

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 - 2004: Professor, College of Oceanic and Atmospheric Sciences, Oregon State University, Corvallis, Oregon.
2004 - present: Senior Research Scientist, NorthWest Research Associates, Redmond, WA.

D. Other Employment

2013: Research Scientist, University of Stockholm
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

- Mahrt, L., S. Richardson, N. Seaman and D. Stauffer (2012). Turbulence in the nocturnal boundary layer with light and variable winds. *Quart. J. Roy. Met. Soc.* 138: 1430–1439.
- Mahrt, L., D. Vickers, E. Andreas and D. Khelif (2012). Sensible heat flux in near-neutral conditions over the sea. *J. Physical Oceanography*, 42: 1134-1142.
- Belušić, D and L. Mahrt (2012). Is geometry more universal than physics in atmospheric boundary layer flow?, *J. Geophys. Res.*, 117: D09115.10.1029/2011JD016987.
- Andreas, E. L, L. Mahrt, and D. Vickers (2012). A new drag relation for aerodynamically rough flow over the ocean. *J. Atmos. Soc.*, 69, 2520–2537.
- Mahrt, L., C. Thomas, S. Richardson, N. Seaman, D. Stauffer and M. Zeeman (2013). Non-stationary generation of weak turbulence for very stable and weak-wind conditions. *Boundary-Layer Meteorol.*, 147: 179-199.

- Mahrt, L. Stably Stratified Atmospheric Boundary Layers (2014). *Annual Reviews Fluid Mechanics*, 46, 23-45.
- Mahrt, L., D. Vickers and E. L. Andreas (2014). Low-level wind maxima and structure of the stably stratified boundary layer in the coastal zone. *J. Appl. Meteorol. and Clim.* 53, 363-376.
- Mahrt, L., J. Sun, S. P. Oncley and T. W. Horst (2014). Transient cold air drainage down a shallow valley. *J. Atmos. Soc.*, 71, 2534-2544.
- Sun J., L. Mahrt, C. Nappo and D. H. Lenschow (2015). Wind and temperature oscillations generated by wave-turbulence interactions in the stably stratified boundary layer. *J. Atmos. Soc.*, 72, 1484–1503.
- Mahrt L., S. Richardson, D. Stauffer and N. Seaman (2015). Nocturnal wind-directional shear in complex terrain. *Quart. J. Roy. Met. Soc.*, 140, 2393-2400
- Mahrt L., J. Sun and D. Stauffer (2015). Dependence of turbulent velocities on wind speed and stratification. *Boundary-Layer Meteorol.*, 155, 55-71
- Mahrt L. and R. C. Heald (2015). Marginal cold pools. *J. Appl. Meteorol. and Clim.*, 54, 339–351.
- Geiss, A. and L. Mahrt (2015). Decomposition of spatial structure of nocturnal flow over gentle terrain. *Boundary-Layer Meteorol.*, 156, 337–347.
- Andreas, E. L. and L. Mahrt. On the prospects for observing spray-mediated air-sea transfer in wind-water tunnels (2016). *J. Atmos. Soc.*, 73, 185–198.
- Mahrt L. and E. L. Andreas, J. B. Edson, D. Vickers, J. Sun, E. G. Patton (2016). Coastal zone surface stress with stable stratification. *J. Physical Oceanography*, 46, 95-105.
- Mahrt L. and C. K. Thomas (2016). Surface stress with non-stationary weak winds and stable stratification. *Boundary-Layer Meteorol.*, 159, 3–21.
- Nilsson, Erik and F. Lohou, M. Lothon, E. Pardyjak, L. Mahrt, C. Darbieu (2016). Turbulence kinetic energy budget during the afternoon transition, Part A: Observed surface TKE budget and boundary layer description for 10 Intensive observation period days. *Atm. Chem. and Phys.*, 16, 8849–8872.
- Sun, J. and D. Lenschow, M. LeMone and L. Mahrt (2016). The role of large-coherent-eddy transport in the atmospheric surface layer based on CASES-99 observations. *Boundary-Layer Meteorol.*, 111, 1–29.
- Vercauteren, N. and L. Mahrt and R. Klein (2016). Investigation of interactions between scales of motion in the stable boundary layer. *Quart. J. Roy. Met. Soc.*, 142, 2231–2590.
- Mahrt L. (2017). Stably stratified flow in a shallow valley. *Boundary-Layer Meteorol.*, 162, 1–20.
- Mahrt, L. (2017). Lee Mixing and nocturnal structure over gentle terrain, *J. Atmos. Soc.*, 74, 1989–1999.
- Mahrt, L. (2017) Heat Flux in the Strong-Wind Nocturnal Boundary Layer. *Boundary-Layer Meteorol.*, 163, 161–177
- Mahrt, L. (2017) Directional shear in the nocturnal surface layer. *Boundary-Layer Meteorol.*, 165, 1–7.
- Mahrt, L. (2017) The near-surface evening transition. *Quart. J. Roy. Met. Soc.*. DOI: 10.1002/qj.3153