

AO Technical Committee Report 08/05/2017

This annual report reviews activities of the Technical Committee on Acoustical Oceanography (TCAO) from the 172nd and 173rd meetings of Acoustical Society of America (ASA) in Honolulu, Hawaii, held jointly with the Acoustical Society of Japan and in Boston, Massachusetts, held jointly with the European Acoustics Association. These were extremely event filled meetings for the AOTC as we enjoy strong collaborations with our Pacific-rim and trans-Atlantic colleagues.

The year was particularly meaningful for the AOTC as we celebrated our 25th anniversary with a special session at the Honolulu meeting. The audience enjoyed invited talks from our TC founders, Michael Buckingham and David Farmer, ASA honorary fellow Walter Munk, and field luminaries Peter Worcester, James Lynch, Tim Stanton, Aaron Thode, Grant Deane, Martin Siderius, Ross Chapman, and Darrell Jackson. The 25th anniversary spirit continued at the Honolulu meeting with special sessions in two strong AO subject areas: Ocean Acoustic Tomography and Acoustic Scattering by Aquatic Organisms.

The high energy from the Honolulu meeting carried over to Boston which was co-hosted with the European Acoustics Association. In Boston we paid tribute to our colleague David Farmer whose remarkable career in theory, experimentation and engineering has touched if not created nearly every discipline of acoustical oceanography. Much to the delight of David, talks from students and colleagues addressed contributions to our understanding of turbulence, internal waves, mesoscale and submesoscale processes, air-sea interaction, Langmuir circulation, bubble acoustics, zooplankton, fish and marine mammal acoustics, sediment transport, and geoacoustics. Other successful special sessions in Boston included, Acoustic Measurements of Sediment Transport and Near-Bottom Structures, Acoustics and Acoustic Ecology of Benthic Communities, and Tools and Methods of Ocean Mapping.

Over the year there were also several awards. At the Honolulu meeting the AOTC was pleased to award the 2016 Medwin prize to Tom Weber of the University of New Hampshire (UNH) where the citation reads "In recognition of his work on the development and use of acoustic techniques for understanding and quantifying gas bubbles in the ocean". Dr. Weber delivered the Medwin address at the Honolulu meeting entitled "Acoustic observations and characterization of oceanic methane gas bubbles rising from the seabed". At the Boston meeting it was our pleasure to award the 2017 Medwin prize to Jennifer Miksis-Olds also of UNH. The citation reads "For the development of novel ocean acoustic field techniques and analyses for understanding marine life and ecosystems." Dr. Miksis-Olds delivered the Medwin lecture entitled "Exploring ocean ecosystems and dynamics through sound".

There were also five exceptional student papers that were recognized at the two meetings. At the Honolulu meeting the first place paper was presented by Matthew Zeh of the University of Texas at Austin entitled "Acoustic scattering by tube-building worms (Polychaeta: Maldanidae) of the New England Mud Patch" and in Boston the first place paper was given by Jenna Hare of Dalhousie University entitled "Sound speed and attenuation in water-saturated granular materials at MHz frequencies". Second place and equal second papers at these meetings were given to Kai-Fu Chang (National Taiwan University), Elizabeth Brown (Rensselaer Polytechnic Institute) and Genevieve Flaspohler (Woods Hole Oceanographic Institution). It was a pleasure to see so many superb student papers at these two meetings.

I want to thank everyone in the TC for all the wonderful work they did for us and the society and we look forward to a productive and exciting year ahead.