

Curriculum Vitae

MARKUS PAHLOW

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PERSONAL

Date of Birth: August 26, 1970
Place of Birth: Neumarkt, Germany
Citizenship: German

EDUCATION

Ph.D. – Environmental Engineering, Johns Hopkins University (USA), 2002.
Atmospheric boundary layer dynamics and inversion technologies to obtain extinction coefficient profiles in the atmosphere from elastic lidar (Advisor: Prof. M.B. Parlange).

M.S.E – Environmental Engineering, Johns Hopkins University (USA), 2001.
Turbulence structure of the stably stratified atmospheric boundary layer (Advisor: Prof. M.B. Parlange).

Dipl.-Ing. – Civil Engineering, Ruhr-University Bochum (Germany), 1997.
Application of a physically based 2-D hydrologic model to determine the water budget of an agricultural test site in Cork/Ireland (Advisor: Prof. A. Schumann).

PROFESSIONAL EXPERIENCE

2002 – Postdoctoral Fellow, NOAA Environmental Technology Laboratory, Boulder, USA.
1998 – 2002: Research Assistant, Environmental Fluids Group, Johns Hopkins University, USA.
1997 – 1998: Research Fellow, Civil and Environmental Engineering, University College Cork, Ireland.
1995 – 1997: Student Assistant, Hydrology and Water Management, Ruhr-University Bochum, Germany.

TEACHING EXPERIENCE

- 1998 – 2002: Teaching assistant, Department of Geography and Environmental Engineering, Johns Hopkins University, USA.
- Fluid Mechanics (undergraduate)
 - Hydrology (graduate)
 - Environmental Transport Phenomena (graduate)
 - Micrometeorology (graduate)

STUDENT SUPERVISION

- Evangelia Diapouli, M.S., Johns Hopkins University (USA) 2001:
“Estimation of the atmospheric extinction coefficient from single-wavelength lidar measurements”
- Sharon L. Palmer, M.S., Johns Hopkins University (USA) 2002:
“Determination of the atmospheric boundary layer height from elastic backscatter lidar”

OTHER PROFESSIONAL ACTIVITIES

- Member of the American Meteorological Society
Member of the American Geophysical Union
Member of the European Geophysical Society
Member of the American Association for the Advancement of Science
Reviewer for Geophysical Research Letters, Journal of Geophysical Research, Boundary-Layer Meteorology and Advances in Water Resources

AWARDS AND FELLOWSHIPS

- 2003 – 2005: Postdoctoral Fellowship, NOAA Climate and Global Change Program.
- 1998 – 2002: Research Assistantship, Johns Hopkins University, Department of Geography and Environmental Engineering, Baltimore, USA.
- 1998: Scholarship for the National Center for Atmospheric Research Geophysical Statistics Project summer colloquium “statistics for understanding the atmosphere and ocean”, Boulder, USA.
- 1997 – 1998: Research Fellowship, University College Cork, Department of Civil and Environmental Engineering, Cork, Ireland.

PUBLICATIONS**Refereed Journal Articles:**

Pahlow, M., D. Müller, G. Feingold, W.E. Eberhard and R. Steward, Retrieval of aerosol microphysical properties using multi-wavelength lidar and spectral sunphotometer data (to be submitted to *Appl. Opt.*)

Pahlow, M., G. Feingold, A. Jefferson, E. Andrews, J. A. Ogren, J. Wang, Y.-N. Lee and R.A. Ferrare, Comparison between lidar and nephelometer measurements of aerosol hygroscopicity at the Southern Great Plains Atmospheric Radiation Measurement site (to be submitted to *J. Geophys. Res.*)

Pahlow, M., J. Kleissl, M. B. Parlange, J. Ondov and D. Harrison, Atmospheric boundary layer structure as observed during a haze event due to forest fire smoke (accepted by *Boundary-Layer Meteorol.*)

Adam, M., M. Pahlow, V. A. Kovalev, J. Ondov, M. B. Parlange and N. Nair, Aerosol optical characterization by nephelometer and lidar: the Baltimore Supersite experiment during the Canadian forest fire smoke intrusion, *J. Geophys. Res.*, 109, D16S02, doi:10.1029/2003JD004047, 2004.

Pahlow, M., V.A. Kovalev, and M.B. Parlange, Calibration method for multiangle lidar measurements, *Appl. Opt.*, 43, 2948-2956, 2004.

Porté-Agel, F., M. Pahlow, C. Meneveau and M.B. Parlange, Atmospheric stability effect on subgrid-scale physics for large-eddy simulation of the atmospheric boundary layer, *Adv. Water Res.*, 24, 1085-1102, 2001.

Pahlow, M., M.B. Parlange, F. Porté-Agel, On Monin-Obukhov Similarity in the stable atmospheric boundary layer, *Boundary-Layer Meteorol.*, 99, 225-248, 2001.

Porté-Agel, F., M.B. Parlange, C. Meneveau, W.E. Eichinger and M. Pahlow, Subgrid-scale dissipation in the atmospheric surface layer: effects of stability and filter dimension, *J. Hydromet.*, 1, 75-87, 2000.

Möhrlein, C., G. Kiely and M. Pahlow, Long term water budget in a grassland catchment in Ireland, *Phys. and Chem. of the Earth*, Part B, 24, 23-29, 1999.

Refereed Conference Proceedings:

Pahlow, M., V. A. Kovalev, A. Ansmann and K. Helmert, Iterative determination of the aerosol extinction coefficient profile and the mean extinction-to-backscatter ratio from multiangle lidar data, International Laser Radar Conference (ILRC) 2004, Matera, Italy.

Pahlow, M. and G. Feingold, Humidity dependence of aerosol properties in the well-mixed atmospheric boundary layer, International Symposium on Tropospheric Profiling (ISTP) 2003, Leipzig, Germany.

Kovalev, V. A., M. Pahlow and M. B. Parlange, Elimination of asymmetry in the two-angle lidar equation for aerosol extinction profiles: solutions and problems, International Laser Radar Conference (ILRC) 2002 Québec, Canada.

Yu, T.-Y, W.O.J. Brown, S.A. Cohn, D.B. Parsons, M.B. Parlange and M. Pahlow, High-resolution observations of the boundary layer using multiple-frequency range imaging, Proceedings of the 2002 American Meteorological Society (AMS) Conference, Orlando, Florida, USA.

Pahlow, M., E. Bou-Zeid and M.B. Parlange, Entrainment into the atmospheric boundary layer: lidar observations and LES simulations, Proceedings of the 2001 International Symposium on Environmental Hydraulics (ISEH), Tempe, Arizona, USA.

Presentations (first author only):

“Comparison between lidar and nephelometer measurements of aerosol hygroscopicity.” 2004 NOAA Global and Climate Change Summer Institute, Steamboat Springs, USA.

“Iterative determination of the aerosol extinction coefficient profile and the mean extinction-to-backscatter ratio from multiangle lidar data.” 2004 International Laser Radar Conference (ILRC), Matera, Italy.

“Humidity dependence of aerosol properties in the well-mixed atmospheric boundary layer.” 2003 International Symposium on Tropospheric Profiling (ISTP), Leipzig, Germany.

“Coupling of land and atmosphere over complex terrain as observed by lidar and wind profiler radar.” 2001 Fall Meeting of the American Geophysical Union (AGU), San Francisco, USA.

“Entrainment into the atmospheric boundary layer: Lidar observations and LES simulations.” 2001 International Symposium on Environmental Hydraulics (ISEH), Tempe, USA.

“Application of a new two-angle method to determine atmospheric extinction with lidar.” 2001 Meeting of the European Geophysical Society (EGS), Nice, France.

“Lidar measurement techniques for hydrology.” 2000 Fall Meeting of the American Geophysical Union (AGU), San Francisco, USA.

“Monin-Obukhov Similarity under stable atmospheric conditions.” 2000 Meeting of the American Physical Society (APS), Division of Fluid Dynamics, Washington, D.C., USA.

“Subgrid-scale heat flux and dissipation of temperature variance in a stably stratified atmospheric boundary layer.” 2000 Spring Meeting of the American Geophysical Union (AGU), Washington, DC, USA.

“On Monin-Obukhov Similarity.” 1999 Fall Meeting of the American Geophysical Union (AGU), San Francisco, USA.