

## Short Curriculum Vita

### Jeffrey A. Nystuen

Dr. Nystuen is a leader in the field of Acoustical Oceanography. His specialty is the analysis of the ambient sound field to detect and measure geophysical quantities, especially precipitation. He has also studied the sound generated by bubbles and wind. In recognition of his work, he received the 2003 Medwin Prize in Acoustical Oceanography and was elected a Fellow of the Acoustical Society of America. He has designed, developed and deployed 4 generations of Acoustic Rain Gauges over the past 9 years. These instruments have been deployed worldwide and have successfully returned over 120 buoy-months of data. He was awarded an Innovative Technology Award from the Applied Physics Laboratory in 2000. The technology has been transferred to other ocean drifter technologies (D'Asaro Lagrangian Floats and Riser's ARGO floats).

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#### a. Professional Preparation

University of Michigan	Mathematics/Physics (high honors)	B.A. 1979
Scripps Institution of Oceanography	Oceanography	Ph.D. 1985
Institute of Ocean Sciences	Postdoctoral Oceanographer	1985-1986

#### b. Appointments

Principal Oceanographer	Applied Physics Laboratory University of Washington	2002 - present
Affiliate Associate Professor of Oceanography	University of Washington Seattle, Washington	1999 - present
Senior Oceanographer	Applied Physics Laboratory University of Washington, Seattle,	1995 - 2002
Adjunct Associate Professor of Applied Marine Physics	Rosenstiel School of Marine and Atmospheric Sciences, University of Miami	1993 - 1995
Research Associate	Cooperative Institute for Marine & Atmospheric Studies, University of Miami	1993 - 1995
Assistant Professor of Oceanography	Naval Postgraduate School Monterey, California	1986 - 1993
Research Oceanographer (Postdoc)	Institute of Ocean Sciences Sidney, British Columbia	1985 - 1986
Postgraduate Research Oceanographer	Scripps Institution of Oceanography La Jolla, California	1985

#### c. Selected Refereed Publications (from 31 total)

2005 Ma, B.B., J.A. Nystuen and R-C. Lien, "Prediction of Underwater Sound Levels from Rain and Wind", *J.Acoust.Soc.Am.* **117**, 3555-3565.

- 2005 Ma, B. and J.A. Nystuen, "Passive Acoustic Detection and Measurement of Rainfall at Sea", *J. Atmos. and Oceanic Tech.* **22**, 1225-1248.
- 2004 Amitai, E., J.A. Nystuen, and L.Liao, "Uniting Space, Ground, and Underwater Measurements for Improved Estimates of Rain Rate", *IEEE Geosci and Remote Sensing Letters*, **1**, p 35-38
- 2004 Amitai, E, J.A. Nystuen, and L.Liao, "Listening to the Rain", *Bulletin of the American Meteorological Society of American (BAMS)*, Jan 2004 (Note), p15.
- 2005 Nystuen, J.A., "Using Underwater Sound to Determine Drop Size Distribution", in *Sounds in the Seas: Introduction to Acoustical Oceanography*, editor, H. Medwin, Cambridge University Press.
- 2002 Nystuen, J.A. and E. Amitai, "High Temporal Resolution of Extreme Rainfall Rate Variability and the Acoustic Classification of Rainfall", *J. Geophys. Res.*, **108** Number D8, 8378, doi:10.1029/2001JD001481, 2003.
- 2001 Nystuen, J.A., "Listening to Raindrops from Underwater: An Acoustic Disdrometer", *J. Atmos. and Oceanic Tech.*, **18**, 1640-1657.
- 2000 Nystuen, J.A., M.J. McPhaden and H.P. Freitag, "Surface Measurements of Precipitation from an Ocean Mooring: The Underwater Acoustic Log from the South China Sea", *J.Applied Meteor.* **39**, 2182-2197.
- 1999 Nystuen, J.A., "Listening to Raindrops", *Solstice* **10**, Number 2, <http://www.csfnet.org/image/solstice/win99/janystuen/listen.html>
- 1999 Nystuen, J.A., "Relative Performance of Automatic Rain Gauges under Different Rainfall Conditions", *J. Atmos. and Oceanic Tech.* **16**, 1025-1043.
- 1997 Nystuen, J.A. and H.D. Selsor, "Weather Classification using Passive Acoustic Drifters", *J. Atmos. and Oceanic Tech.*, **14**, 656-666.
- 1996 Nystuen, J.A., "Acoustical Rainfall Analysis: Rainfall Drop Size Distribution using the Underwater Sound Field", *J. Atmos. and Oceanic Tech.* **13**, 74-84.

#### **d) Collaborators & other affiliations**

Collaborators:

Phyllis Stabeno, PMEL, NOAA

Eyal Amitai, University of Maryland Baltimore County

Emmanouil N. Anagnostou, University of Connecticut

Eric D'Asaro, Applied Physics Laboratory, University of Washington

Robert Collier, Oregon State University

Michael J. McPhaden, PMEL, NOAA

William J. Plant, Applied Physics Laboratory, University of Washington

Steve Riser, Department of Oceanography, University of Washington

Robert Weller, Woods Hole Oceanographic Institute

Thesis Advisor for:

Barry Ma, University of Washington (Ph.D. Dec 2004)

#### **e) Awards**

- 2000 Development and Disclosure of Innovative Technology, Applied Physics Laboratory, College of Ocean and Fisheries Sciences, The University of Washington, Seattle, Washington (for the measurement of rainfall using acoustic inversion)
- 2003 Medwin Prize for Acoustical Oceanography, Acoustical Society of America (for contributions to physical and biological oceanography through the use of sound)