

2nd Atlantic and Gulf Seafood Technology Conference
Boston Convention and Exhibition Center
March 16, 2019

HISTORY AND FUTURE OF THE ATLANTIC AND GULF SEAFOOD TECHNOLOGY CONFERENCE

David Patrick Green, Professor Emeritus

NC STATE
UNIVERSITY

Reimagine the Future
Sustainable and safe seafood

2nd North Carolina Marine Biotechnology & Seafood Symposium
October 9-10, 2016 Research Triangle Park, NC

Atlantic and Gulf Seafood Technology Conference (AGSTC)



Atlantic Fisheries Technology (AFT) Conference



Seafood Science and Technology (SST) Society of the Americas

ATLANTIC AND GULF SEAFOOD TECHNOLOGY CONFERENCE

2018-19 Executive Board

- ▶ **Jon Bell, Ph.D.** - Chair, Director NMFS National Seafood Inspection Laboratory.
- ▶ **Jason Bolton, Ph.D.** - Chair-Elect, Food Safety Specialist and Academic Director of Innovation Engineering, University of Maine.
- ▶ **Michael Ciaramella, Ph.D.** - Treasurer, Seafood Specialist, New York Sea Grant and Cornell University
- ▶ **Stephen Frattini, DVM** - Secretary, Associate Owner and CEO, Center for Aquatic Animal Research and Management (CFAARM).
- ▶ **Robson Machado, Ph.D.** - Ad hoc, Assistant Extension Professor and Food Science Specialist, University of Maine Cooperative Extension.
- ▶ **Denise Skonberg, Ph.D.** - Ad Hoc, Annual Meeting Posters, Associate Professor of Food Science, University of Maine.
- ▶ **Evelyn Watts, Ph.D.** - Web Chair, Seafood Extension Specialist, Louisiana Sea Grant and LSU AgCenter, Louisiana State University.

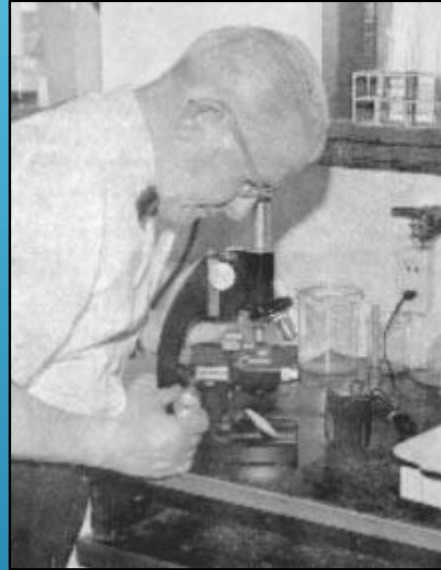
Brief History

Pacific Fisheries

Atlantic Fisheries

Gulf Fisheries

Future of AGSTC



Emerging Issues and Meeting Format



PRESENTATION



BACKGROUND



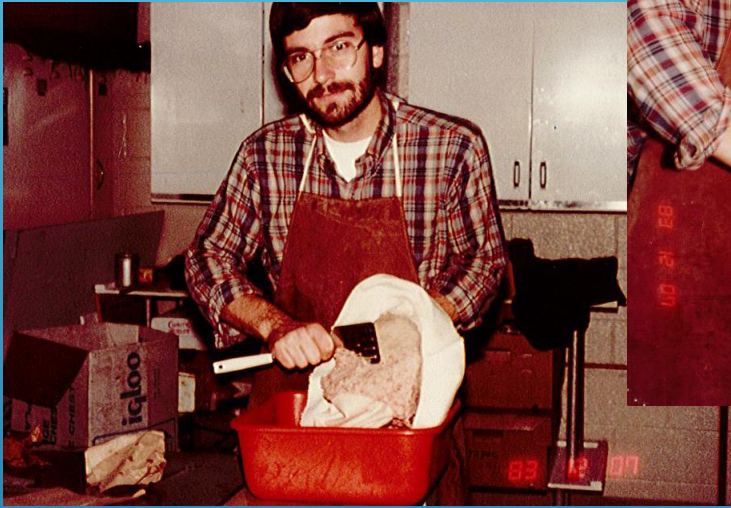


Homeland Security

BACKGROUND

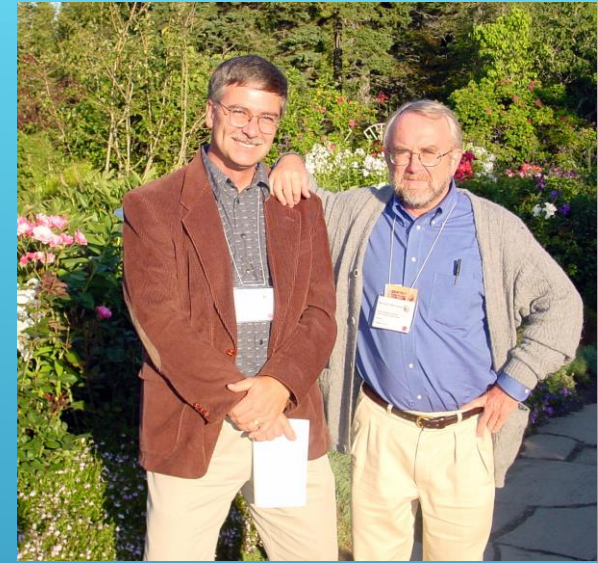
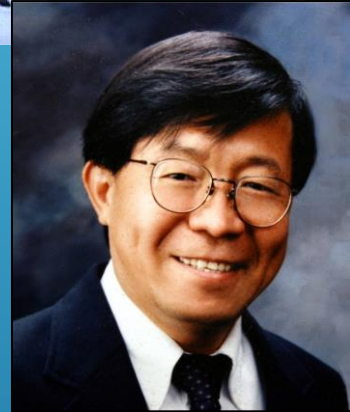
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Conferences hosted in North Carolina

AFT 1969, **1984**, 1999, 2008, 2016
SST 1991, 1999, 2008, 2016



51ST PACIFIC FISHERIES TECHNOLOGISTS CONFERENCE

Ketchikan, Alaska

MARCH 27, 2000

PACIFIC FISHERIES TECHNOLOGISTS CONFERENCE



▶ **Annual meetings held on a six-year rotation:**

1. **British Columbia**
2. **Alaska**
3. **Mexico**
4. **California**
5. **Oregon**
6. **Washington**



PFT 2019



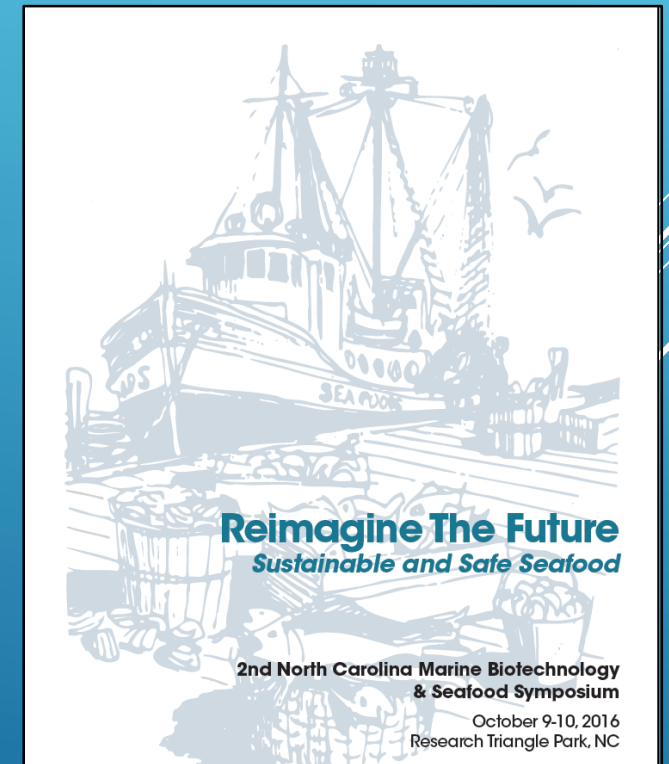


Atlantic Fisheries Technology Conference

THE ORIGINAL PROPOSAL FOR AN ANNUAL FISHERY TECHNOLOGY CONFERENCE ALTERNATING BETWEEN NEW ENGLAND AND ATLANTIC CANADA (MARITIMES).

THE FIRST MEETING WAS HELD IN 1956.

THE MEETING STRUCTURE CHANGED TO A THREE-YEAR ROTATION AND INCLUDES SIX GEOGRAPHIC REGIONS; THREE IN CANADA (NEWFOUNDLAND AND LABRADOR, THE MARITIMES AND QUÉBEC) AND THREE IN THE UNITED STATES (NEW ENGLAND, MID-ATLANTIC, AND SOUTH-ATLANTIC).





Seafood Science and Technology Society of the Americas

Established in 1970

1st Meeting Chair E. Spencer Garrett

Keynote Roy E. Martin

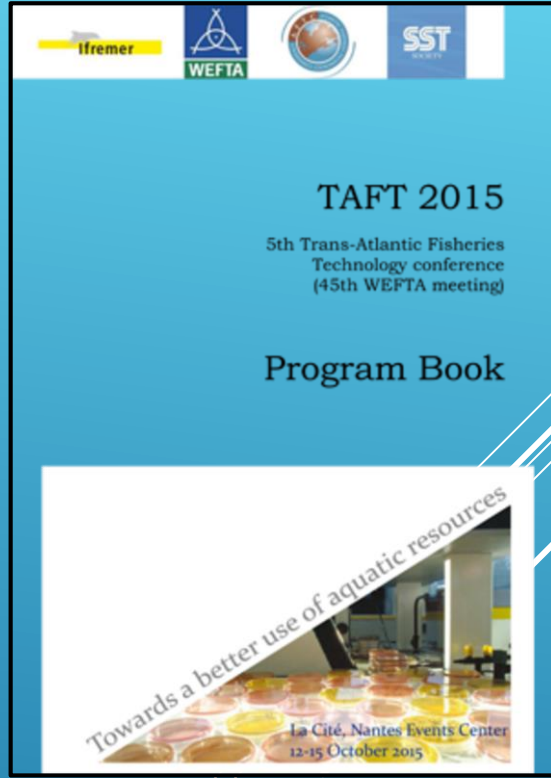
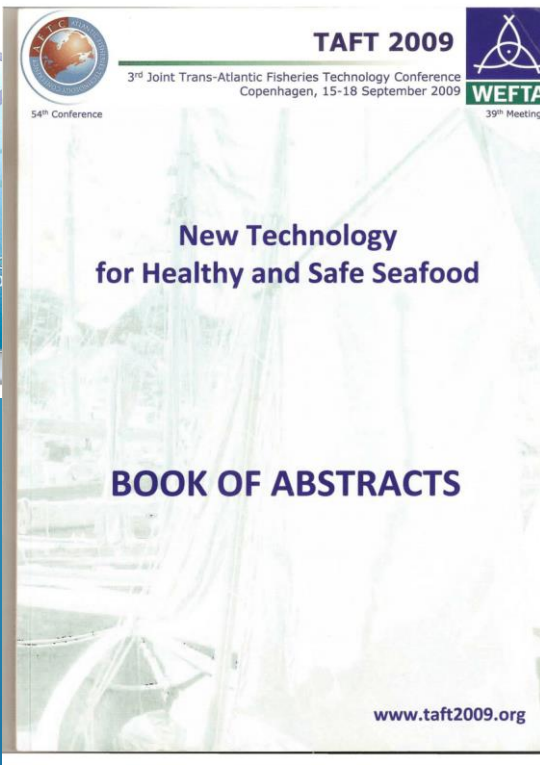
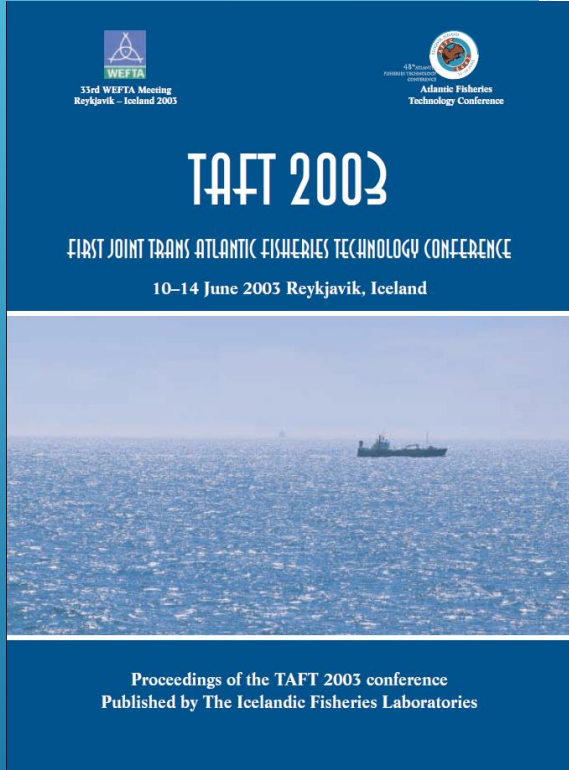
*Named changed in 1994 from
Tropical and Subtropical Fisheries Conference*



- ▶ *SST and AFT in 1990*
- ▶ *SST and Gulf and Caribbean Fisheries Institute in 1992*
- ▶ *AFT and West European Fish Technologists Association in 2003*

JOINT MEETINGS





TRANS-ATLANTIC FISHERIES TECHNOLOGY CONFERENCE

49th WEFTA 2019

Faroe Islands -
14.-18. oct



Earl P. McFee Award



2002 Nigel Allen



2015 Doris Hicks



2012 Tom Rippen



1994 George Flick

1971 Charles Castell – Fisheries Research Board of Canada

FUTURE OF THE AGSTC



Atlantic Fisheries Technology Conference



Earl P. McFee Award

This prestigious award was established in 1971 by the AFTC in honor of Earl P. McFee, who was Research and Quality Control Director of Gorton's Corporation in the 1950s. Selection as an Earl P. McFee Award winner is a unique professional distinction conferred on a living person at the time of selection with outstanding and extraordinary qualifications and experience with respect to his or her overall contributions to the field of seafood science and technology. The award is open to all private industry, government and university personnel on a worldwide basis.

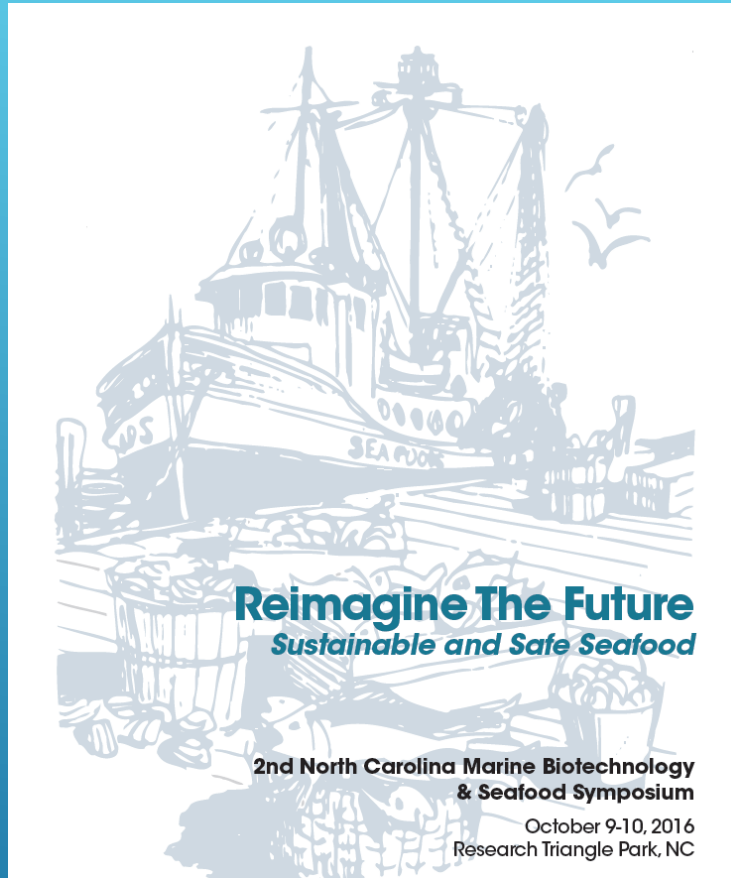
<http://www.aftc.ca/en/mcfee.html>

Jorg Oehlenschlager 2008
Joop Luten 2009
Torger Borresen 2010
Ingrid Undeland and Margarita Tejada 2011
Javier Borderias 2012
Maria Nunes 2013
Horst Karl 2014
Heidi Nilssen 2015
Francoise Leroi 2016
Turid Rustad 2017



Heidi Nilssen 2015

WEFTA AWARD WINNERS



Can we actually “Reimage the Future?”

Yes and No

S.O. W.haT. can we do?

EMERGING ISSUES AND MEETING FORMAT



Rodolphe Barrangou, NC State University
CRISPR technologies and applications

Reimage the Future

Video Proceedings
October 10, 2016



Ronald Stotish, Aquabounty Technologies
AquaAdvantage Salmon: Potential for sustainable salmon aquaculture

https://fbns.ncsu.edu/seafoodlab/AFT_SST_2016/AFT_SST%20Video%20Proceedings.html

GE Salmon Import Alert Lifted March 8, 2019



AquaBounty Technologies

FDA Commissioner Scott Gottlieb

The FDA is committed to supporting innovation and ensuring safety in the biotechnology space, including the use of IGAs (intentional genomic alterations) in animals.



YOUR COMMENTS AND SUGGESTIONS

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- ▶ *History of AGSTC and need to identify emerging issues and new meeting formats.*
- ▶ *Merger to establish PAGSTC on 3-year rotation on Pacific, Atlantic and Gulf coasts?*
- ▶ *Partner with Seafood Expo North America Conference Program?*

Remember, the only limitation is our own imagination!

SUMMARY

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HISTORY AND FUTURE OF THE ATLANTIC AND GULF SEAFOOD TECHNOLOGY CONFERENCE

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History and Future of the Atlantic and Gulf Seafood Technology Conference

David Patrick Green, Professor Emeritus

North Carolina State University

The Atlantic and Gulf Seafood Technology Conference (AGSTC) was established on October 9, 2016 by a vote of executive committee representatives from the Atlantic Fisheries Technology (AFT) Conference and the Seafood Science and Technology (SST) Society of the Americas.

The aim was to leverage limited financial resources and encourage continued collaboration and knowledge transfer among industry, institutes, universities and government agencies concerned with wild-caught fisheries and aquaculture on the Atlantic and Gulf coasts of North America. An Executive Board was appointed and plans were made for holding the 1st AGSTC in Boston on March 10, 2018.

This presentation briefly summarizes the history of three North American fishery associations with interest in fisheries technology and the aquatic food products made from fishery resources. The future of the AGSTC depends on learning from their successes and failures and engaging you, the audience, in a frank discussion on emerging issues and new meeting formats to sustain the professional collaboration and knowledge transfer to benefit all future conference participants.

Background

How many present today attended the 1st AGSTC in 2018? How many attended at least one AFT or SST meeting in the past? Who is attending for their first time? Terrific. Let's get down to business.

My own personal experience with fishery associations began as a graduate student and I attended the 29th annual AFT conference in 1984 at Wilmington, North Carolina. This was not the first AFT conference held in North Carolina and certainly not the last. In 1969, Drs. Frank Thomas and Neil Webb hosted the 14th annual AFT conference at Atlantic Beach, North Carolina. I hosted AFT conferences in 1999 (Atlantic Beach), 2008 (Wrightsville Beach) and 2016 (Research Triangle Park). I also attended numerous SST conferences and hosted the 16th SST conference at Raleigh, North Carolina in 1991 and hosted SST conferences in the joint meetings with AFT in 1999, 2008 and 2016.

One of my most memorable meetings was at the Pacific Fisheries Technologists (PFT) Meeting in March of 2000. This event was held in Ketchikan, Alaska and I was accompanied by my then young son, Joe. My son and I along with my good friend, Dr. Ming Wu, skipped an afternoon session to go fishing for Alaskan king salmon. Of course, Joe caught the only fish that day and everyone had to have their picture taken holding the 20-pound winter king salmon. We heartily enjoyed grilling and dining on the fish a few days later with Dr. Michael Morrissey at his home in Astoria, Oregon.

A Brief History of the North American Fishery Associations

The oldest North American fishery technology association is PFT, established in 1949, which celebrated their 70th annual meeting in February 2019. The regular annual meetings are held on a six-year rotation in the following order: (1) British Columbia, (2) Alaska, (3) Mexico, (4) California, (5) Oregon and (6) Washington. The aim is to facilitate exchange of technical and scientific information among

fisheries technologists including meaningful discussions and forming collaborations between research institutes, universities and government agencies. PFT has successfully engaged the fishing industry during meetings and continues to have support from institutes, universities and government agencies.

The second oldest fishery technology association is AFT, established in 1956, which celebrated their last official meeting in 2016. Their aim was to encourage collaboration and knowledge transfer among government agencies and industry in harvesting and quality improvement of wild caught fisheries and aquaculture in the United States and Atlantic Canada. A six-year rotation was established between three provinces (Québec, The Maritimes, Newfoundland and Labrador) in Canada and three regions (New England, North Atlantic and Mid-Atlantic) in the United States.

The youngest fishery technology association is SST, established in 1976, which originally was the Tropical and Subtropical Fisheries Technology (TSFT) Conference. The first meeting chairman was E. Spencer Garrett of the NOAA National Marine Fisheries Service and keynote speaker was Roy E. Martin of the National Fisheries Institute. The association's name was later changed in 1994 by a vote of executive committee representatives to the Seafood Science and Technology (SST) Society of the Americas to better reflect the program content on aquatic food products made from fishery resources.

Joint Meetings

Beginning in 1987, the SST and AFT Executive Boards partnered to offer joint meetings on a three-year rotation. Joint meetings were held from 1987 to 2016 in Florida, North Carolina and Virginia. The SST Board also made a concerted effort to partner with the Gulf and Caribbean Fisheries Institute (GCFI) by holding meetings in Merida, Mexico (1992), Humacao, Puerto Rico (1995), St. Croix, US Virgin Islands (1998) and Punta Cuna, Dominican Republic (2007). Earnest discussion about the merger of AFT and SST began at a joint meeting in 2008 at Wrightsville Beach, NC.

The AFT Executive Board entertained a proposal in 1999 to offer joint meetings on a three-year rotation with the West European Fish Technologists Association (WEFTA). The aim of WEFTA, founded in 1970, is to be an important platform in Europe for institutions engaged in fish processing, applied food science, aquaculture, seafood technology, health effects of seafood consumption and consumer studies. WEFTA approved a proposal for hosting joint meetings during a Board of Representatives meeting at the 30th WEFTA meeting in 2000 at Tórshavn (Faroe Islands).

The 1st Trans-Atlantic Fisheries Technology (TAFT) meeting was held in 2003 at Reykjavik, Iceland. Subsequent joint meetings were held in 2006 at Québec City, Québec, in 2009 at Copenhagen, Denmark, in 2012 at Clearwater Beach, Florida and in 2015 at Nantes, France. The SST Board agreed to partner with AFT and WEFTA and participated in the 3rd TAFT meeting in Denmark and hosted the 4th TAFT meeting in Florida. I was privileged to attend all five of the TAFT meetings and am looking forward to attending the 49th WEFTA meeting in Tórshavn (Faroe Islands) later this year on 14-19 October 2019.

Future of AGSTC

While the Atlantic and Gulf Seafood Technology Conference is only in its infancy, it has a long and storied history. The wealth of knowledge and experience gained through a combined 100 years of professional meetings among industry, institutes, university and government agencies is a real strength. One only need to look back over the past meeting agendas to see the names of leaders who have impacted the field of seafood technology and the commercial fishing industry. Names such as Earl P. McFee have been immortalized by his colleagues through the naming of a recognition award in his honor.

For those of you who are new to our meetings, Earl P. McFee was recognized for his many contributions to help standardize the frozen blocks of cod in Atlantic Canada and the United States that was later tempered and cut to create the first fish sandwiches sold by the McDonalds Corporation. Other outstanding seafood scientists, government officials and industry leaders have been recognized over the years for their contributions to the profession starting in 1971 with Charles Castell of the Fisheries Research Board of Canada. There are many more individuals worthy of recognition today for such a prestigious professional award.

I am often told the best form of flattery is imitation. Well, the WEFTA Board of Representatives were so impressed by the ceremonies given for the Earl P McFee Award in 2005 and 2006 that they asked for a copy of our criteria in 2007 and created a recognition award of their own beginning in 2008. In fact, the Europeans went one step further by video-taping the ceremony and inviting the award recipient to give an invited plenary presentation (at no cost) during the following WEFTA conference. The SST and AFT Board of Directors took the recognition ceremony to the next level by creating a Lifetime Achievement Award. Some well-known recipients of this prestigious award are Roy E. Martin of the National Fisheries Institute (2005), E. Spencer Garrett of the NOAA National Marine Fisheries Service (2008) and W. Steven Otwell, of the University of Florida Sea Grant Program (2015).

Emerging Issues and Meeting Format

Can we actually “Reimage the Future?” A simple answer is “yes” and “no.” Just ask any Millennium today and they will reply ‘What have you been streaming lately on your cell phone?’ Look at the number of block buster movies and TV series launched based on paperback comic series. Yes, technology has allowed us to “reimage” the future and the only limitation is our own imagination. But no, we can’t predict how this new technology will be used or how will it affect us in the future. **S.O. W.haT.** can we do? The first thing is to be more passionate about the future. The second is to focus on our strengths and new opportunities. And, the third is not to dwell on perceived weaknesses and threats.

For example, during the 2007 AFT meeting in Portland, Maine hosted by Denise Skonberg, I met Ross Butler who was Senior VP at Cooke Aquaculture in St. John, New Brunswick, Canada. His knowledge and experience about aquaculture was amazing. But who could have predicted that one day Cooke Aquaculture would acquire Wanchese Fish, a North Carolina family business that Dr. Tyre Lanier and I helped develop the reformed scallop medallion product that created a new market for the seafood industry. Ross Butler would later be named CEO of Cooke Seafood USA and Wanchese Fish Company. He is an at-large board member of the North Carolina Fisheries Association and now resides with his family in Suffolk, Virginia. Talk about focusing on our strengths and new opportunities. Wow!

Another example, during the 2016 Joint AFT and SST meeting in the Research Triangle Park, North Carolina, I met Ron Stotish who was at the time CEO and President of AquaBounty Technologies. The company was successful in genetically engineering Atlantic salmon to reach market size in less time without sacrificing the safety and quality of its consumer products. The GE salmon was approved for sale in the United States (2015) and Canada (2016) and the FDA recently lifted an import alert on genetically engineered (GE) salmon, paving the way for AquaBounty Technologies to raise and sell its GE salmon in the United States. You may fundamentally disagree with the practice of growing and selling GE fish for human consumption but this technological breakthrough is the first GE animal approved for sale and more GE animal products are likely to be developed in the near future.

So ask yourself, what are some of the emerging issues of importance that should be addressed at AGSTC and what format should we consider to address these topics? Your input and suggestions are appreciated so to engage leaders in the industry like Ross Butler of Cooke Seafood USA and Ron Stotish of AquaBounty to support and attend future AGSTC events. I recall talking with my former advisor Tyre Lanier about AFT and SST conferences and we both agreed that what we miss the most are the conversations between industry, education and research leaders to address important future needs. Help us fix that, starting today!

In summary, we talked briefly about the history of AGSTC and need to identify emerging issues and new meeting formats to sustain the professional collaboration and knowledge transfer for the benefit of all future conference participants. Maybe one day, PFT will consider a merger with AGSTC and we will have a PAGSTC on a three-year rotation on the Pacific, Atlantic and Gulf coasts or maybe a North American Seafood Technology Conference here in Boston in partnership with the Seafood Expo North America.

Remember, the only limitation is our own imagination. Questions?

Earl P. McFee Award Recipients

2016	Angela Ruple	NOAA Fisheries National Seafood Inspection Lab, Mississippi, USA
2015	Doris Hicks	University of Delaware Sea Grant, USA
2014	no award given	
2013	no award given	
2012	Thomas E. Rippen	University of Maryland, USA
2011	no award given	
2010	Pierre Blier	Université du Québec à Rimouski, Québec, Canada
2009	Charles A. Crapo	University of Alaska Fairbanks, USA
2008	Pamela D. Tom	University of California at Davis USA
2007	Ken Gall	New York Sea Grant at Cornell University, USA
2006	Guðrún Olafsdottir	Icelandic Fisheries Laboratory
2005	Robert Collette	National Fisheries Institute USA
2004	Luc LeClerc	CN Dept. Agriculture, Fisheries & Food, Aquatic Products Technology Ctn
2003	Torger Børresen	Danish Institute for Fisheries Research, Dept. Seafood Products
2002	Nigel Allen	Memorial University, Center for Aquaculture and Seafood Development
2001	David Green	North Carolina State University, USA
2000	Ben Simpson	McGill University, USA
1999	Michael Morrissey	Oregon State University, USA
1998	Fereidoon Shahidi	Memorial University of Newfoundland, Canada
1997	Norman Haard	University of California at Davis, USA
1996	Steve Otwell	University of Florida, USA
1995	Aurea Cormier	University of Moncton
1994	George Flick	Virginia Polytechnical and State University, USA
1993	Chong Lee	University of Rhode Island, USA
1992	Dave Lemon	Dept. of Fisheries and Oceans, Halifax Nova Scotia
1991	Bob Learson	NMFS Gloucester Laboratory, Massachusetts, USA
1991	Joe Licciardello	NMFS Gloucester Laboratory, Massachusetts, USA
1990	Tony Bimbo	Zapata Haynie Corporation
1989	Tom Gill	Canadian Institute of Fisheries Technology
1988	Joe Regenstein	Cornell University, New York, USA
1987	Fred King	NMFS Gloucester Laboratory, Massachusetts, USA
1986	Tom Morse	Fishery Products Ltd., St. John's Newfoundland
1985	Herb Hultin	University of Massachusetts at Amhurst
1984	Tyre C. Lanier	North Carolina State University, USA
1983	Graham Bligh	Canadian Institute of Fisheries Technology
1982	Frank B. Thomas	North Carolina State University, USA
1981	Louis J. Ronsivalli	NMFS Gloucester Laboratory, Massachusetts, USA
1980	Roy Martin	National Fisheries Institute USA
1979	no award given	
1978	Virginia Sidwell	NMFS College Park, Maryland, USA
1977	Cyril Reade	National Sea Products Ltd., Nova Scotia
1976	Mary Ambrose	National Center for FPC, College Park, Maryland, USA
1975	William Dyer	Marine and Fisheries, Halifax Nova Scotia
1975	Harris Magnusson	National Fisheries Institute USA
1974	Mary Thompson	NMFS Miami, Florida, USA
1973	Robert Ackman	Canadian Institute of Fisheries Technology
1972	Margaret Anderson	FTL, Bureau of Commercial Fisheries, Gloucester, Massachusetts, USA
1971	Charles Castell	Fisheries Research Board of Canada

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- **Evelyn Watts, Ph.D.** - Web Chair, Seafood Extension Specialist, Louisiana Sea Grant and LSU AgCenter, Louisiana State University.

2018-19 AGSTC Advisory Board

- **LeeAnn Applewhite**, Applied Food Technologies
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- **Kevin Edwards**, SGS North America Inc.
- **David Green**, North Carolina State University emeritus
- **Robert Lane**, Virginia Tech, Virginia Seafood AREC
- **Tyre Lanier**, North Carolina State University
- **Heather Manuel**, University of Newfoundland
- **Margeret Malkoski**, National Fisheries Institute
- **Naim Montazeri**, University of Florida
- **Salina Parveen**, University of Maryland Eastern Shore
- **Lori Pivarnik**, University of Rhode Island
- **Matt Ranieri**, Acme Smoked Fish Co.
- **Joe Regenstein**, Cornell University
- **Angela Ruple**, NOAA
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- **Mike Schwarz**, Virginia Tech, Virginia Seafood AREC
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