

LORA J. VAN UFFELEN, PH.D.

University of Hawai'i at Manoa • Ocean and Resources Engineering • 808-546-9620 • loravu@hawaii.edu

Research Interests

Acoustical Oceanography • Underwater Acoustic Propagation • Ocean Variability • Oceanographic Instrumentation

Education

Ph.D., Oceanography (Applied Ocean Sciences), September 2009
Scripps Institution of Oceanography, University of California, San Diego
Dissertation: Acoustic Shadow-Zone Arrivals at Long Range in the North Pacific Ocean

B.S., Engineering, May 2002 • Magna Cum Laude
Hope College • Holland, MI
Minors: Mathematics, Music

Professional Experience

University of Hawai'i at Manoa (Research Corporation of the University of Hawai'i) • School of Ocean and Earth Science And Technology (SOEST) • Department of Ocean and Resources Engineering • 1000 Pope Road, MSB 205 • Honolulu, HI

- Affiliate Faculty, *October 2015 - Present*
- Assistant Researcher *October 2010 – Present*
- Instructor, ORE601 (Graduate Course in Observational Methods): *Jan-May 2013*

University Corporation for Atmospheric Research (UCAR) • 1850 Table Mesa Dr. • Boulder, CO

- Independent Contractor for Ocean Engineering *June-July 2012*

Scripps Institution of Oceanography • 9500 Gilman Drive • La Jolla, CA

- Postdoctoral Scholar *September 2009 –October 2010*
- Graduate Student Research Assistant *June 2002-August 2009*
- Marine Physical Laboratory Summer Intern *June - August 2001*

Acoustics By Design, Inc • 1515 Michigan NE. • Grand Rapids, MI

- Junior Consultant in Architectural Acoustics *October 2001 – June 2002*

Special Recognition and Awards

Women in Acoustics Young Investigator Travel Grant, *2014*

Office of Naval Research Graduate Traineeship Award, *2007-2010*

Acoustical Society of America Student Paper Award in Acoustical Oceanography, *2009*

Office of Naval Research Student Travel Grant, *2008*

National Defense Science and Engineering Graduate Fellowship, *2002-2005*

Hope College Presidential Scholarship, *1998-2002*

Hope College Department of Physics and Engineering Douwe B. Yntema Prize, *2002*

Jurries Family Scholarship for Vienna Summer School, *2000*

Refereed Publications

Van Uffelen, L.J., B.M. Howe, E.M. Nosal, G.S. Carter, P.F. Worcester, and M.A. Dzieciuch (2015). "Localization and subsurface position error estimation of gliders using broadband acoustic signals at long range." *IEEE J. Ocean. Eng.*, doi: 10.1109/JOE.2015.2479016.

Ramp, S.R., J.A. Colosi, P.F. Worcester, F.L. Bahr, K. Heaney, J.A. Mercer, **L.J. Van Uffelen** (2014, *submitted*). "Direct observations of the mesoscale variability in the western Philippine Sea." *J. Phys. Ocean.*

Van Uffelen, L.J., E.M. Nosal, B.M. Howe, G.S. Carter, P.F. Worcester, M.A. Dzieciuch, K.D. Heaney, R.L. Campbell, and P.S. Cross (2013). "Estimating uncertainty in subsurface glider position using transmissions from fixed acoustic tomography sources." *J. Acoust. Soc. Am.*, 134, 3260-3271.

Colosi, J.A., **L.J. Van Uffelen**, B.D. Cornuelle, M.A. Dzieciuch, P.F. Worcester, and B.D. Dushaw (2013). "Observations of sound-speed fluctuations in the Western Philippine Sea in the spring of 2009." *J. Acoust. Soc. Am.*, 134, 3185-3200.

Worcester, P.F., M.A. Dzieciuch, J.A. Mercer, R.K. Andrew, B.D. Dushaw, A.B. Baggeroer, K.D. Heaney, G.L. D'Spain, J.A. Colosi, R.A. Stephen, J.N. Kemp, B.M. Howe, **L.J. Van Uffelen**, and K.E. Wage (2013). "The North Pacific Acoustic Laboratory (NPAL) deep-water acoustic propagation experiments in the Philippine Sea." *J. Acoust. Soc. Am.*, 134, 3359-3375.

Van Uffelen, L.J., P.F. Worcester, M.A. Dzieciuch, D.L. Rudnick, and J.A. Colosi (2010). "Effects of upper ocean sound-speed structure on deep acoustic shadow-zone arrivals at 500- and 1000-km range." *J. Acoust. Soc. Am.*, 127, 2169-2181.

Van Uffelen, L.J., P.F. Worcester, M.A. Dzieciuch, and D.L. Rudnick (2009). "The vertical structure of shadow-zone arrivals at long range in the ocean." *J. Acoust. Soc. Am.* 125, 3569-3588.

Selected Published Conference Papers, Abstracts, and Technical Reports

Van Uffelen, L.J., E. Oleson, B.M. Howe, and E. Roth (2014). "Acoustic Seagliders for monitoring marine mammal populations." *J. Acous. Soc. Am.*, 136(4), 2118.

Van Uffelen, L.J., E.H. Roth, E. Oleson, B.M. Howe. (2014). "Ambient Noise Measurements on Acoustic Seagliders," Presented at the February 2014 Ocean Sciences meeting in Honolulu, Hawaii (<http://www.sgmeet.com/osm2014/viewabstract.asp?AbstractID=16441>).

Van Uffelen, L.J., B.M. Howe, E.M. Nosal, G.S. Carter, P.F. Worcester, M.A. Dzieciuch (2013). "Acoustic localization of Seagliders in the Philippine Sea using broadband transmissions from moored acoustic sources." *J. Acoust. Soc. Am.*, 134, 3983.

Van Uffelen, L.J., B.M. Howe, E.M. Nosal, G.S. Carter, P.F. Worcester, M.A., Dzieciuch (2013). "Long-range glider localization using broadband acoustic signals and a linearized model of glider motion." *Oceans - San Diego, 2013*, vol. 1, no. 4, pp. 23-27.

Van Uffelen, L.J., E.M. Nosal, B.M. Howe, G.S. Carter, P.F. Worcester, M.A. Dzieciuch, K.D. Heaney, R.L. Campbell, and P.S. Cross (2013). "Towards subsurface positioning of gliders using fixed acoustic tomography sources," Proceedings of Meetings on Acoustics. 19, pp. 5020. ICA 2013 Montreal, Canada.

Van Uffelen, L.J., E.M. Nosal, B.M. Howe, G.S. Carter, P.F. Worcester, M.A. Dzieciuch (2012). "Acoustic seagliders in the Philippine Sea: first steps towards moving-receiver tomography." J. Acoust. Soc. Am. 131, 3353.

Van Uffelen, L.J., F. Duennebieer, R. Lukas, B.M. Howe (2011). "The Aloha Cabled Observatory." J. Acoust. Soc. Am., 129, 2400.

Howe, B.M., **L.J. Van Uffelen**, E.M. Nosal, and G.S. Carter (2011). "Acoustic Seagliders in PhilSea10: Preliminary Results," IEEE Oceans 2011 Conference Proceedings, 2011.

Van Uffelen, L.J., K.E. Wage (2010). "Ocean acoustic tomography: Live from the Philippine Sea." J. Acoust. Soc. Am., 127, 1913. *Invited Paper.*

Stephen, R.A., S.T. Bolmer, I. Udovydchenkov, P.F. Worcester, M.A. Dzieciuch, **L.J. Van Uffelen**, J.A. Mercer, R.K. Andrew, L.J. Buck, J.A. Colosi, B.M. Howe (2008). "NPAL04 OBS Data Analysis Part 1: Kinematics of Deep Seafloor Arrivals." Woods Hole Oceanographic Institution Technical Report WHOI-2008-03.

Van Uffelen, L.J., P.F. Worcester, M.A. Dzieciuch, and D.L. Rudnick (2006). "Mixed Layer Effects on Acoustic Arrival Structure." J. Acoust. Soc. Am., 120, 3021.

Van Uffelen, L.J., P.F. Worcester, M.A. Dzieciuch, D.L. Rudnick, B.D. Cornuelle, and W.H. Munk (2006). "Vertical Structure of Shadow Zone Arrivals at Long Range in the Ocean." J. Acoust. Soc. Am. 119, 3344.

Other Presentations

Invited talk for NOAA Pacific Islands Fisheries Science Center Seminar Series, *March 2016*

ONR PhilSea Analysis Workshop in Borrego Springs, CA, *October 2014*

Invited talk for Hope College Engineering Department Seminar Series, *October 2012*

North Pacific Acoustic Laboratory Workshop in Fallbrook, CA, *October 2011*

Invited presentation at Underwater Acoustic Measurements Conference, Kos, Greece, *June 2011*

Invited Tomography Tutorial Lecture at Pacific Asian Marginal Seas Meeting, Taipei, Taiwan, *April 2011*

North Pacific Acoustic Laboratory Workshop in Warrenton, VA, *October 2010*

Nansen Environmental and Remote Sensing Center, Bergen, Norway, *September 2010*

MPOWIR Patullo Conference in Charleston, SC, *May 2010*

Ocean Acoustics Workshop at National Taiwan University in Taipei, *May 2010*

North Pacific Acoustic Laboratory Workshop in Carmel, CA, *September 2009*

North Pacific Acoustic Laboratory Workshop in Borrego Springs, CA, *April 2008*

North Pacific Acoustic Laboratory Workshop in Sleeping Lady, WA, *May 2007*

Curtin University of Technology, Centre for Marine Science and Technology, Perth, Australia, *March 2007*

North Pacific Acoustic Laboratory Workshop in Borrego Springs, CA, *April 2006*

North Pacific Acoustic Laboratory Workshop in Semiamoo, WA, *May 2005*

Research Funding

CANada Basin Acoustic Glider Experiment (CABAGE)

Office of Naval Research Ocean Acoustics Program, 2016-2018, \$360k

Acoustic Scattering Due to Internal Waves

Office of Naval Research Ocean Acoustics Program, 2015-2017, \$380k

JIMAR Cetacean Research (Dr. Merrifield is PI: Amount shown is designated for Van Uffelen)

Joint Institute for Marine and Atmospheric Research, 2015-2017, \$41k

Improving Cetacean Stock Assessment with Acoustic Techniques and Technologies

National Oceanic and Atmospheric Administration, Pacific Islands Fisheries Science Center, 2014-2016, \$125k

Professional and Honor Society Membership

Acoustical Society of America

Phi Beta Kappa • Zeta of Michigan at Hope College

Sigma Pi Sigma • National Physics Honor Society • Hope College Chapter

Pi Mu Epsilon • National Mathematics Honor Society • Hope College Chapter

Sigma Xi • Scientific Research Society • Hope College Chapter • Senior Research Award

Leadership and Outreach Experience

Acoustical Society of America Technical Committee on Acoustical Oceanography, 2015-Present

Mentor for SOEST Maile Mentoring Bridge Program, 2014-Present

Acoustical Society of America Public Relations Committee 2007-Present

Group Leader for Road Scholar Fiji and French Polynesia Programs, 2014-2016

Search Committee for Editor in Chief of JASA Dec. 2013-July 2014

Listen Up and Get Involved Education Outreach Session at ASA April'10, Oct'12, June'13, May'14

Honolulu Mini Maker Faire March 2014

Session Chair, Acoustical Society of America meeting, June 2013, May 2011

Judge for Regional MATE Remotely Operated Vehicle Design Competition, May 2013

Acoustical Society of America Science Writing Awards Committee 2008, 2013

Special Session Organizer, Acoustical Society of America meeting, Kansas City, MO, Oct 2012

Co-author of science blog: ableseachicks.blogspot.com March/April 2010

Acoustical Society of America Student Representative, Acoustical Oceanography 2005-2009

Science Judge, Greater San Diego Science and Engineering Fair 2006

Scripps Institution of Oceanography Student Representative, Applied Ocean Science 2004-2005

Scripps Institution of Oceanography Teaching Evaluation Committee 2004-2005

Science Olympiad Coach 2002

Field Experience

Canada Basin Acoustic Propagation Experiment (CANAPE) Pilot Study 7/23/15-8/22/15

R/V Sikuliaq, Dr. Peter Worcester, SIO, Chief Scientist

Marianas Archipelago Cetacean Survey 5/8/15-6/6/15

NOAA Ship Oscar Elton Sette, Dr. Erin Oleson, NOAA Chief Scientist

Clivar/A16S Hydrography Cruise 12/22/13-2/4/14

R/V Ronald Brown, Dr. Rik Wanninkhof, Chief Scientist

- KM 13-04 Student Cruise and ORE Laboratory Class, *Instructor of ORE601 Class*, 3/1/13-3/3/13
R/V Kilo Moana, Doug Luther, University of Hawaii, Chief Scientist
- NOAA Office of Explorations and Research Cruise EX1205 with AUV Sentry 7/5/12-7/24/12
NOAA Ship Okeanos Explorer
- Clivar/A20N Hydrography Cruise 4/19/12-5/15/12
R/V Atlantis, Dr. Michael McCartney, WHOI, Chief Scientist
- North Pacific Acoustic Laboratory Philippine Sea Mooring/Seaglider Recovery Cruise 3/24/11-4/16/11
R/V Roger Revelle, Dr. Peter Worcester, SIO, Chief Scientist
- North Pacific Acoustic Laboratory Seaglider Deployment Cruise/ITOP 11/6/10-11/24/10
R/V Roger Revelle, Van Uffelen served as Co-chief Scientist w/ Dr. Barry Ma, APL UW
- ACOBAR Fram Strait 2010 Tomography Mooring Deployment Cruise 9/4/10-9/18/10
KV Svalbard, Dr. Hanne Sagen, NERSC, Chief Scientist
- North Pacific Acoustic Laboratory Philippine Sea 2010 Deployment Cruise, 4/6/10-4/28/10
R/V Roger Revelle, Dr. Peter Worcester, SIO, Chief Scientist
- North Pacific Acoustic Laboratory Philippine Sea Pilot Study Recovery Cruise, 5/6/09-5/15/09
R/V Melville, Dr. Peter Worcester, SIO, Chief Scientist
- North Pacific Acoustic Laboratory Philippine Sea Pilot Study Deployment Cruise, 3/31/09-4/9/09
R/V Melville, Dr. Peter Worcester, SIO, Chief Scientist
- Distributed VLA Engineering Test Cruise, 11/1/08-11/5/08
R/V Robert Gordon Sproul, Dr. Peter Worcester, SIO, Chief Scientist
- Clivar/I18S Hydrography Cruise 2/4/07-3/18/07
R/V Roger Revelle, Dr. James Swift, SIO, Chief Scientist
- On-site study of Hawaiian Volcanology at Kilauea 7/5/06-7/7/06
Dr. Hubert Staudigel, SIO, Expedition Leader
- Electromagnetic Tomography of Loihi Seamount Cruise 6/30/06-7/5/06
R/V Roger Revelle, Dr. Steve Constable, SIO, Chief Scientist
- Acoustic Tracking of Gray Whales in San Ignacio Lagoon, Baja California, MX 2/3/06-2/12/06
Dr. Aaron Thode, SIO, Chief Scientist
- North Pacific Acoustic Laboratory SPICE Recovery Cruise 6/6/05-6/26/05
R/V Thomas Thompson, Dr. Peter Worcester, SIO, Chief Scientist
- North Pacific Acoustic Laboratory SPICE Repair Cruise 3/5/05-3/19/05
R/V New Horizon, Dr. Peter Worcester, SIO, Chief Scientist
- North Pacific Acoustic Laboratory BASSEX Cruise 9/13/04-10/9/04
R/V Roger Revelle, Dr. Art Baggeroer, MIT, Chief Scientist
- North Pacific Acoustic Laboratory SPICE Deployment Cruise 5/26/04-6/18/04
R/V Roger Revelle, Dr. Peter Worcester, SIO, Chief Scientist
- Simple Tomographic Acoustic Recorder Recovery Cruise 2/20/04
R/V Robert Gordon Sproul, Dr. Peter Worcester, SIO, Chief Scientist
- Gas Hydrate Observation, Sampling, and Tracer Study, Gulf of Mexico 9/03
R/V Seward Johnson II, Johnson-Sea-Link Submersible, Dr. Miriam Kastner, SIO, Chief Scientist
- Passive Synthetic Aperture Sonar Source Tow Cruise, 7/10/01-7/11/01, 7/02
R/V Acoustic Explorer, Dr. Katherine Kim, SIO, Chief Scientist
- Autonomous Underwater Vehicle Test Cruise 6/13/01
R/V Roger Gordon Sproul, Dr. Christian deMoustier, SIO, Chief Scientist