

David Y. Lai CV

Education:

Ph.D. Physical Oceanography, University of Rhode Island, 1983.

M.S. Physical Oceanography, University of Rhode Island, 1976.

B.S. Physics, University of Oregon, 1971.

Experience:

1995-present:

Research Scientist, NorthWest Research Associates, Inc.

1994-1995:

Principal Research Scientist, Applied Physics Laboratory, University of Washington.

1985-1994:

Project Research Scientist, Dynamics Technology Inc.

1983-1985:

Post-doctoral Research Associate, Applied Physics Laboratory and School of Oceanography, University of Washington.

Expertise:

Modeling, analysis and interpretation of synthetic aperture radar imagery of ocean surface; air-sea interaction; wind variability; internal waves and turbulence; general ocean circulation and Gulf Stream eddies; oceanic response to hurricane forcing and topography; data inversion techniques; marine instrumentation; analysis and interpretation of aircraft vortex evolution data.

Other Experience:

Analysis and interpretation of observed aircraft vortex data to investigate the evolution of aircraft vortices and to assess their impact on aircraft separation standards, funded by FAA and NASA.

Lead Principal Investigator of a team working on a project to retrieve mesoscale surface currents from SAR images, funded by NASA's Earth Observations Commercial Application Program (EOCAP). Team members include investigators from University of Miami, University of Rhode Island, and Evans-Hamilton, Inc.

Reviewer for Journal of Physical Oceanography, Journal of Geophysical Research, and Journal of Atmospheric and Oceanic Technology.

Journal Publications and Conference Presentations:

Lai, D.Y., 2005. Observed differences in co-located dual-polarized SAR images and their relationship with atmospheric stability. (In Preparation)

Lai, D.Y., 2003. Inversion of synthetic aperture radar modulations induced by solitary internal waves. (Submitted to Journal of Geophysical Research).

Lai, D.Y., V.T. Paka, D.P. Delisi, A.V. Arjannikov and S.A. Khanaev, 2000. An intercomparison study using electromagnetic three-component turbulent velocity probes. *Jour. Atm. Oceanogr. Tech.*, 17:980-994.

Lai, D.Y., 1999a. Extraction of surface currents of solitary internal waves from synthetic aperture radar data. *IEEE Sixth Working Conference on Current Measurement*, San Diego.

- Lai, D.Y., 1999b. Extraction of surface currents from synthetic aperture radar data. *IGARSS'99*, Hamburg, Germany.
- Lai, D.Y. and C.C. Ebbesmeyer, 1999. Computing soliton currents from synthetic aperture radar images of the South China Sea. *Offshore Technology Conference*, Houston.
- Lai, D.Y., 1998. Inversion of synthetic aperture radar modulations induced by solitary internal waves. *Ocean Sciences Meetings of the American Geophysical Union*, San Diego.
- Lai, D.Y. and T.B. Sanford, 1986. Observations of hurricane-generated near-inertial modes. *J. Phys. Oceanogr.*, 16:657-666.
- Lai, D.Y., 1984. Mean flow and variability in the deep western boundary undercurrent. *J. Phys. Oceanogr.*, 14:1488-1498.
- Lai, D.Y. and P.L. Richardson, 1977. Distribution and movement of Gulf Stream rings. *J. Phys. Oceanogr.*, 7:670-683.

Pertinent Technical Reports:

- Lai, D.Y. and D.P. Delisi, March 2005. Comparisons of Aircraft Vortex Lateral Transports Measured by Windline and Lidar at San Francisco International Airport. *NorthWest Research Associates, Inc., Final Report for Volpe National Transportation Center.*
- Lai, D.Y. and D.P. Delisi, November 2005. STL Data Analysis. *NorthWest Research Associates, Inc., Final Report for Volpe National Transportation Center.*
- Lai, D.Y. and D.P. Delisi, March 2003: Feasibility Study for the Development of a Data-Driven Wake Vortex Model. *NorthWest Research Associates, Inc., Final Report (NWRA-CR-03-R252) for Research Triangle Institute, 11 March 2003.*
- Delisi, D.P., R.E. Robins, G.F. Switzer, D.Y. Lai, and F.Y. Wang, 2003: Comparison of Numerical Model Simulations and SFO Wake Vortex Windline Measurements. Paper AIAA-2003-3810, *21st Applied Aerodynamics Conference, Orlando, Florida, June 2003.*
- Clements, M., D. Cohen, D. Jacobson, D. Lai and M. Webb, 1993. Joint U.S./Russian internal wave remote sensing experiment: Quick-look data analysis results. *Dynamics Technology Report DTW-9250-93019.*
- Lai, D.Y., 1991. SAR ocean imaging with wind variability. *Dynamics Technology Report DTW-9106-91044.*
- Lai, D.Y. and D.R. Kirk, 1990. Characterization and modeling of radar clutter. *Dynamics Technology Report DT-9008-90001.*
- Lai, D.Y., 1989. Surfactants and wave damping. *Dynamics Technology Memo DTM-8658C-14-DYL.*
- Lai, D.Y., 1989. SAR imagery of ship wakes and surfactants. *Dynamics Technology Memo DTM-8658C-13-DYL.*
- Lai, D.Y. and F. Fu, 1986. Utility assessment of SAR surface signatures in shallow water. *Dynamics Technology Report DT-8443-06.*
- Lai, D.Y., 1986. Impact of environmental variability on SAR imagery of the sea surface. *Dynamics Technology Report DT-8444-06.*
- McLaren, W., P.S. Jang, D.Y. Lai and R. Sharman, 1987. Development of an end-to-end simulator for predicting the SAR imagery of ship wakes. *Dynamics Technology Report DT-8658-09.*