

May, 2005

**P. OLA G. PERSSON**

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**PERSONAL INFORMATION**

Born: February 2, 1955, Uppsala, Sweden  
Citizenship: USA & Sweden

**EDUCATION**

Pennsylvania State University; 1/87 to 8/91; Ph.D. August 1991  
Major: Meteorology; Thesis Advisor: Thomas T. Warner  
University of Washington; 9/77 to 12/80; M.S. December 1980  
Major: Atmospheric Sciences; Thesis Advisor: Peter V. Hobbs  
Pennsylvania State University; 9/73 to 3/77; Two B.S. Degrees March 1977  
Majors: Mathematics and Meteorology, Summa cum laude

**EMPLOYMENT**

University of Colorado, CIRES/ NOAA/ETL  
Research Associate (Scientist III); 1/98 to present  
University of Colorado, CIRES/ NOAA/ETL  
Research Associate (Scientist II); 1/91 to 1/98  
National Center for Meteorological Research, France  
Visiting Scientist, Mesoscale Division; 12/92 to 1/94  
Pennsylvania State University, Department of Meteorology  
. Post-doctoral Scholar; 5/91 to 8/91  
Graduate Research Assistant; 1/87 to 4/91  
Swedish Meteorological and Hydrological Institute  
State Meteorologist, Met. Res. Section; 6/84 to 12/86  
Oregon State University, Department of Atmospheric Sciences  
Research Assistant; 10/80 to 5/84  
University of Washington, Department of Atmospheric Sciences  
Graduate Research Assistant; 9/77 to 9/80  
Tarfala Glaciological Res. Station, Kiruna, Sweden  
Summer research assistant; 5/77 to 8/77  
RISØ National Laboratory, Roskilde, Denmark  
Temporary research assistant; 3/77 to 4/77.  
Pennsylvania State University, Department of Meteorology  
Part-time undergraduate research assistant; 6/74 to 2/77.

**EDUCATIONAL AND PROFESSIONAL AFFILIATIONS, HONORS, AWARDS**

**Memberships:** American Geophysical Union; American Meteorological Society; Nordic Meteorological Society; The Society of Chi Epsilon Pi (Meteorology); Treasurer 1988-1989; Phi Beta Kappa; Phi Kappa Phi; The Society of Pi Mu Epsilon (Math)

**Awards:** A lead scientist on research team receiving NOAA Silver Medal Award for Scientific/Engineering Achievement; Edwin L. Drake Memorial Scholarship (Pennsylvania State University); Evan Johnson Math Award (Pennsylvania State University); President's Freshman Award (Pennsylvania State University)

**Visiting Scientist:** National Center for Meteorological Research (CNRM), Toulouse, France, 12/92- 1/94; International Meteorological Institute (IMI), University of Stockholm, Stockholm, Sweden, 5/00 – 8/00

## PRINCIPAL RESEARCH TOPICS

- Mesoscale meteorology:** Mesoscale structure of extratropical cyclones; relation between the simulation and theory of conditional symmetric instability; coastal and topographic influences on mesoscale dynamics and precipitation; remote sensing of mesoscale atmospheric structures.
- Atmospheric boundary-layer:** Observations of surface fluxes in maritime, high-wind regimes; observations of surface fluxes in polar climates; simulations of maritime and polar boundary layers; surface-flux and boundary-layer effects on mesoscale atmospheric structure in maritime and polar environments; flow in complex terrain.
- Polar meteorology:** Surface energy budgets over the polar pack ice; structure of the Arctic boundary layer; relationship between the surface energy budget, clouds, and synoptic and mesoscale disturbances in the Arctic.
- Applied meteorology:** Relation of airflow in complex terrain to wind energy considerations; development of real-time tools from remote sensors for operational forecasting.

## FIELD EXPERIENCE

- 2005-2006: PI for deployment of surface flux instrumentation in the Arctic for the SEARCH Project
- Mar. 2001-Mar. 2003: PI on subcontract to deploy boundary layer remote sensors on Swedish icebreaker Oden during Arctic Ocean Expedition-2001
- Jan.-Feb. 2002: PI for obtaining coincident aircraft and QuikScat wind and flux measurements in extratropical cyclones for the Pacific Landfalling Jets Experiment (PACJET).
- Jan.- Feb. 2001: Flight scientist for P-3 measurements during Pacific Landfalling Jets (PACJET) Experiment
- Apr., July-Aug 1998: Chief scientist for Atmospheric Surface Flux Group at the SHEBA ice camp
- Jan.-Mar. 1998: Co-chief scientist on NOAA P-3 aircraft during California Land-Falling Jets Experiment (CALJET) studying cyclonic storms in the eastern Pacific Ocean
- Sept. 1997-Oct. 1998: Execution of surface flux and energy measurements on the Arctic pack ice during the Surface Heat Budget of the Arctic Ocean (SHEBA).
- Dec. 1996-Jan. 1997: Chief scientist on R/V Knorr during Fronts and Atlantic Storm Tracks Experiment (FASTEX)
- June-July 1996: Studies of interactions between atmospheric flow and coastal topography, COAST experiment, California
- Mar.-Apr. 1992: Arctic Leads Experiment (LEADEX), ice camp in Beaufort Sea and on NOAA P-3
- Oct. 1980 - May 1984: Field trip leader and co-PI for wind energy assessment in the Bonneville Power Administration area, emphasizing the Oregon Coast and the Columbia Gorge
- Jan.-Feb. 1978; Jan.-Feb. 1979: Cyclones and Extratropical Storms (CYCLES); graduate assistant on NCAR Sabreliner, UW B-23, NCAR Electra; Pacific Northwest coast

## COMMITTEES

Scientific Steering Committee for Coastal Ocean Processes (CoOP) Program, National Science Foundation (interdisciplinary research within continental margin systems) Jan. 2003-Jan 2006.

American Meteorological Society Coastal Environment Committee, Jan. 2004-Jan. 2007.

Graduate Committee for Jeffrey Mirocha (Ph.D., M.S., PAOS, Univ. of Colorado)

Graduate Advisor for Matthew Shupe (Ph.D., PAOS, Univ. of Colorado)

## PUBLICATIONS

### Refereed Publications: Submitted

Andreas, E. L., K. J. Claffey, R. E. Jordan, C. W. Fairall, P. S. Guest, P. O. G. Persson, and A. A. Grachev, 2004: Measurements of the von Kármán constant in the atmospheric surface layer. *J. Fluid Mech.*, submitted.

### Refereed Publications: Published or accepted

Persson, P. O. G., P. J. Neiman, B. Walter, and M. Ralph, 2005: Contributions from California coastal-zone surface fluxes to heavy coastal precipitation: A CALJET case study during the strong El Niño of 1998. *Mon. Wea. Rev.*, In press.

Grachev, A. A., C. W. Fairall, P. O. G. Persson, E. L. Andreas, and P. S. Guest, 2005: Stable boundary-layer scaling regimes: The SHEBA data. *Boundary-Layer Meteor.*, in press.

Persson, P. Ola G., J. E. Hare, C. W. Fairall, and William Otto, 2005: Air-sea interaction processes in warm and cold sectors of extratropical cyclonic storms observed during FASTEX. *Quart. J. Roy. Meteor. Soc.*, **131**, 877-912, doi:10.1256/qj.03.181.

Tjernström, Michael, Caroline Leck, P. Ola G. Persson, Michael L. Jensen, Steven P. Oncley, and Admir Targino, 2004: The summertime Arctic atmosphere: Meteorological measurements during the Arctic Ocean Experiment 2001 (AOE-2001). *Bull. Amer. Meteor. Soc.*, **85**, 1305-1321.

Neiman, P. J., P. O. G. Persson, F. M. Ralph, D. P. Jorgensen, A. B. White, and D. E. Kingsmill, 2004: Modifications of fronts and precipitation by coastal blocking during an intense land-falling winter storm in Southern California: Observations during CALJET. *Mon. Wea. Rev.*, **132**, 242-273.

Jorgensen, David P., Zhaoxia Pu, P. Ola G. Persson, and Wei-Kuo Tao, 2003: Variations associated with cores and gaps of a Pacific narrow cold frontal rainband. *Mon. Wea. Rev.*, **131**, 2705-2729.

Ralph, F. M., P. J. Neiman, D. E. Kingsmill, P. O. G. Persson, A. B. White, E. T. Strem, E. D. Andrews, and R. C. Antweile, 2003. The impact of a prominent rain shadow on flooding in California's Santa Cruz Mountains: A CALJET case study and sensitivity to the ENSO cycle. *J. Hydrometeor.*, **4**, 1243-1264.

Andreas, E. L., C. W. Fairall, P. Ola G. Persson, P. S. Guest, 2003: Probability distributions for the inner scale and the refractive index structure parameter and their implications for flux averaging. *J. Appl. Meteor.*, **42**, 1316-1329.

White, A. B., P. J. Neiman, F. M. Ralph, D. E. Kingsmill, and P. O. G. Persson, 2003. Coastal orographic rainfall processes observed by radar during the California Land-falling Jets Experiment. *J. Hydrometeor.*, **4**, 264-282.

Persson, P. Ola G., C. W. Fairall, E. L. Andreas, P. S. Guest, and D. K. Perovich, 2002: Measurements near the Atmospheric Surface Flux Group tower at SHEBA: Near-surface conditions and surface energy budget. *J. Geophys. Res.* **107**(C10), 8045, doi:10.1029/2000JC000705.

Intrieri, J., C. W. Fairall, M. D. Shupe, P. O. G. Persson, E. L. Andreas, P. S. Guest, and R. E. Moritz, 2002: Annual cycle of Arctic surface cloud forcing at SHEBA. *J. Geophys. Res.*, **107** (C10), 8039, doi:10.1029/2000JC000439.

Andreas, E.L., P.S. Guest, P.O.G. Persson, C.W. Fairall, T.W. Horst, R.E. Moritz, and S. R. Semmer, 2002: Near-surface water vapor over polar sea ice is always near ice-saturation, *J. Geophys. Res.*, **107** (C8), doi:10.1029/2000JC000411.

Uttal, T., J. A. Curry, M. G. McPhee, D. K. Perovich, R. E. Moritz, J. A. Maslanik, Peter S. Guest, H. L. Stern, J. A. Moore, R. Turenne, A. Heiberg, M. C. Serreze, D. P. Wylie, O. G. Persson, C. A. Paulson, C. Halle, J. H. Morison, P. A. Wheeler, A. Makshtas, H. Welch, M. D. Shupe, J. M. Intrieri, K. Stammes, R. W. Lindsey, R. Pinkel, W. S. Pegau, T. P. Stanton, and T. C. Grenfeld, 2002: The surface heat budget of the Arctic, *Bull. Amer. Meteor. Soc.*, **83**, 255-275.

- Neiman, P.J., F.M. Ralph, A.B. White, D.A. Kingsmill, and P.O.G.Persson, 2002: The statistical relationship between upslope flow and rainfall in California's coastal mountains: Observations during CALJET. *Mon. Wea. Rev.*, **130**, 1468-1492.
- Wang, S., Q. Wang, R. E. Jordan, and P. O. G. Persson, 2001: Interactions among longwave radiation of clouds, turbulence and snow surface temperature in the Arctic: A model sensitivity study. *J. Geophys. Res.* **106 (D14)**, 15,323-15,333.
- Overland, J. E., S. McNutt, J. Groves, S. Salo, E. L. Andreas, and P. O. G. Persson, 2000: Regional sensible and radiative heat flux estimates for the winter Arctic during SHEBA. *J. Geophys. Res.*, **105 (C6)**, 14,093-14,102.
- Ralph, F.M., P.J. Neiman, P.O.G. Persson, J.M. Bane, M.L. Cancillo, J.M. Wilczak, and W. Nuss, 2000: Kelvin waves and internal bores on the marine boundary layer inversion and their relationship to coastally trapped wind reversals. *Mon. Wea. Rev.*, **128**, 283-300.
- Joly, A., K. A. Browning, P. Bessemoulin, J.-P. Cammas, G. Caniaux, J.-P. Chalon, S. A. Clough, R. Dirks, K. A. Emanuel, L. Eymard, R. Gall, T. Hewson, P. H. Hildebrand, D. Jorgensen, F. Lalaurette, R. H. Langland, Y. Lemaître, P. Mascart, J. A. Moore, P. O. G. Persson, F. Roux, M. A. Shapiro, C. Snyder, Z. Toth, and R. Wakimoto, 1999: Overview of the field phase of the Fronts and Atlantic Storm-Track Experiment (FASTEX) project. *Quart. J. Roy. Meteor. Soc.*, **125**, 3131-3163.
- Perovich, D., E. Andreas, J. Curry, H. Eiken, C. Fairall, T. Grenfell, P. Guest, J. Intrieri, D. Kadko, R. Lindsay, M. McPhee, J. Morison, R. Moritz, C. Paulson, S. Pegau, O. Persson, R. Pinkel, J. Richter-Menge, T. Stanton, H. Stern, M. Sturm, W. Tucker, and T. Uttal, 1999: SHEBA: The surface heat budget of the Arctic Ocean. *EOS, Transactions, American Geophysical Union*, **80**, 481-486.
- Pinto, J. O., J. A. Curry, A. H. Lynch, and P. O. G. Persson, 1999: Modeling clouds and radiation for the November 1997 period of SHEBA using a column climate model, *J. Geophys. Res.*, **104**, 6661-6678.
- Fairall, C.W., P.O.G. Persson, E.F. Bradley, R.E. Payne, and S.A. Anderson, 1998: A new look at calibration and use of Eppley precision infrared radiometers Part I: Theory and application. *J. Atmos. Ocean. Tech.*, **15**, 1230-1243.
- Ralph, F.M., L. Armi, J.M. Bane, C. Dorman, W.D. Neff, P.J. Neiman, W. Nuss, and P.O.G. Persson, 1998: Observations of an orographically trapped disturbance along the California coast on 10-11 June 1994. *Mon. Wea. Rev.*, **126**, 2435-2465.
- Joly, A., D. Jorgensen, M. A. Shapiro, A. Thorpe, P. Bessemoulin, K. A. Browning, J.-P. Cammas, J.-P. Chalon, S. A. Clough, K. A. Emanuel, L. Eymard, R. Gall, P. H. Hildebrand, R. H. Langland, Y. Lemaître, P. Lynch, J. A. Moore, P. O. G. Persson, C. Snyder, and R. Wakimoto, 1997: The Fronts and Atlantic Storm-Track Experiment (FASTEX): Scientific objectives and experimental design. *Bull. Amer. Meteor. Soc.*, **78**, 1917-1940.
- Persson, P. Ola G., Ruffieux, D. R., and C. W. Fairall 1997: Recalculations of ice pack and lead surface energy budgets during the Arctic Leads Experiment (LEADEX) 1992. *J. Geophys. Res.*, **102**, 25,085-25,089.
- Lindsay, R.W., J. A. Francis, P. O. G. Persson, D.A. Rothrock, and A. J. Schweiger, 1997: Surface turbulent fluxes over pack ice inferred from TOVS observations. *Annals of Glaciology*, **25**, 393-399.
- Persson, P. Ola G., and Thomas T. Warner, 1995: The nonlinear evolution of idealized, unforced, conditional symmetric instability: A numerical study. *J. Atmos. Sci.*, **52**, 3449-3474.
- Persson, P. Ola G., 1995: Simulations of the potential vorticity structure and budget of FRONTS '87 IOP8. *Quart. J. Roy. Meteor. Soc.*, **121**, 1041-1081.
- Ruffieux, D. R., P. Ola G. Persson, C. W. Fairall, and Dan E. Wolfe, 1995: Ice pack and lead surface energy budgets during LEADEX 92. *J. Geophys. Res.*, **100**, C3, 4593-4612.
- Persson, P. Ola G., and T. T. Warner, 1993: Nonlinear hydrostatic conditional symmetric instability: Implications for numerical weather prediction. *Mon. Wea. Rev.*, **121**, 1821-1833.
- Persson, P. Ola G., and Thomas T. Warner, 1991: Model generation of spurious gravity waves due to the inconsistency of the vertical and horizontal resolution, *Mon. Wea. Rev.*, **119**, 917-935.
- Hobbs, P. V. and P. Ola G. Persson, 1982: The mesoscale and microscale structure and organization of clouds and precipitation in midlatitude cyclones. Part V: The substructure of narrow cold-frontal rainbands. *J. Atmos. Sci.*, **39**, 280-295.

### Reports and Non-refereed Publications

- Kukla, G., R. Barry, G. Belchansky, D. Cavalieri, R. Colony, J. Comiso, K. Dethloff, D. Douglas, J. Francis, J. Gavin, K. Hunkins, J. Ukita, J. Key, G. Krahmann, D. Martinson, J. Miller, C. Parkinson, O. Persson, R. Przybylak, I. Rigor, D. Robinson, M. Serreze, N. Untersteiner, S. Vavrus, and G. Vettoretti, 2004: Meeting Report, Central Arctic: Battleground of Natural and Man-Made Climate Forcing, *EOS*, **85**, No. 20, pg. 200.
- Jahnke, R., J. Bane, A. Barnard, J. Barth, F. Chavez, H. Dam, E. Dever, P. DiGiacomo, J. Edson, R. Geyer, S. Glenn, K. Johnson, M. Moline, J. O'Donnell, J. Oltman-Shay, O. Persson, O. Schofield, H. Sosik, and E. Terrill, 2003: *Coastal Observatory Research Arrays: A Framework for Implementation Planning*. Report on the CoOP CORA Workshop, 12-13 November 2003, Chicago, Illinois, Coastal Ocean Processes (CoOP) Report Number 9, December 2003, 66 pp. [Available at <http://www.skio.peachnet.edu/coop>].
- Bao, J.-W., S.A. Michelson, J.M. Wilczak, P. O. G. Persson, and R. J. Zamora, 2000: A Case Study of the Impact of Off-shore P-3 Observations on the Prediction of Coastal Wind and Precipitation. NOAA Technical Memorandum OAR ETL-298 { Available at National Technical Information Service, 5285 Port Royal Road, Springfield , VA 22061}.
- Persson, Ola P. G., and B. Walter, 2000: Airborne Measurement of Air-Sea Fluxes in the Eastern Pacific Ocean During an El Niño Winter, Final Report. January 1, 1998 – December 31, 1999. NOAA Grant # NA77RJ0453 through UCSD.
- Persson, P. Ola G., 1993: The development of a potential vorticity budget module. *Note de Centre, Groupe de Meteorologie a Moyenne Echelle*, No. 25. [Available from Centre National de Recherches Météorologiques, 42, Ave. Gustave Coriolis, 31057 Toulouse, France.]
- Persson, P. Ola G., 1991: Nonlinear Hydrostatic Conditional Symmetric Instability - Some Theoretical and Modeling Considerations. Ph. D. dissertation, The Pennsylvania State University, 287 pp. [ Available from the Dept. of Meteorology, The Pennsylvania State University, University Park, PA 16802 , USA]
- Persson, P. Ola G. and Tage Andersson, 1987: Automatic wind field interpretation of Doppler radar radial wind components. *Promis-Rapporter, (Promis Reports)*, No. 6, Swedish Meteorological and Hydrological Institute, Norrköping, Sweden, 72 pp.
- Persson, O. and P. Lundgren, 1986: Reduction of melting level effects on radar rain rate estimates. *Promis-Rapporter (Promis Reports)*, No. 5, Swedish Meteorological and Hydrological Institute, Norrköping, Sweden, 28 pp.
- Persson, P. Ola G., 1984: Begreppsmässiga modeller av frontstrukturer, *Polarfront*, **42**, 19-25.
- Andersson, T., O. Persson and B. Lindström, 1985: *Radarmeteorologi*. Swedish Meteorological and Hydrological Institute, No. 24, 41 pp.
- Persson, P. O. G., 1984: Wind Energy Assessment Studies in the Juniper Point-Goodnoe Hills Area Progress Report, October 1982-September 1983. BPA Report No. 83-13, Oregon State University, Corvallis, OR, 106 pp.
- John E. Wade, P. Ola G. Persson and Robert W. Baker, 1983: Final Report, Wind Energy Assessment Studies in the Goodnoe Hills and Cape Blanco Areas Progress Report, October 1981 - September 1982. BPA Report 82-9, Oregon State University, Corvallis, OR, 136 pp.
- Baker, R. W., J. E. Wade and P. O. G. Persson, 1982: Regional Wind Energy Assessment Program Progress Report, October 1981 - September 1982. BPA Report 82-8, Oregon State University, Corvallis, OR, 111 pp.
- Baker, R. W., J. E. Wade, P. O. G. Persson and R. W. Katz, 1981: Wind Energy Assessment Studies in the Goodnoe Hills and Cape Blanco Areas Progress Report, October 1980 - September 1981. BPA Report 81-7, Oregon State University, Corvallis, OR.
- Baker, R. W., J. E. Wade, P. O. G. Persson and B. Armstrong, 1981: Regional Wind Energy Assessment Program Progress Report, October 1980 - September 1981. BPA Report 81-6, Oregon State University, Corvallis, OR.

### Conference and Workshop Publications

- Andreas, E L, P. O. G. Persson, R. E. Jordan , T. W. Horst, P. S. Guest, A. A. Grachev, and C. W. Fairall, 2005: Parameterizing the turbulent surface fluxes over summer sea ice. *Preprints, 8<sup>th</sup> Conf. on Polar Meteor. And Oceanog.*, 9-13 Jan. 2005, San Diego, CA.

- Persson, P. O. G., E. L Andreas, J-W. Bao, C. W. Fairall, A. A. Grachev, P. S. Guest, and R. E. Jordan, 2005: Determining wintertime heterogeneous pack ice characteristics and their impact on the aggregate atmospheric surface flux. *Preprints, 8<sup>th</sup> Conf. on Polar Meteor. And Oceanog.*, 9-13 Jan. 2005, San Diego, CA.
- Persson, P. O. G., B. Walter, and J. Hare, 2004: Maritime differences between wind direction and stress: Relationships to atmospheric fronts and implications. CD -ROM of *Preprints, 16<sup>th</sup> Symposium on Boundary Layers and Turbulence*, 9-13 Aug, Portland, ME.
- Andreas, Edgar L, K. J. Claffey, C. W. Fairall, A. A. Grachev, P. S. Guest, R. E. Jordan, and P. O. G. Persson, 2004: Measurements of the von Kármán Constant in the Atmospheric Surface Layer-Further Discussion. CD -ROM of *Preprints, 16<sup>th</sup> Symposium on Boundary Layers and Turbulence*, 9-13 Aug, Portland, ME.
- Andreas, E. L, R. E. Jordan, P. S. Guest, P. O. G. Persson, A. A. Grachev, and C. W. Fairall, 2004: Roughness lengths over snow. CD-ROM of *Preprints, 18th Conference on Hydrology of the American Meteorological Society*, Seattle, WA, 11-15 January 2004, 8 pp.
- Persson, P. Ola G., L. B. Nance, J. E. Hare, and A. White, 2003: Mid-Atlantic frontal wave development, boundary layer structure, and surface fluxes in FASTEX IOP1: Observations and sensitivity experiments. *Preprints, 10<sup>th</sup> Conf. on Mesoscale Processes*, 23-27 June, Portland, OR. (Paper 1.2 on CD)
- Tjernström. Michael, Mike Jensen, Steve Oncley, and Ola Persson, 2003: The AOE2001 meteorological experiment in the high Arctic , *Preprints, Seventh Conference on Polar Meteorology and Oceanography and Joint Symposium on High-Latitude Climate Variations*, Hyannis, Mass., 12-16 May. (Paper 4.9 on CD).
- Persson, Ola P. G., Edgar L Andreas, Christopher W. Fairall, Peter S. Guest, and Donald K. Perovich, 2003: Pack ice surface energy changes at SHEBA initiated by late summer synoptic forcing, *Preprints, Seventh Conference on Polar Meteorology and Oceanography and Joint Symposium on High-Latitude Climate Variations*, Hyannis, Mass., 12-16 May. (Paper 3.21 on CD)
- Jordan, R.E., E.L. Andreas, C.W. Fairall, A.A. Grachev, P.S. Guest, J. M. Hanesiak, and P.O.G. Persson, 2003: Modeling surface exchange and heat transfer for the shallow snow cover at SHEBA. *Preprints, Seventh Conference on Polar Meteorology and Oceanography and Joint Symposium on High-Latitude Climate Variations*, Hyannis, MA, 12-16 May. (Paper 3.3 on CD)
- Andreas, Edgar L., Christopher W. Fairall, Andrey A. Grachev, Peter S. Guest, Thomas W. Horst, Rachel E. Jordan, and P. Ola G. Persson, 2003: Turbulent transfer coefficients and roughness lengths over sea ice: The SHEBA results. *Preprints, Seventh Conference on Polar Meteorology and Oceanography and Joint Symposium on High-Latitude Climate Variations*, Hyannis, Mass., 12-16 May. (Paper 3.11 on CD)
- Guest, Peter S., Edgar L. Andreas, Christopher W. Fairall, Andrey A. Grachev, Rachel E. Jordan, and P. Ola G. Persson: 2003, Modeling surface interactions in the Arctic Ocean: accuracy vs. computational cost. *Preprints, Seventh Conference on Polar Meteorology and Oceanography and Joint Symposium on High-Latitude Climate Variations*, Hyannis, Mass., 12-16 May. (Paper 3.14 on CD)
- Grachev, A. A., C. W. Fairall, P. O. G. Persson, E. L Andreas, and P. S. Guest , 2003: Turbulence decay in the stable Arctic boundary layer, *Preprints, Seventh Conference on Polar Meteorology and Oceanography and Joint Symposium on High-Latitude Climate Variations*, Hyannis, Mass., 12-16 May. (Paper 3.12 on CD)
- Persson, P. Ola G, Jeff E. Hare, Chris W. Fairall, and William Otto, 2003: Air-sea interaction processes in warm and cold sectors of extratropical cyclonic storms observed during FASTEX. *Preprints, 12<sup>th</sup> Conference on Interactions of the Sea and Atmosphere*, AMS Annual Meeting, 9-13 Feb. 2003, Long Beach, CA (Paper P1.1 on CD)
- Persson, P. Ola G, B. Walter, P. Neiman, and F. M. Ralph, 2003: Contributions from California coastal-zone fluxes to heavy coastal precipitation: A case study from an El Niño year. *Preprints, Symposium on Observing and Understanding the Variability of Water in Weather and Climate*, AMS Annual Meeting, 9-13 February, Long Beach, CA. (Paper P3.1 on CD)
- Jensen, M., A. Wisthaler, A. Hansel, O. Persson, and B. Templeman, 2002: Real-time profiles of organic trace gases in the Arctic boundary layer obtained during the Arctic Ocean Expedition (AOE-2001). *Preprints, 15<sup>th</sup> Symposium on Boundary Layers and Turbulence*, 15-19 July, Wageningen, The Netherlands, 360-361.

- Tjernström, M., M. Jensen, S. Oncley, O. Persson, and A. Targino, 2002: The boundary-layer program during the Arctic Ocean 2001 Experiment. *Preprints, 15<sup>th</sup> Symposium on Boundary Layers and Turbulence*, 15-19 July, Wageningen, The Netherlands, 366-369.
- Persson, P. O. G., S. Abbott, M. Jensen, B. Larsson, V. Leuski, A. Targino, B. Templeman, M. Tjernstrom, and A. White, 2002: Remote sensing of the late-summer boundary layer near the North Pole. *Preprints, 15<sup>th</sup> Symposium on Boundary Layers and Turbulence*, 15-19 July, Wageningen, The Netherlands, 133-136.
- Persson, P. Ola G., J.-W. Bao, and Sara Michelson, 2002: Mesoscale modeling of the wintertime boundary layer structure over the Arctic pack ice. *Preprints, 15<sup>th</sup> Symposium on Boundary Layers and Turbulence*, 15-19 July, Wageningen, The Netherlands, 335-338.
- Grachev, A. A., C. W. Fairall, P. O. G. Persson, E. L. Andreas, and P. S. Guest, 2002: Stable boundary-layer regimes observed during SHEBA experiment. *Preprints, 15<sup>th</sup> Symposium on Boundary Layers and Turbulence*, 15-19 July, Wageningen, The Netherlands, 374-377.
- Andreas, E. L., Kerry J. Claffey, Christopher W. Fairall, Peter S. Guest, Rachel E. Jordan, and P. Ola G. Persson, 2002: Evidence from the atmospheric surface layer that the von Kármán constant isn't. *Preprints, 15<sup>th</sup> Symposium on Boundary Layers and Turbulence*, 15-19 July, Wageningen, The Netherlands, 418-421.
- Bao, J.-W., R. D. Pyles, S.A. Michelson, P. O. G. Persson, and J. W. Wilczak, 2002: Validation of surface fluxes using a new surface layer module in MM5 with SHEBA observations. *Proceedings, Twelfth PSU/MM5 Users' Workshop*, June 24-25, Boulder, CO, 36-39.
- Pyles, R. D., S.A. Michelson, J.-W. Bao, P. O. G. Persson, and J. W. Wilczak, 2002: Validation of simulated planetary boundary layer (PBL) structure using a new surface layer module with SHEBA observations. *Proceedings, Twelfth PSU/MM5 Users' Workshop*, June 24-25, Boulder, CO, 40-42.
- White, A. B., F. M. Ralph, P. J. Neiman, J. R. Jordan, P. O. G. Persson, and D. Gottas, 2001: Coastal observations of warm rain during the California Land-Falling Jets Experiment. *Preprints, Fourth Conference on Coastal Atmospheric and Oceanic Prediction and Processes*, 6-9 Nov., St. Petersburg, FL.
- Jorgensen, D. P., and P. O. G. Persson 2001: Observations of two intense oceanic narrow cold-frontal rainbands. *Preprints, International Conference on Mesoscale Meteorology and Typhoon in East Asia*, 26-28 September, 2001, Taipei, Taiwan, paper 2.1, 6 pp. [CD-ROM National Science Council, Taiwan].
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### **Conference and Workshop Presentations - Abstracts/Oral Only**

- Persson, Ola P. G., 2004: "The Relationship of the Onset and End of the Melt Season at SHEBA to Synoptic Activity", International Mini-Conference on the Central Arctic: Battleground of Natural and Man-Made Climate Forcing, Jan. 7-9, Lamont-Doherty Earth Observatory, Palisades, NY.
- Persson, Ola P., 2003: "Surface Energy Budget Requirements for Pack Ice Change Attribution During SEARCH", SEARCH Open Science Meeting, Oct. 27-30, Seattle, WA.
- Bao, J.-W., P. O. G. Persson, and S. A. Michelson, 2003: "A Paradigm of Meteorological Model Evaluation for Environmental Sciences." Workshop on Short-to-Medium Range Regional NWP in the Arctic and Antarctic, Oct. 8-10, Fairbanks, AK.
- Cassano, J., A. Lynch, J. Curry, and O. Persson, 2002: SL-MIP (Surface Layer Model Intercomparison Project): Results using SHEBA Observations. *Proceedings, 16th IAHR International Symposium on Ice*, Dunedin, New Zealand, Dec. 2002.
- Persson, Ola, 2001: "Considerations Applicable to an Arctic Observing System for SEARCH", SEARCH Workshop, Nov. 27-29, Seattle, WA.
- Persson, Ola, 2001: "Boundary Layer Impacts on Fronts, Cyclones, and Precipitation", Presentation at the PACJET Workshop, Monterey, CA Oct 24-26, 2001.
- Persson, Ola, 2001: Persson, Ola, 2001: "Status Report: GCM-Scale Surface Fluxes and Flux Parameterizations Determined from SHEBA Observations and a Nested Mesoscale Model", SHEBA Workshop, July 11-13, 2001, Boulder, CO.
- Persson, Ola, 2001: "Late-summer synoptic-scale modulation of the near-surface environment over the Arctic pack ice." Seminar presented at the Dept. of Meteorology, Univ. of Stockholm, Sweden. May 3, 2001.
- Ralph, F. M., D. Reynolds, O. Persson, W. Nuss, D. Kingsmill, Z. Toth, W. Blier, C. Velden, P. Neiman, A. White, J.-W. Bao, D. Miller, D. Jorgensen, J. McFadden, J. Dostalek, and S. Weygandt, 2001. Improving the understanding and prediction of heavy rain in land-falling Pacific winter storms: The CALJET and PACJET Experiments. Poster presented at *Conf. on Precipitation Extremes: Prediction, Impacts, and Responses*, 14-19 January, Albuquerque, New Mexico.
- Neiman, Paul J., F. Martin Ralph, Allen B. White, and P. Ola G. Persson, 2000: Observations of orographically enhanced precipitation along the West Coast of the United States during the CALJET field program. *Preprints, 9th Conf. on Mountain Met.*, Aspen, CO, 7-11 Aug.
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- Ralph, F. Martin, P. J. Neiman, P. O. G. Persson, and L. Nance, 2000: Blocking by California's coastal mountains in winter as revealed using island and coastal boundary layer wind profilers. *Preprints, 9th Conf. on Mountain Met.*, Aspen, CO, 7-11 Aug.
- Fairall, Chris W., P. Ola G. Persson, E. L. Andreas, P. S. Guest 2000: Stable Surface-layer Flux Profile Relationships in the Arctic from the SHEBA Experiment. *Preprints, 14th Symp. on Bound. Layers and Turb.*, Aspen, CO 7-11 Aug.
- Persson, Ola, 2001: "Observations of Large Thermal transitions During the Arctic Night from a Suite of Sensors at SHEBA." Seminar presented at the Dept. of Meteorology, Univ. of Stockholm, Sweden. May 29, 2000.
- Persson, O., J.-W. Bao, S. Michelson, P. Neiman, M. Ralph, and B. Walter 2000: Critical verification of synoptic\mesoscale structures and processes in MM5 during CALJET. Presentation at the Northwest Weather Workshop 2000, Seattle, WA, 4-5 Feb.
- Fairall, C.W., J.M. Intrieri, P.O.G. Persson, E.L. Andreas, and P.S. Guest, 1999a: Cloud forcing of the surface energy budget on the Arctic ice cap: One year of data from SHEBA. Presented at AGU Fall Meeting, San Francisco, CA, 13-17 December 1999. (Abstract in supplement to *Eos, Trans., AGU*, **80** [46], F202.)

- Guest, P.S., E.L. Andreas, C. W. Fairall, P.O.G. Persson, 1999: The annual budget of the surface heat flux over thick ice during SHEBA. Presented at AGU Fall Meeting, San Francisco, CA, 13-17 December 1999. (Abstract in supplement to *Eos, Trans., AGU*, **80** [46], F202.)
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- Persson, O., C. Fairall, E. Andreas, P. Guest, J. Intrieri, and A. Keane, 1999: The Surface Heat Budget of the Arctic Ocean (SHEBA). A poster presented at the CIRES/NOAA review, October 18-20, 1999.
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- Ralph, F. M., P. J. Neiman, and P. O. G. Persson, 1999: Blocking effects of coastal mountains in landfalling Pacific cyclones during CALJET. Presentation at the 8<sup>th</sup> Conf. On Mesoscale Processes, Boulder, CO 28 June-1 July, 1999.
- Persson, O., P. Neiman, M. Ralph, B. Smull, and B. Walter, 1999: The mesoscale structure of a developing frontal wave and the associated low-level jet region. Presentation at the 8<sup>th</sup> Conf. On Mesoscale Processes, Boulder, CO 28 June-1 July, 1999.
- Persson, O., 1999: P-3 Flight-level Observations of the Low-level Jet Region of February 2-3. Presented at the 2<sup>nd</sup> CALJET Workshop, May 24-25, Monterey, CA.
- "A First Look at the Annual Surface Energy Budget at SHEBA." NOAA Environmental Technology Weekly Seminar, David Skaggs Building, May 17, 1999.
- "P-3 Flight-level Observations of the Low-level Jet Region on February 2-3, 1998". CALJET Workshop, Monterey, CA, May 24-25, 1999.
- "Summertime Measurements of the Arctic Boundary Layer during SHEBA". Invited talk at the preparation workshop for the 2001 Scandinavian Arctic Research Program. Tampere, Finland, April 28, 1999.
- "A Year on the Arctic Ice: Atmospheric and Surface Measurements for Understanding the Annual Surface Energy Budget at SHEBA". Invited seminar at the Meteorological Institute at Stockholm University, April 26, 1999.
- "A Year on the Ice: NOAA/ETL Contributions to the SHEBA Project." Inaugural seminar in the Dr. C. Gordon Little Conference Room, David Skaggs Research Center, Boulder, CO April 5, 1999.
- "Observations of Atmospheric Structure and Fluxes." Invited talk at the *SHEBA/FIRE Workshop*, Jan. 25-28 1999, Tucson, AZ.
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- Persson, P. O. G., F. M. Ralph, M. A. Shapiro, 1997: Simulation of the low-level structure of the Dec. 11-13, 1995 storm. Presented at the *Coastal Observation and Simulation with Topography (COAST) Workshop*, Dec. 18, 1996, San Francisco, CA.
- Ralph, F. M., P. J. Neiman, P. O. G. Persson, and J. M. Bane, 1996: Evidence of solitary Kelvin waves on the marine boundary layer inversion and their relationship to coastally trapped wind reversals. *Abstracts, Fall 1996 meeting of the American Geophysical Union*, December 17-20, San Francisco, CA.
- Persson, P. O. G., J. Wilczak, J.-W. Bao, 1996: Mesoscale modeling at the Environmental Technology Laboratory. Presented at *First Workshop on NOAA Atmospheric Modeling*. May 1-2, Research Triangle Park, NC.
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- Persson, P. Ola G., 1994: Hydrostatic and nonhydrostatic simulations of unforced conditional symmetric instability. *Abstracts, Fourth PSU/NCAR Mesoscale Model Users Workshop*, Aug. 29 - Sep. 1, 1994, Boulder, CO, p. 71.
- Zamora, R.J., J. M. Wilczak, O. Persson, 1994: MM5 workstation results and future plans at the NOAA Environmental Technology Laboratory. *Abstracts, Fourth PSU/NCAR Mesoscale Model Users Workshop*, Aug. 29 - Sep. 1, 1994, Boulder, CO. p. 26.
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- Persson, P. Ola G., 1984: The small-mesoscale structure of a narrow cold-frontal rainband. Presented at the Nordic Meteorological Meeting, June, Tromsø, Norway.

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Baker, R. W., J. E. Wade, P. O. G. Persson and S. N. Walker, 1983: A strategy for taking wake measurements in complex terrain. Presented at Wind Workshop VI, June 1-3, 1983, Minneapolis, MN, USA.

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Persson, Ola P. G. (PI) and S. A. Cohn, William O. J. Brown, James O. Pinto, and Susan Foster (co-PIs), 2004: Antarctic RIME Collaborative Research: The Atmospheric Boundary-Layer Structure and Its Interactions with Different Flow Regimes Over the Ross Ice Shelf. National Science Foundation (NSF) (\$1,208,095). 4 years. (pending)

Persson, Ola P. G. (PI), 2004: MM5 Simulations of Northeastern Pacific Ocean TRMM/GPM Cases. National Aeronautics and Space Administration (NASA). (\$65,000). Jul 2004-Nov 2005.

Persson, Ola. P. G. (PI) and B. Walter, 2001: Determining the Structure of Low-level Jets in Maritime Storms Using QuikScat. National Aeronautical and Space Administration (NASA) (\$479,998). 3 years.

Persson, Ola P. G., (PI) and A. A. Grachev (co-PI) 2000: GCM-Scale Surface Fluxes and Flux Parameterizations Determined from SHEBA Observations and a Nested Mesoscale Model. National Science Foundation (\$344,092). 3 years.

Grachev, A.(PI) and Ola P. G. Persson (co-PI), 2000: Using the SHEBA Flux Data To Improve Regional and Global Climate Models. National Science Foundation (\$160,500). 3 years.

Persson, Ola. P. O. G. (Principal Investigator), 1998-2001: Mid-Oceanic Wintertime Surface Fluxes and Atmospheric Boundary Layer Structure: Relationship to Cyclone Development and Evolution. National Science Foundation (\$192,693). 3 years.

Ralph, F. M. (Principal Investigator), P. O. G. Persson, D. W. Reynolds, J. Wilczak, J.-W. Bao, and D. Kingsmill, 1998-2000: Improving Coastal Mesoscale Quantitative Precipitation Forecasting in Winter Storms along the United States West Coast: Analysis of Data from the CALJET Experiment During a Strong El Niño. (\$200,000), 2 years. U.S. Weather Research Program (USWRP).

Persson, O. (Principal Investigator), and B. Walter, 1997: Airborne Measurement of Air-Sea fluxes in the Eastern Pacific during an El Nino Winter. Proposal funded by NOAA/OAR (\$128,568). 1 year.

Ralph, F. M. (Principal Investigator), D. W. Reynolds, P. O. G. Persson, B. F. Smull, M. A. Shapiro, W. A. Nuss, J. Schmidt, 1996: The role of low-level jets and offshore data in mesoscale quantitative precipitation forecasting in coastal mountains. NOAA/ETL/USWRP. (\$95,000), 1 year.

C. W. Fairall (Principal Investigator), and P. O. G. Persson, 1996: Measuring, parameterizing, and modeling atmospheric surface fluxes during SHEBA. Proposal funded by NSF/ONR for the SHEBA Project. (\$234,267), 3 years.

Persson, P. Ola G. (Principal Investigator), 1996: NOAA ship-based measurements for FASTEX. Proposal funded by NOAA/ERL discretionary funds (\$169, 342), Oct. 1996 - March 1997.

Persson, P. Ola G. (Principal Investigator), 1992: An examination of the potential vorticity evolution during FRONTS '87 using the French Peridot mesoscale model. Funded as a visiting scientist position by Nationale Centre de Recherche Meteorologique in Toulouse, France, 1 year, 200,000 FF (~ \$37,750).

Warner, T. T. (Principal Investigator), and P. Ola G. Persson (Co-Principal Investigator), 1990: A study of the effect of a time-varying moist potential vorticity on the evolution of conditional symmetric instability. Funded by the National Science Foundation (NSF ATM-9019010), 18 mo., \$119,100. T. T. Warner later dropped from grant and P. Ola G. Persson became Principal Investigator, Fall, 1991.

Andersson, T. (Principal Investigator), Dahlström, B., Liljas, E., Nilsson, S., and O. Persson (Co-Principal Investigators), 1985: Kustens och topografins betydelse för bildning och modifiering av mesoskaliga vädersystem och nederbörd. (Translation: Coastal and topographical effects on the development and modification of mesoscale weather systems and precipitation.). Funded by the Swedish Natural Science Research Council (G-GU 8509-100, KTO: 518509100-5), 1 yr., SKr 150,000 (~ \$25,000).

Persson, P. Ola G.(Principal Investigator), Baker, R. W.(Co- Principal Investigator), 1983: Wind energy assessment studies in the Pequop Summit - Wells Area. Funded by the Bonneville Power Administration.

Persson, P. Ola G.(Principal Investigator), 1982: The spatial variation of the wind resource in the Juniper Point - Goodnoe Hills Area. Funded by the Bonneville Power Administration, (Contract No. DE-AC79-81BP29182, M006).