

MARK GARY LAWRENCE

Curriculum Vitae

CONTACT INFORMATION

Max Planck Institute for Chemistry
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PRIVATE RESIDENCE:

Lanzelhohl 29, 55128 Mainz, Germany

PERSONAL DATA

BIRTHDATE: 5 February 1969
BIRTHPLACE: Woodbury, NJ, USA
CITIZENSHIP: USA

RESEARCH FOCUS

Atmospheric chemistry and physics: Research group leader focusing on the numerical modeling of the chemical weather of the troposphere and chemistry-climate interactions, with primary interests including:

- global atmospheric pollution and effects of urbanization
 - air pollution in and from southern Asia
 - large scale and convective pollution transport
 - chemical weather forecasting
 - climate engineering impacts and side effects.
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SCIENTIFIC EMPLOYMENT

- 10/2009 – 9/2010 **Visiting Professor (*Vertretungsprofessor*) for Meteorology**
Institute for Physics of the Atmosphere, University of Mainz
(on leave from the Max Planck Institute for Chemistry)
- 1/2006 – present **Research Group Leader**
Max Planck Institute for Chemistry, Mainz, Germany
- 8/2000 – 12/2005 **Junior Research Group Leader (*Nachwuchsgruppenleiter*)**
Max Planck Institute for Chemistry, Mainz, Germany
- 10/1996 - 7/2000 **Post-Doctoral Researcher**
Max Planck Institute for Chemistry, Mainz, Germany
- 6/1992 - 8/1992 **Graduate Student Summer Research Program**
NASA Goddard Space Flight Center, Greenbelt, Maryland
- Spring and
Fall 1990 **Graduate Cooperative Program**
Michelin Research and Development, Greenville, South Carolina
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EDUCATION

- 3/1993 - 12/1996 **Doctor of Philosophy in Earth and Atmospheric Sciences**
Georgia Institute of Technology, Atlanta, Georgia
Thesis Title:
"Photochemistry in the tropical Pacific troposphere:
Studies with a 3D chemistry-meteorology model"
Thesis Advisors:
Prof. Paul J. Crutzen and, Prof. William L. Chameides
(Research done *in absentia* at the Max Planck Inst. for Chemistry)
- 9/1991 - 3/1993 **Master of Science in Earth and Atmospheric Sciences,
Minor in Mathematics**
Georgia Institute of Technology, Atlanta, Georgia
Grade Point Average: 3.9 (out of 4.0 possible)
- 9/1987 - 6/1991 **Bachelor of Science in Physics**
Georgia Institute of Technology, Atlanta, Georgia
Grade Point Average: 4.0 (out of 4.0 possible)
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PUBLICATIONS and PRESENTATIONS

Author and co-author of ca. 100 peer-reviewed scientific publications plus various reports (see separate listing)

Citation statistics:

Citations ≥ 2500

h-score ≥ 28

Numerous invited and contributed presentations at scientific conferences, workshops, institute symposia, summer schools, public education series, etc.

MAJOR CURRENT AND RECENT FUNDED PROJECTS

Coordinator, Workpackage Leader or Subproject Leader in several projects funded by the EU and German Research Funding Agencies (DFG, BMBF), including:

- **IMPLICC** (*Implications and risks of engineering solar radiation to limit climate change*), **EU FP7**, 1.7.2009 – 30.6.2012
 - **MEGAPOLI** (*Megacities: Emissions, urban, regional and Global Atmospheric POLLution and climate effects, and Integrated tools for assessment and mitigation*), **EU FP7**, 1.10.2008 – 30.9.2011
 - **TROPEIS** (*The Tropospheric Ice Phase*), **DFG**, 1.7.2004 – 30.6.2009
 - **SAPHIRE** (*Southern Asian Photochemistry and Impacts of the Redistribution of Emissions*), **BMBF**, 1.8.2000 – 31.12.2005
 - **PHOENICS** (*Particles of Human Origin Extinguish Natural Solar Irradiance in the Climate System*), **EU FP5**, 1.1.2001 – 31.12.2004
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TEACHING EXPERIENCE

All courses taught at the University of Mainz, Institute for Physics of the Atmosphere, including during a “Teaching Sabbatical” during October 2009 – September 2010. Lecture notes available via <http://www.mpch-mainz.mpg.de/~lawrence>

- ***Introduction to Meteorology*** (Winter semester 2009/10, Summer semester 2010)
 - ***Atmospheric Thermodynamics*** (Winter semester 2007/8, 2008/9, 2009/10)
 - ***Weather Systems*** (Summer semester 2010)
 - ***Deep Convection*** (Winter semester 2002/3, 2004/5, 2006/7)
 - ***Meteorological Transport Processes and their Effects on Tropospheric Trace Gases and Aerosols*** (Winter semester 2003/4, 2005/6)
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SUPERVISED DOCTORAL AND MASTERS STUDENTS

Current Doctoral and Masters (or *Diplom*) Students:

Susannah Burrows, Daniel Kunkel, Sandra Lourens, Oliver Schlenczek, Sabrina Wenzel

Past Doctoral Students (including jointly-supervised theses):

Dr. Patrick Jöckel, Dr. Rolf von Kuhlmann, Dr. Lorenzo Labrador, Dr. Marc Salzmann, Dr. Jörg Steinkamp, Dr. Meryem Tanarhte, Dr. Domenico Taraborrelli, Dr. Kunhikrishnan Thengumthara, Dr. Shuai Zhu

Past Masters (or *Diplom*) Students:

Dipl. Geogr. Jörg Steinkamp, Dipl. Phys. Susannah Burrows

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SELECTED PROFESSIONAL SERVICE ACTIVITIES

- Present and past member of several science advisory committees, including:
 - UNEP/ABC Steering Committee (6/2006 – present)
 - IGAC Scientific Steering Committee (1/2010 – present)
 - Commission on Atmospheric Chemistry and Global Pollution (CACGP) (12/2002 – 7/2010)
 - SCIAMACHY Steering Group (10/1999 – present)
 - Past associate editor of *Atmospheric Chemistry and Physics* (2000-2008) and past member of *Atmospheric Environment* editorial board (2001-2004)
 - Convener of numerous sessions at conferences (e.g., annually since 2000 at the EGU General Assemblies)
 - Scientific Program Chair for the 2006 CACGP/IGAC/WMO symposium in Cape Town
 - Organizer of three training schools for the UNEP/ABC-Asia program (Bangkok – 2006; Kathmandu – 2008 and 2011)
 - Referee for numerous journals and funding agencies, including: *Science*, *Nature*, *Atmos. Chem. Phys.*, *J. Geophys. Res.*, *Geophys. Res. Lett.*, *Tellus*, *J. Atmos. Chem.*, *Atmos. Env.*, *National Science Foundation (USA)*, *CFCAS (Canada)*, *Norwegian Research Council*, *NERC (England)*, *SRON (Holland)*, etc.
 - Provision of chemical weather forecasts in support of numerous field campaigns (including INDOEX, MINOS, CONTRACE, UTOPIHAN, ITOP/ICARTT, TROCCINOX, GABRIEL, and HOOVER)
 - Professional Society Memberships: *AGU*, *EGU*, *AMS*, *DMG*
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AWARDS

2010	Teaching Prize (<i>Lehrpreis</i>) in Physics, Mathematics and Informatics, University of Mainz
2000 - 2005	Junior Research Group Grant, German Ministry for Education and Research (BMBF) AFO2000 program
1992 - 1995	Graduate Fellowship, US National Science Foundation
1991 - 1995	President's Fellowship, Georgia Institute of Technology
1987 - 1991	President's Scholarship, Georgia Institute of Technology
1987	Valedictorian (Best of Graduating Class), South Gwinnett High School
