

# CURRICULUM VITAE

## Markus Hermann

### CONTACT

Dr. Markus Hermann  
Research Scientist  
Leibniz Institute for Tropospheric Research  
Permoserstr. 15  
04318 Leipzig  
Germany



Tel.: +49 (0)341 235 2841  
Fax: +49 (0)341 235 2361

### RESEARCH POSITIONS

Research Scientist	since 2004	Leibniz Institute for Tropospheric Research Leipzig, Germany
Postdoctoral Scientist	2000 - 2004	Leibniz Institute for Tropospheric Research Leipzig, Germany Focus: airborne aerosol research

### EDUCATION

PhD Student	1994 - 2000	Leibniz Institute for Tropospheric Research and University Leipzig, Germany Foci: aerosol measurement techniques, atmospheric aerosol
Diploma Student	1987 - 1994	Physics Johann Wolfgang Goethe University, Frankfurt/Main, Germany Focus: physical chemistry

### PROJECTS AND RESEARCH GRANTS

CARIBIC	aerosol inlet development instrument development airborne aerosol measurements	co-principle investigator	BMBF & EU
EUFAR	aerosol inlet development	research scientist	EU
MOMS	aerosol inlet & OPC development	principle investigator	DFG
FAST	CPC development	research scientist	DFG
EUSAAR	CPC calibration	research scientist	EU

## FIELDS OF INTEREST

Aerosol particles in the upper troposphere and lower stratosphere

Airborne aerosol measurement techniques

Condensation particle counters (CPCs) and optical particle counters (OPCs)

Instrument development and characterization

Aerosol particle inlets and sampling lines

Computational fluid dynamics (CFD) modeling

## PUBLICATIONS (SELECTION)

Ebinghaus, R., Slemr, F., Brenninkmeijer, C.A.M., van Velthoven, P., Zahn, A., Hermann, M., Emissions of gaseous mercury from biomass burning in South America in 2005 observed during the CARIBIC flights, accepted by *Geophys. Res. Letters*, 2007.

Brenninkmeijer, C. A. M., F. Slemr, C. Koepfel, D. S. Scharffe, M. Pupek, J. Lelieveld, P. Crutzen, A. Zahn, D. Sprung, H. Fischer, M. Hermann, M. Reichelt, J. Heintzenberg, H. Schlager, H. Ziereis, U. Schumann, B. Dix, U. Platt, R. Ebinghaus, B. Martinsson, P. Ciais, D. Filippi, M. Leuenberger, D. Oram, S. Penkett, P. van Velthoven, and A. Waibel, Analyzing atmospheric trace gases and aerosols using passenger aircraft, *EOS Transactions of the American Geophysical Union* 86, 77 & 82-83, 2005.

Hermann, M., S. Adler, R. Caldow, F. Stratmann, and A. Wiedensohler, Pressure-dependent efficiency of a condensation particle counter operated with FC-43 as working fluid, *J. Aerosol Sci.*, 36, 1322-1337, 2005.

Martinsson, B. G., H. N. Nguyen, C. A. M. Brenninkmeijer, A. Zahn, J. Heintzenberg, M. Hermann, and P. F. J. van Velthoven, Characteristics and origin of lowermost stratospheric aerosol at northern midlatitudes under volcanically quiescent conditions based on CARIBIC observations, *J. Geophys. Res.*, 110, D12201, doi:10.1029/2004JD005644, 2005.

Rhee, T. S., C. A. M. Brenninkmeijer, J. Mühle, P. van Velthoven, M. Hermann, A. Zahn, D. E. Oram, D. H. Scharffe, C. Köppel, H. Fischer, and J. Lelieveld, A case study of rapid mixing across the extratropical tropopause based on Civil Aircraft for the Regular Investigation of the Atmosphere Based on an Instrumented Container (CARIBIC) observations, *J. Geophys. Res.*, 110, D22301 doi:10.1029/2005JD005890, 2005.

Hermann, M., J. Heintzenberg, A. Wiedensohler, A. Zahn, G. Heinrich, and C.A.M. Brenninkmeijer, Meridional distributions of aerosol particle number concentrations in the upper troposphere and lower stratosphere obtained by Civil Aircraft for Regular Investigation of the Atmosphere Based on an Instrument Container (CARIBIC) flights. *J. Geophys. Res.*, 108, No.D3, 4114-4130, doi:10.1029/2001JD001077, 2003.

- Heintzenberg, J., M. Hermann, and D. Theiss, Out of Africa: High aerosol concentrations in the upper troposphere over Africa, *Atmos. Chem. Phys.* 3, 1191-1198, 2003.
- Papaspiropoulos, G., B. G. Martinsson, A. Zahn, A., C. A. M. Brenninkmeijer, M. Hermann, J. Heintzenberg, H. Fischer, and P. F. J. van Velthoven, Aerosol elemental concentrations in the tropopause region from intercontinental flights with the Civil Aircraft for Regular Investigation of the Atmosphere Based on an Instrument Container (CARIBIC) platform, *J. Geophys. Res.* 107, (D23), 4671, doi:10.1029/2002JD002344, 2002.
- Heintzenberg, J., M. Hermann, B. Martinsson, and G. Papaspiropoulos, Number and sulfur derived log-normal particle size distributions in the tropopause region from CARIBIC flights between Germany and the Indic, *J. Aerosol Sci.* 33, 595-608, 2002.
- Martinsson, B. G., G. Papaspiropoulos, J. Heintzenberg, and M. Hermann, Fine mode particulate sulphur in the tropopause region measured from intercontinental flights (CARIBIC), *Geophys. Res. Letters* 28, 1175-1178, 2001.
- Hermann, M. and A. Wiedensohler, Counting efficiency of condensation particle counters at low-pressures with illustrative data from the upper troposphere, *J. Aerosol Sci.* 32, 975-991, 2001.
- Hermann, M., F. Stratmann, M. Wilck, and A. Wiedensohler, Sampling characteristics of an aircraft-borne aerosol inlet system, *J. Atmos. Oceanic Technol.* 18, 7-19, 2001.
- Zahn, A., C. A. M. Brenninkmeijer, M. Maiss, D. Scharffe, P. J. Crutzen, M. Hermann, J. Heintzenberg, H. Güsten, G. Heinrich, H. Fischer, H., J. W. M. Cuijpers, and P. F. J. van Velthoven, Identification of extratropical 2-way troposphere-stratosphere mixing based on CARIBIC measurements of O<sub>3</sub>, CO, and ultrafine particles, *J. Geophys. Res.* 105, 1527-1535, 2000.