

Acoustical Oceanography Technical Committee Meeting Minutes, Hong Kong

These are the minutes from the Acoustical Oceanography (AO) and Underwater Acoustics (UW) Technical Committee (TC) meeting from the 163rd Acoustical Society of America (ASA) Meeting in Hong Kong, China May 14- May 18, 2012. The AO and UW Technical Committee meeting was held jointly on Thursday May 17, 2012 from 6:00 PM until 6:45 PM and was chaired by Martin Siderius (Acoustical Oceanography Technical Committee Chair) and DJ Tang (Underwater Acoustics Technical Committee Chair). There were approximately 40 attendees.

- The TC's thanked outgoing UW TC Chair Lisa Zurk for her three year service to the committee.
- The TC's then welcomed DJ Tang as the new incoming Chair for Underwater Acoustics.
- The TC's then congratulated Bill Kuperman, the winner of the Acoustical Society's Gold Medal which was awarded to Bill during the Hong Kong meeting.
- The TC's then congratulated the student paper winners for presentations at the San Diego meeting. For UW:
 - First place: Olivier Carriere, "Sequential geoacoustic inversion for mobile and compact source-receiver motion configuration"
 - Second place: Craig Dolder, "Application of boundary layer suction for reducing hydrophone sensing noise"
- For AO:
 - First place: Adam Metzler, "Seismo-acoustic propagation effects at the seafloor with applications to geoacoustic inversion using hybrid parabolic equation solutions"
 - Second place: James Traer, "Coherent averaging of the passive fathometer response using short correlation time"
- The TC thanked the student paper judges who volunteered for the Hong Kong meeting and for combining both AO and UW student papers into a single paper contest.
- The TC thanked Dan Rouseff for being both the UW and AO TC representative for the Hong Kong meeting.
- The special sessions for the Kansas City meeting were reviewed:
 - AO has a single special session "Memorial session in honor of Clarence S. Clay" organized by Dezhong Chu, Timothy K. Stanton, J. Mike Jech, John K. Horne (joint with UW)
 - UW has a single special session "Random Matrix Theory" organized by James C. Preisig, Kathleen E. Wage (joint with Signal Processing)
- Future meetings were announced for Montreal, San Francisco, Providence and Indianapolis.
- The AO Montreal special sessions were discussed next. There were two AO special sessions that are:
 - Estuarine Acoustics: Description: Estuaries are a place of transition from land to the coastal ocean, where fresh and salt water mix, and are strongly influenced by a variety of physical processes, such as tides and freshwater discharge. Understanding estuaries can lead to significant practical benefits and have broad implications for important societal issues. They are generally areas of intense human settlement and use, are

typically heavily populated, and can have significant commercial value through recreational activities, tourism and fisheries. Estuaries receive continuous nutrient inputs and are consequently highly productive and diverse, often supporting unique communities of plants and animals. Understanding the dynamics and mixing of estuaries can help inform the ultimate fate and transport of nutrients and sediments, and mitigate the potential threat of contaminants (such as untreated sewage from failing septic tanks or wastewater discharges from industrial facilities) and other phenomena such as hypoxia. Papers are invited in which acoustic instruments and/or techniques are developed and used to address physical oceanographic processes occurring in estuaries and/or the unique ecosystems estuaries support. Session is to be organized by Andone Lavery.

- There was general agreement that Estuarine Acoustics should be a special session and so was agreed to be submitted at Technical Council.
- Seismic Oceanography- Description: Seismic oceanography signals are 20-200 Hz (generally air gun) signals that reflect coherently from thermal-haline contrasts in the water column at lateral resolution of 5-10m, and can be used to observe internal waves, track thin dense water layers near the seafloor, and identify narrow sound channels. Session is to be organized by Warren Wood and Josie Fabre.
- There was some discussion about the specifics of the session and that we need to be careful to include the broader community working in this area. But, it was decided to submit the session at Technical Council.
- The UW Montreal special sessions were discussed next. There were three UW special sessions that are:
 - Sparse Process Modeling Techniques for Acoustic Signal Processing- Description: Models and methods that leverage sparsity either for computational savings or for parsimonious statistical representation are explored for their improvements to acoustic signal processing. Applications range from sparse sampling and acoustic field encoding to spectral estimation, array processing, component analysis, and broadband multipath channel estimation. Session to be organized by Geoffrey Edelmann and Paul Gendron and is joint with Signal Processing.
 - There was general agreement that Sparse Processing Modeling Techniques for Acoustic Signal Processing should be a special session and so the TC agreed this should be submitted at Technical Council.
 - Using GPUs for computationally intensive applications in acoustic modeling and signal processing- Description: New multi-core hardware architectures and software infrastructures to support them are making parallel computing very accessible at modest cost. This session will feature work on adapting computationally demanding modeling and signal processing tasks to take advantage of various parallel architectures, such as cloud computing, computing clusters, multi-core CPUs, multi-core graphic processing units (GPUs), DSP chips, and FPGAs. This session is to be organized by Paul Hursky and is joint with Signal Processing.

- There was general agreement that Using GPUs for computationally intensive applications in acoustic modeling and signal processing should be a special session and so the TC agreed this should be submitted at Technical Council.
- Arctic acoustics & applications- Description: Physical mechanisms and model validation of sound and seismic interactions with the Arctic ice cap. Ice rheology factors affecting sound and sea surface wave interactions with the marginal ice zone. Acoustic applications include under-ice resource exploration, geophysical surveys, acoustic navigation & communications, environmental monitoring & remote sensing. Impact of anthropogenic activities on Arctic marine organisms. Session to be chaired by Juan Arvelo and possibly Stan Dosso (not confirmed) and is joint with AO.
- There was general agreement in the TC that Arctic acoustics & applications was a good topic for a special session and this should be submitted at Technical Council.
- The upcoming meetings were announced. The European Conference on Underwater Acoustics is July 2-6, 2012 in Edinburgh. The web site is www.ecua2012.com and has relevant conference information. The conference “Underwater Communications: Channel Modeling and Validation” was announced and the TC’s agreed this conference should be co-sponsored by the ASA and so this was to be proposed at Technical Council. The TC’s were told that the abstracts for the conference were due very soon and to check the website (<http://UComms.hlsresearch.com/>) for information.
- The Chair introduced Ravishankar Menon (AO) and Alex Sell (UW) as the student representatives but neither were in attendance and the representative student said there was no student council meeting in Hong Kong and so no announcements.
- The next issue discussed was the idea that JASA becomes an E-First journal. This was explained to the TC’s that JASA articles would go on-line as soon as they are available after galley proof stage. There is a possibility articles would lose page numbers and/or sections but the TC generally expressed interest in having JASA be E-First even if there are some drawbacks. A straw poll showed approximately ¾ of the TC’s felt it important for JASA to have this.
- TC’s were informed about the ASA Oral Histories effort and were asked to consider letting Brigitte Schulte-Fortkamp (schulte@mach.ut.tu-berlin.de) if there are names to suggest.
- JASA Associate Editor changes were announced:
 - New JASA (and EL) Associate Editors:
 - Stan E. Dosso (Underwater sound)
 - Timothy F. Duda (Underwater sound)
 - Anthony P. Lyons (Underwater sound)
 - David R. Dowling (JASA-EL Underwater sound)
 - Re-appointment JASA Associate Editors:
 - Nicholas P. Chotiros (Underwater sound)
 - John A. Colosi (Underwater sound)
 - Outgoing Associate Editors:
 - Shira L. Broschat (Underwater sound)
 - David R. Dowling (Underwater sound)

- Alexandra I. Tolstoy (Underwater sound)
- The TC's were then asked to send their names to the TC chairs if they are interested in being on the Technical Committee for AO or UW.
- The TC's were asked to consider nominating a colleague for Fellow. The eligibility requirements for Fellow were then reviewed.
- The Chair asked for the members to think about nominating an early to mid career AO person for the Medwin Prize that will have a nomination deadline in September 2012.
- The meeting was officially adjourned but the AO and UW chairs.