDTA, HCl, and citric acid on calcium salt removal from Asia carp scales prior to gelatin extraction

Yan Wang and Joe M. Regenstein, Cornell University

Session 3 – New technologies and tools for enhancing seafood quality and safety

Moderator

Lori F. Pivarnik, University of Rhode Island

2:00 p.m.

Keynote Address - New technologies and tools for enhancing seafood quality and safety

Torger Børresen, Research Director, National Institute of Aquatic Resources, DTU Aqua, and Professor of Food Technology, The Technical University of Denmark

2:30 p.m.

Seafood species identification - commercial applications

LeeAnn Applewhite, Applied Food Technologies

2:50 p.m.

Interference of real-time PCR quantification of *Vibrio vulnificus* by a novel DNase from the Eastern oyster (*Crassostrea virginica*)

Shishan Wang and Robert E. Levin, University of Massachusetts

3:10 p.m.

Quantification of histamine-producing bacteria in fish by colony lift hybridization

Kristín Björnsdóttir, Greg Bolton, Patricia McClellan-Green and David P. Green, North Carolina State University

3:30 p.m.

Break

3:45 p.m.

The effects of modified atmosphere packaging on toxin production by *Clostridium botulinum* in fully cooked breaded and battered Alaskan Pollock (*Theragra chalcogramma*)

Fletcher Arritt, Joseph Eifert, Michael L. Jahncke, Merle D. Pierson, Robert C. Williams and Carl D. Decker, North Carolina State University

4:05 p.m.

Controlling *Listeria monocytogenes* in seafood

Lee Galligan, PURAC America

4:25 p.m.

Effect of precipitating acid on floc size, recovery yield and gelation properties of chicken and tuna meat isolates prepared by pH-shifting

Phanin Leksrisompong, Penny M. Amato and Tyre C. Lanier, North Carolina State University

4:45 p.m. **Bioshield 75**
Carl Saporiti, Indusco Distributors of America, Inc.

5:05 p.m. Adjourn

Tuesday, October 21

7:30 a.m. Registration and continental breakfast

Session 4 – Health, Convenience and Processing Technology

Moderator Doris Hicks, Delaware Sea Grant

8:30 a.m. **Keynote Address – The science behind dietary omega-3 fatty acids**
Marc Surette, Canada Research Chair in Cellular Lipid Metabolism and Professor,
Department of Chemistry and Biochemistry, University of Moncton, New Brunswick,
Canada

9:00 a.m. **Effect of high pressure processing on a 21-day shelf life for crawfish tails
(*Procambarus clarkia*)**
Diane Wall Bourne, Linda Ankenman Granata, George J. Flick, Jr. and Jon Bell
Virginia Tech and Louisiana State University

9:20 a.m. **Effect of cooling rates and temperatures on quality and safety of quahog clams
(*Mercenaria mercenaria*)**
Diane Wall Bourne, Linda Ankenman Granata, George J. Flick, Jr., Robert
Croonenberghs and Michael Peirson, Virginia Tech

9:40 a.m. **Effects of different pretreatment on nanostructure and physical properties of
catfish skin gelatin**
Yifen Wang, Hongshun Wang and Joe M. Regenstein, Auburn University and Cornell
University

10:00 a.m. **Animal welfare concerns for fish**
Joe M. Regenstein, Cornell University

10:20 a.m. Break

Session 5 –Emerging Regulatory Issues

Moderator W. Steven Otwell, University of Florida

10:35 a.m. **Keynote Address – Trends and issues affecting seafood safety and quality**
W. Steven Otwell, Professor and Director of Aquatic Food Laboratory, University of
Florida

11:05 a.m. **Government role in preventing seafood fraud**
Lisa Weddig, National Fisheries Institute

11:25 a.m. **Traceability, third-party certifications and eco-labeling - what's next?**
David Green, North Carolina State University

11:45 p.m. **A new internet training course on current Good Manufacturing Practices (GMPs)**
Ken Gall, Debra De Vlieger, Doris Hicks, Lori Pivarnik, Mike Jahncke, Abigail Villalba,
Victor Garrido, W. Steven Otwell, Barry Nash and David Green, Cornell University, New
York Sea Grant, US Food and Drug Administration, University of Delaware, University of
Rhode Island, Virginia Tech, University of Florida, and North Carolina State University

12:05 p.m. Lunch (on your own)

1:00 p.m. **Poster displays continue**

- 1:30 p.m. Moderator **Shellfish Emerging Regulatory Issues**
W. Steven Otwell, University of Florida
- Paul DiStefano, US Food and Drug Administration
Patti Fowler, NC Shellfish Sanitation Office
Jim Swarzenberg, NC Shellfish Growers Association
Michael Morrissey, Oregon State University
- 4:00 p.m. Adjourn
- 6:00 p.m. **1st North Carolina Marine Biotechnology Symposium**
Registration and Opening Reception
Randall Johnson, Southeastern Region, North Carolina Biotechnology Center
John Chaffee, Eastern Region, North Carolina Biotechnology Center
- 7:30 p.m. **Joint Meeting and Symposium Banquet**
Earl P. McFee and Lifetime Achievement Awards
Announcement of the 2009 TAFT Conference
Entertainment by Sea Pans Steel Drum Ensemble

Wednesday, October 22 • Marine Biotechnology Symposium

- 7:30 a.m. Registration and continental breakfast
- 8:30 a.m. **Opening Remarks**
David Green, North Carolina State University, Seafood Laboratory
- 8:35 a.m. **Welcome Address**
Rosemary DePaolo, Chancellor, University of North Carolina Wilmington
- 8:45 a.m. **Symposium Address – Unleashing the potential of marine biodiversity**
Dan Baden, Center for Marine Science, University of North Carolina Wilmington
- Session 1 - Bio-energy: Fuel sources from the sea**
- Moderator Randall Johnson, North Carolina Biotechnology Center
- 9:00 a.m. **Keynote Address – Biofuels: A civic endeavor now; a sea endeavor soon**
W. Steven Burke, Chair and Acting President, Biofuels Center of North Carolina and Senior Vice President Corporate Affairs, North Carolina Biotechnology Center
- 9:30 a.m. **Panel Address and Discussion**
Carmelo Tomas, University of North Carolina Wilmington
Kimberly Jones, Alganomics LLC
Michelle Sabaoun, Brunswick Community College
- 10:30 a.m. Break
- Session 2 – Bio-processing: Converting seafood discards into value-added products**
- Moderator David Green, North Carolina State University, Seafood Laboratory
- 10:45 a.m. **Keynote Address – Developing and commercializing extracts from seafood processing discards: The Kiwi Experience**
T.C. Chadderton and Susan Marshall, New Zealand Institute for Crop and Food Research Ltd.
- 11:15 a.m. **Functional ingredients from marine biota**
Hjörleifur Einarsson and Arnheiður Eypórsdóttir, University of Akureyri, Iceland
- 11:35 a.m. **Applications of cold adapted proteases in the food industry**
Ágústa Gudmundsdóttir and Jon Braji Bjarnason, University of Iceland

- 11:55 a.m. **Medical applications of cold-adapted Atlantic cod serine proteases**
Jon Bragi Bjarnason and Ágústa Gudmundsdóttir, University of Iceland
- 12:15 p.m. **Luncheon Address**
Marvin Moss, University of North Carolina Wilmington
E. Norris Tolson, President and CEO, North Carolina Biotechnology Center
- Session 3 – Bio-discovery: Natural products with pharmaceutical potential**
Moderator Jeffrey Wright, University of North Carolina Wilmington
- 2:00 p.m. **Keynote Address - Marine Biotechnology: What new products will the oceans provide?**
Jeffrey Wright, Center for Marine Science, University of North Carolina Wilmington
- 2:30 p.m. **Diverse bioactive natural products from collections of culturable marine microbes**
Ryan Van Wagoner, Center for Marine Science, University of North Carolina Wilmington
- 2:50 p.m. **Marine derived non-toxic anti-biofilm agents that modulate bacterial response**
John Cavanagh, Department of Molecular and Structural Biochemistry, North Carolina State University
- 3:10 p.m. **Bioactivity screening and biological characterization of natural products from culturable marine micro-organisms**
Andrea Bourdelais, Center for Marine Science, University of North Carolina Wilmington
- 3:30 p.m. Break
- Session 4 – Bio-business: Industrial applications of science**
Moderator Dan Baden, University of North Carolina Wilmington
- 3:45 p.m. **Keynote Address – Biotechnology: A critical tool for the development of a modern Aquaculture Industry**
Bjorn Skjaevestad, Norway
- 4:15 p.m. **Value-added marine raw materials and health: science and business**
Bassam Soussi, Sahlgrenska Academy, Göteborg University of Sweden, UNESCO Chair in Marine Biotechnology, Sultan Quaboos University, Oman
- 4:45 p.m. **Commercial opportunities and realities**
Steve Dillingham, Founder and Principal, Strategro International
- 5:15 p.m. **Closing Remarks**
Dan Baden, University of North Carolina Wilmington, Center for Marine Science
David Green, North Carolina State University, Seafood Laboratory
- 5:30 p.m. Adjourn