

# Biographical Sketch - Larry Mahrt

## A. Vital Statistics:

Present Position: Senior Research Scientist  
NorthWest Research Associates

## B. Education

B.S. (1967) - Meteorology, University of Wisconsin  
Ph.D. (1972) - Meteorology (Minor: Mathematics), University of Wisconsin

## C. Professional Employment

1971-1972: Postdoctoral fellow, Advanced Study Program, National Center for Atmospheric Research, Boulder, Colorado.  
1972 - present: College of Oceanic and Atmospheric Sciences, Oregon State University, Corvallis, Oregon.  
2004 - present: Senior Research Scientist, NorthWest Research Associates, Redmond, WA.

## D. Other Employment

2010: Research Scientist, University of Stockholm  
2009: Research Scientist, Universitat de les Illes Balears, Spain  
2002: Research Scientist, University of Uppsala, Sweden  
1996: Research Scientist, Land Resources Research Centre, Agriculture Canada  
1995: Research Scientist, Risø National Laboratory, Denmark  
  
1995: Research Scientist, European Centre, Reading  
  
1992 - : Affiliate Scientist, MMM, National Center for Atmospheric Research, USA  
1988: Research Scientist. Geofysisk Institutt, Universitet Bergen and the Bergen Scientific Centre.  
1980: Research Scientist, EERM, Paris  
1979-1980: Research Scientist, Risø National Laboratory, Denmark  
1977: Research Scientist, Risø National Laboratory, Denmark  
1974-1975: Research Scientist, National Center for Atmospheric Research, Boulder, Colorado.

## E. Publications in Past Five Years

- Skyllingstad E, R. Samelson, L Mahrt, and P Barbour (2005) A numerical modeling study of warm offshore flow over cool water, *Mon. Wea. Rev.*, 133, 345-361.
- Nakamura R and L Mahrt (2005) A study of intermittent turbulence with CASES-99 tower measurements. *Boundary-Layer Meteorol.*, 114, 367-387.
- Mahrt L, Vickers D , (2005) Boundary-layer adjustment over small-scale changes of surface heat flux. *Boundary-Layer Meteorol.*, 116, 313 - 330.
- Nakamura R and L Mahrt (2005) Air Temperature Measurement Errors in Naturally Ventilated Radiation Shields. *J. Atm. Oc. Tech.*, 22, 1046-1058.
- Mahrt L and D Vickers (2005) Moisture fluxes over snow with and without protruding vegetation. *Quart. J. Roy. Met. Soc.*, 131, 1251-1270.

- Mahrt L and D Vickers (2006) Extremely weak mixing in stable conditions. *Boundary-Layer Meteorol.*, 119, 19-39.
- Nakamura R and L Mahrt (2006) Vertically-integrated sensible heat budgets for stable nocturnal boundary layers. *Quart. J. Roy. Met. Soc.*, 132, 383-403.
- Vickers D, and L Mahrt (2006) A solution for flux contamination by mesoscale motions with very weak turbulence. *Boundary-Layer Meteorol.*, 118, 431-447.
- Lee Y-H and L Mahrt (2006) Effect of stability on mixing in open canopies. *Agric. For. Meteorol.*, 135, 169-179.
- Mahrt L and S-J Park (2006) Diffusion in the Nocturnal Boundary Layer. *Int. J. of Appl. Environ. Sci.*, 1.
- Vickers D and L Mahrt (2006) Contrasting mean vertical motion from tilt correction methods and mass continuity. *Agric. For. Meteorol.*, 138, 93-103.
- Mahrt L (2006) Variation of Surface Air Temperature in Complex Terrain. *J. Clim. and Appl. Meteorol.*, 45, 1481-1493.
- Vickers D and L Mahrt (2006) Evaluation of the air-sea bulk formula and sea-surface temperature variability. *J. Geophys. Res.*, 111, 5002-5016.
- Vickers D, and L Mahrt (2007) Observations of the cross-wind velocity variance in the stable boundary layer. *Env. Fluid Mech.*, 7, 55-71.
- Mahrt L (2007) The influence of nonstationarity on the turbulent flux-gradient relationship for stable stratification. *Boundary-Layer Meteorol.*, 125, 245-264.
- Skyllingstad E, D Vickers, L Mahrt, and R Samelson (2007) Effects of Mesoscale Sea-Surface Temperature Fronts on the Marine Boundary Layer. *Boundary-Layer Meteorol.*, 123, 219-237.
- Mahrt L (2007) Weak-wind mesoscale meandering in the nocturnal boundary layer. *Env. Fluid Mech.*, 7, 331-347.
- Mahrt, L (2008) The influence of transient flow distortion on turbulence in stable weak-wind conditions. *Boundary-Layer Meteorol.*, 127, 1-16.
- Mahrt, L (2008) Bulk Formulation of the surface fluxes extended to weak-wind stable conditions. *Quart. J. Roy. Met. Soc.*, 134, 1-10.
- Vickers, D., L. Mahrt, and D. Belušić (2008) Particle simulations of dispersion using observed meandering and turbulence. *Acta Geophysica*, 56, 234-256.
- Mahrt, L (2008) Mesoscale wind direction shifts in the stable boundary-layer. *Tellus*, 60A, 700-705.
- Belušić D, and L Mahrt (2008) Estimation of length scales from mesoscale networks. *Tellus* 60A: 706-715.
- Mahrt L, Thomas C, Preuger J (2009) Space-time structure of mesoscale modes in the stable boundary layer. *Quart. J. Roy. Met. Soc.*, 135, 67-75.
- Mahrt L (2009) Characteristics of submeso winds in the stable boundary layer. *Boundary-Layer Meteorol.*, 130, 1-14.
- Mahrt L and Mills R (2009) Horizontal diffusion by submeso motions in the stable boundary layer. *Env. Fluid Mech.* 9, 443-456
- Acevedo O and Mahrt L (2010) Systematic Vertical Variation of Mesoscale Fluxes in the Nocturnal Boundary Layer. *Boundary-Layer Meteorol.*, 135, 19-30

- Mahrt L. (2010) Variability and maintenance of turbulence in the very stable boundary layer. *Boundary-Layer Meteorol.* 135:118
- Vickers D and Mahrt L. (2010) Sea-surface roughness lengths in the midlatitude coastal zone. *Quart. J. Roy. Met. Soc.*, 136, 10891093.
- Mahrt, L., and D. Khelif (2010), Heat fluxes over weak SST heterogeneity, *J. Geophys. Res.*, 115, D11103, doi:10.1029/2009JD013161.
- Mahrt, L., S. Richardson, N. Seaman and D. Stauffer (2010) Nonstationary drainage flows and motions in the cold pool. *Tellus* 62:698-705.
- Mahrt L. (2010) Common microfronts and other solitary events in the nocturnal boundary layer. *Quart. J. Roy. Met. Soc.* 136: 1712-1722.
- Mahrt L. (2011) Surface wind-direction variability. *J. Clim. and Appl. Meteorol.* 50:144152
- Mahrt L. (2010) Computing turbulent fluxes near the surface: Needed improvements. *Agric. For. Meteorol.* 150: 501-509
- Mahrt L. (2011) The near-calm stable boundary layer. *Boundary-Layer Meteorol.*, 140: 343-360  
.DOI 10.1007/s10546-011-9616-2