

Report of the Underwater Acoustics Technical Committee

2007-2008

The New Orleans meeting in November 2007 was a very successful one for the Underwater Acoustics Technical Committee (UWTC), with 10 sessions spread over five days, including special sessions organized by Eric Thorsos and John Perkins on Underwater Reverberation Measurements and Modeling, and a session on the Design of Distributed Surveillance and Oceanographic Monitoring Systems, chaired by Art Baggeroer and Juan Arvelo. Many thanks to our New Orleans TPOM representatives Guy Norton, William Sanders and Richard Keiffer (along with Technical Program Chairs George and Juliette Ioup) for organizing all the sessions together with the special session organizers. The best student papers in underwater acoustics were “Scattering analysis accelerated by a 3-D multilevel non-uniform grid field evaluation algorithm” by Yaniv Brick of Tel Aviv University and “Effect of Resolution on Synthetic Aperture Sonar Image Statistics” by Shawn Johnson of Penn State University. New fellows named at the New Orleans meeting included Ron Wagstaff, Steve Finette and Tony Lyons. Congratulations to all.

The New Orleans meeting was followed with the 155th meeting of the Acoustical Society of America, joint with the 9th European Conference on Underwater Acoustics, the 5th Forum Acusticum of the European Acoustics Association, the 9th Congres Francais d’Acoustique of the Societe Francaise Acoustique, and the 7th Euronoise, in Paris, France. It was an exciting meeting with an exhausting schedule. There were 23 sessions directly sponsored by the UWTC alone, plus another seven in Acoustical Oceanography. The UW technical committee would like to extend its warmest thanks for a very successful meeting to the co-organizers Bertrand Dubus of the SFA, Michael Vorlander of the EAA, Bill Yost of the ASA and Manell Zakharia of the SFA, as well as to Technical program Organizing Committee of Philippe Blanc-Benon of the SFA, Philippe Botteldooren of the EAA, Bill Hartmann of the ASA and Pascal Laugier of the SFA. We would also like to thank the organizers of the ECUA section of the program David Bradley of the ASA and Yann Stephan of the SFA. Your TC chair had the pleasure of working closely with Yann during the frenetic but highly efficient TPOM, which went off without a hitch thanks to the tremendous advance work by Manell, Philippe and Didier Cassereau, the designer of the conference organization software, and many others.

The TC would like to thank the 23 “pairs” of special session organizers for the Paris meeting, whose work went a very long way towards making the meeting especially memorable and productive. Since this report is part of an archival document I will list them here: 1) Peter Dahl and Mike Ainslie for Seabed and Sea Surface Interaction Measurements and Modeling, 2) Henrik Schmidt and Finn Jensen who organized Fifty Years of Progress in Sonar Acoustic Research: the Role of NURC/SACLANTCEN, 3) Paul Hines and Paul White who organized Auralization of Sonar Signals, 4-5) Ken Foote and Stephen Robinson who organized Sonar System and Transducer Calibration Methodology as well as Determination of Acoustic Properties of Materials for Sonar Applications, 6) Kevin Smith and Jean-Pierre Hermand for Acoustic Vector Fields and

Sensor Processing, 7) Dajun Tang, Paul Hines and Peter Nielsen for Impact of Environmental Variability on Mid-Frequency Sonar Performance, 8) Nick Chotiros and Jean-Pierre Sessarego who organized Geoacoustic Sediment Modeling, 9) Jim Lynch and Thomas Folegot who organized Impact of Internal Waves on Shallow Water Propagation, 10) Ray Soukup and J. P. Sessarego for Tank Experiments, 11) Marcia Isakson and Thomas Folegot who organized High Frequency Variability, 12) Benjamin Dzikowicz and Eugeniusz Kozaczka who chaired Nonlinear Acoustic Methods in Searching for Buried Objects, 13) Andrew Seybert, Martin Ochmann, and Bodo Nolte for Numerical Methods in Underwater Scattering, 14) Heechun Song and Sergio Jesus who organized Broadband Underwater Communications, 15) Tony Lyons, Philippe Blondel and Nick Pace who organized High Frequency Scattering, 16) Peter Gough and Roy Hansen for Low-Frequency and High-Frequency Synthetic Aperture Sonar, 17) Henrik Schmidt and Stephane Jespers who organized Sensor Coalition, 18) Jim Candy, Hugh Griffiths, and Rene Garello who co-chaired Synthetic Aperture Sonar and Radar Convergences, 19) David Calvo and Michael Taroudakis who co-chaired Sound Propagation in 3D environments, 20) Eric Thorsos and Mario Zampolli who organized Scattering from Objects Near Boundaries, 21) Gerald Dobeck, Marc Pinto and Yvan Petillot for Automatic Target Recognition, Sensors and Algorithms, 22) Eric Maillard and Benoit Zerr who organized Acoustic Data Fusion, and 23) Georges Bienvenu and Ron Wagstaff who co-chaired Noise Suppression, Robust Direction of Arrival, and Target Strength Estimation . One can see by the breadth and depth of the special sessions that underwater acoustics continues to be the home to a wide variety of cutting edge research areas and that the field has attracted and kept a large number of top researchers in both Europe and in North America.

New fellows named at the Paris meeting included Subramaniam Rajan and John Osler. Results are also in on the student paper award winners. I would like to announce that the winner is Zachary J. Waters of Boston University with his talk "Laboratory investigations of the detection and characterization of buried targets by iterative, single channel time reversal", co-authored with Benjamin Dzikowicz, R. Glynn Holt, and Ronald Roy, and Jon La Follett of Washington State University with his talk "Elastic and interfacial contributions to SAS images of tilted metal cylinders: Laboratory experiments", co-authored with Kyungmin Baik and Philip Marston. We had a tremendous student paper competition at Paris, with 32 contestants and 12 judges working overtime to evaluate them. Congratulations to the winners and a heart felt thanks to the judges!

It is with great sadness that I must conclude by reporting the passing of two of UW's most active members, Ralph Goodman, former Director of SACLANTEN, NORDA, and the National Center for Physical Acoustics at the University of Southern Mississippi, and Stanley Flatte, Professor Emeritus of Physics at the University of California, Santa Cruz. Their absence will be keenly felt by their many collaborators, friends and colleagues in the Underwater Acoustics Technical Committee.