David R. Dall'Osto, Ph.D.

Contact

Applied Physics Laboratory
University of Washington
1013 NE 40th St.
Seattle, WA 98105 U.S.A.

T (206) 221-5085
F (206) 543-6785
dallosto@uw.edu

Education

University of Washington, Ph.D. Mechanical Engineering, 2013
University of Washington, M.S. Mechanical Engineering, 2009
Vanderbilt University, B.E. Mechanical Engineering *summa cum laude* with Minor in General Music, 2006

Employment

April 2016 – Present
Senior Research Scientist/Engineer, APL-UW Acoustics Department
June 2013 – March 2016
Research Associate, APL-UW
March 2007 – June 2013
Research/Teaching Assistant, University of Washington Department of Mechanical Engineering

Research Interests and Technical Expertise

- Acoustic data analysis, modeling global sound propagation, signal processing
- Design and develop acoustic intensity measurement systems
- Field scientist on ocean going experiments, includes: experimental design and planning, deploy/recover oceanographic systems, conduct acoustic source surveys

Teaching and Mentoring

- Instructor for undergraduate level Dynamics course at the University of Washington (2012)
- Partnership for Science and Engineering Practices (PSEP) mentor for elementary school teachers implementing Science Technology Engineering Mathematics (STEM) curriculum

Professional Affiliations

Member, Acoustical Society of America

Current and Past Funded Research

Principal Investigator

- Office of Naval Research (ONR) grant to study sound propagation in the ocean, reverberation mechanisms, and develop vector acoustic measurement systems
- Army Small Business Innovation Research (SBIR) contract to develop an airborne vector sensor for infrasonic intensity measurements

Collaborative Researcher

- United Nations Comprehensive Nuclear-Test-Ban Treaty Organization: provide analysis of airborne infrasonic and underwater acoustic data of the global International Monitoring

System network, and present results at the biannual Science and Technology Meetings and Hydroacoustic Workshops held in Vienna, Austria
- International community of underwater acousticians: present findings and experimental results at conferences in Europe, Asia, and the U.S.

Field Experiments

- Chief Scientist, *Sediment Characterization Experiment* (SCE2022) on NE U.S. Continental Shelf aboard the *R/V Armstrong*
- *Sediment Characterization Experiment* (SCE2021) on NE U.S. Continental Slope
- *Sediment Characterization Experiment* (SCE2017) on New England Mud Patch
- *Korean Reverberation Experiment* (KOREX17) near Geoje Island, Korea
- *Targets and Reverberation Experiment* (TREX13) near Panama City, Florida
- *Transverse Acoustic Variability Experiment* (TAVEX08) in East China Sea

Selected Refereed Publications

D.R. Dall'Osto and D.J. Tang, "Acoustic resonances within the surficial layer of a muddy seabed," *J. Acoust. Soc. Am.* accepted (2022).

P.H. Dahl, D.R. Dall'Osto, and M.J. Harrington, "Trends in low-frequency underwater noise off the Oregon coast and impacts of COVID-19 pandemic," *J. Acoust. Soc. Am.* **149**, 4073-4077 (2021).

P.H. Dahl and D.R. Dall'Osto, "Range-Dependent Inversion for Seabed Parameters Using Vector Acoustic Measurements of Underwater Ship Noise," *IEEE J. Ocean. Eng.* **EOR** doi: 10.1109/JOE.2021.3086880 (2021).

P.H. Dahl and D.R. Dall'Osto, "Estimation of seabed properties and range from vector acoustic observations of underwater ship noise," *J. Acoust. Soc. Am.* **147**, EL345-EL350 (2020).

P.H. Dahl and D.R. Dall'Osto, "Vector acoustic analysis of time-separated modal arrivals from explosive sound sources during the 2017 Seabed Characterization Experiment," *IEEE J. Ocean. Eng* **45**, 131-143 (2020).

P.H. Dahl, A.K. Jenkins, B. Casper, S.E. Kotecki, V. Bowman, C. Boerger, D.R. Dall'Osto, M.A. Babina, and A.N. Popper , "Physical effects of sound exposure from underwater explosions on Pacific sardines (*Sardinops sagax*)," *J. Acoust. Soc. Am.* **147**, 2383-2395 (2020).

D.R. Dall'Osto, "Taking the Pulse of our Ocean World," *Acoustics Today* **15**, 20-28 (2019).

D.R. Dall'Osto, "Source triangulation utilizing three-dimensional arrivals: Application to the search for the ARA *San Juan* submarine," *J. Acoust. Soc. Am.* **146**, 2104-2112 (2019).

D.R. Dall'Osto and P.H. Dahl, "Observations of water-column and bathymetric effects on the incident acoustic field associated with shallow water reverberation experiments," *IEEE J. Ocean. Eng* **42**, 1146-1161 (2017).

P.H. Dahl and D.R. Dall'Osto, "On the underwater sound field from impact pile driving: Arrival structure, precursor arrivals, and energy streamlines," *J. Acoust. Soc. Am.* **142**, 1141-1155 (2017).

D.M. Farrell, D.R. Dall'Osto, and P.H. Dahl, "The background noise environment during the 2013 Target and Reverberation Experiment TREX13," *IEEE J. Ocean. Eng* **42**, 1088-1093 (2017).

P.H. Dahl and D.R. Dall'Osto, "Observations of sea surface directional wave spectra during the 2013 Targets and Reverberation Experiment (TREX13) and relation to mid-frequency sonar," *IEEE J. Ocean. Eng* **42**, 250-259 (2017).

D.R. Dall'Osto, J.W. Choi, and P.H. Dahl, "Measurement of acoustic particle motion in shallow water and its application to geoacoustic inversion," *J. Acoust. Soc. Am.* **139**, 311-319 (2016).

P.H. Dahl, D.R. Dall'Osto, and D.M. Farrell, "The underwater sound field from vibratory pile driving," *J. Acoust. Soc. Am.* **137**, 3544-3554 (2015).

P.H. Dahl, W.J. Plant, and D.R. Dall'Osto, "Vertical coherence and forward scattering from the sea surface and the relation to the directional wave spectrum," *J. Acoust. Soc. Am.* **134**, 1843-1853 (2013).

D.R. Dall'Osto and P. H. Dahl, "Elliptical acoustic particle motion in underwater waveguides," *J. Acoust. Soc. Am.* **134**, 109-118 (2013).

D.R. Dall'Osto, P. H. Dahl, and J.W. Choi, "Properties of the acoustic intensity vector field in a shallow water waveguide," *J. Acoust. Soc. Am.* **131**, 2023-2035 (2012).