

CURRICULUM VITAE¹

Bjorn B. Stevens

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Personal History

Born 19 April, 1966, Augsburg Germany

Family Married (Andrea Brose); two children, Saskia (born 1997), Anouk (born 1999)

Education

Ph.D. Atmospheric Science, 1992-1996, Colorado State University, Ft. Collins, CO, USA
Dissertation: “On the Dynamics of Precipitating Stratocumulus”
Adviser: William R. Cotton

M.Sc. Electrical Engineering, 1988-1990, Iowa State University, Ames, IA, USA
Thesis: “Astrophysical Jets and Implications of Low Frequency Observations”
Adviser: John Basart

B.Sc. Electrical Engineering, 1984-1987, Iowa State University, Ames, IA, USA

Professional Experience

Max Planck Institute for Meteorology, Hamburg, 1998-1999, 2008-

DIRECTOR AT MPI-M AND SCIENTIFIC MEMBER OF MAX PLANCK SOCIETY, 2008-
MANAGING DIRECTOR, 2011-2014, 2021-
HEAD, MPI-M Scientific Computing Lab, 2013-2020
HEAD, International Max Planck Research School for Earth System Modeling, 2009-2011
VISITING SCIENTIST: Alexander von Humboldt postdoctoral fellowship, 1998-1999

University of Hamburg, 2009-

PRINCIPAL INVESTIGATOR AND STEERING COMMITTEE MEMBER: Cluster of Excellence “Integrated
Climate System Analysis and Prediction”, 2010-
PROFESSOR (§ 17), 2009-

Freie Universität & Konrad-Zuse-Zentrum für Informationstechnik, Berlin, 2007

SABBATICAL VISITOR

¹Updated January 17, 2022

Dep't of Atmospheric and Oceanic Sciences, University of California, Los Angeles, 1999-2011

PROFESSOR (TENURED): July 1, 2007-2009 (August 2008 - August 2010 on leave)

ASSOCIATE PROFESSOR (TENURED): appointment, July 1, 2003 - June 30, 2007

ASSISTANT PROFESSOR: In the area of dynamic meteorology July 1, 1999 - June 30, 2003

National Center for Atmospheric Research, Boulder, CO, USA, 2000-2009

AFFILIATE SCIENTIST

Advanced Study Program, NCAR, Boulder CO, USA, 1996-1998

POST-DOCTORAL FELLOW

Synopsis of Research Interests

Professor Stevens is interested in how atmospheric water vapor, and clouds, shape climate — globally and regionally. His contributions to understanding how turbulent mixing and cloud microphysical processes influence cloud amount have been instrumental in quantifying how clouds respond to warming, and how radiative forcing responds to aerosol perturbations. His research has identified different ways in which clouds organize themselves, how varied processes — such as precipitation, air sea interaction, and radiative cooling — influence this organization, and how clouds couple to larger-scale circulation systems to help determine the pattern of climate change. These interests have led him to develop new observational techniques and to expand the frontiers of simulation science.

Selected Professional Activities

- LEAD PRINCIPAL INVESTIGATOR: NextGEMS, Next Generation Earth Modeling Systems. A 4 year €11 million Horizon 2020 funded project (2021-); HD(CP)², High Definition Clouds and Precipitation for Climate Prediction, a six year, €25 million, national project supported by the German Ministry of Education and Research (2013-2019)
- PROJECT OFFICE AND MISSION ADVISORY GROUP EarthCARE (Earth Cloud, Aerosol and Radiation Explorer), joint satellite mission between European Space Agency and Japanese Aerospace Exploration Agency (guest status, 2017-2019)
- LEAD AUTHOR: Intergovernmental Panel on Climate Change, IPCC Fifth Assessment Report (2012-2014)
- SCIENTIFIC STEERING COMMITTEES: World Climate Research Programme (WCRP) Grand Science Challenge: "Clouds, Circulation and Climate Sensitivity" (2012-, co-lead); Coupled Model Intercomparison Project, CMIP (2013-2018); Working Group on Coupled Modelling, WGCM (2012-2017); Cloud Feedback Model Intercomparison Project, CFMIP (2012-2016); Global Atmospheric System Studies, GASS (2009-2012)
- EDITOR: *Journal of the Meteorological Society of Japan Special Issue on Global Storm Resolving Modelling* (2019-2021); *AGU Advances* (2019-); *Bulletin of the American Meteorological Society* (2012-2017); *Atmospheric Chemistry and Physics* (2010-2013); *Journal of the Atmospheric Sciences* (2002-2007)

- DRAFTING COMMITTEE: AMS Information Statement on Climate Change (2020-); Royal Society position paper on Earth-system modelling (2021)
- JURY MEMBER: BBVA Frontiers of knowledge (2009-, Chair 2012-); AXA Outlook Awards, Chair (2013)

Selected Honors

- NAMED AND HONORARY LECTURES: Supercomputing 2020 Keynote Lecture, Virtual (2020); Crafoord Prize Invited Lecture, Stockholm (2018); Paco Ynduráin Lecture, University of Madrid (2018); Real Sociedad Española de Física Lecture (2018); Jule Charney Lecture, AGU (2017); G20 summit partner programme Lecture (2017); Carlson Lecture, New England Aquarium and MIT Lorenz Center (2015); Henry Houghton Lecturer, MIT (2014); Simons Lecture, Simons Foundation (2013); Bavarian State Opera Lecture (2012); Tzvi Gal-Chen Lecturer, University of Oklahoma (2011); Thompson Lecturer, NCAR (2010)
- Best Visualization Award SC21; The International Conference for High Performance Computing, Networking, Storage, and Analysis (with Niklas Röber, 2021)
- ISI Highly Cited Researcher (2019-2021)
- Meteorological Society of Japan, Publication Award (2020)
- Colorado State University, College of Engineering, Distinguished Alumni Award (2004)
- The Clarence Leroy Meisinger Award of the American Meteorological Society (2002)
- NASA New Investigator Award (2002)
- Editors Award, Journal of Atmospheric Sciences (2001)
- NSF CAREER Award (1999)
- Alexander von Humboldt Foundation, Fellowship (1998 -1999)
- NCAR - ASP Post-doctoral Fellowship (1996 -1998)
- NASA/EOS Graduate Fellowship on Global Change (1994)

Synopsis of Supervision

Prof. Stevens has been responsible, or co-responsible, for the supervision of 19 PhDs and 28 master students, and also supervised 27 post-doctoral fellows. He has served as an examiner or committee chair for many more PhD, master and bachelor thesis committees.

Publications

Prof. Stevens has contributed more than 275 refereed publications to the scientific literature. He has an (ISI) h-index of 76, more than 23 000 citations, 4 000 in 2021. He was recognized as an ISI highly cited researcher in the field of geosciences in 2019, 2020 and 2021. Prof. Stevens has contributed six book chapters and co-edited three books. Among these are “Clouds and Climate: Climate Science’s Greatest Challenge” the definitive graduate textbook on clouds and climate, and Chapter 7, “Clouds and Aerosol” as a lead author for the Fifth Assessment Report of the IPCC. An updated list of his publications is maintained [here](#)² and ten selected publications are presented below.

1. Stevens, B., S. C. Sherwood, S. Bony, M. J. Webb, 2016: Prospects for narrowing bounds on Earth’s equilibrium climate sensitivity. *Earth’s Future*, **4**, 512-522. doi: [10.1002/2016EF000376](https://doi.org/10.1002/2016EF000376)
2. Stevens, B., 2015: Rethinking the lower bound on aerosol radiative forcing. *Journal of Climate*, **28**, 4794-4819. doi:[10.1175/JCLI-D-14-00656.1](https://doi.org/10.1175/JCLI-D-14-00656.1)
3. Bony, S., B. Stevens, et al., 2015: Clouds, circulation and climate sensitivity. *Nature Geoscience*, **261**. doi:[10.1038/ngeo2398](https://doi.org/10.1038/ngeo2398)
4. Palmer, T., B. Stevens, 2019: The scientific challenge of understanding and estimating climate change. *Proceedings of the National Academy of Sciences of the United States of America*, **116**, 24390-24395. doi:[10.1073/pnas.1906691116](https://doi.org/10.1073/pnas.1906691116)
5. Stevens, B., S. Bony, 2013: Water in the atmosphere. *Physics Today*, **66(6)**, 29-34. doi: [10.1063/PT.3.2009](https://doi.org/10.1063/PT.3.2009)
6. Stevens, B., et al., 2019: DYAMOND: The DYnamics of the Atmospheric general circulation MOdeled on Non-hydrostatic Domains. *Progress in Earth and Planetary Science*, **6**, 61. doi:[10.1186/s40645-019-0304-z](https://doi.org/10.1186/s40645-019-0304-z)
7. Stevens, B., G. Feingold, 2009: Untangling aerosol effects on clouds and precipitation in a buffered system. *Nature*, **461**, 607-613. doi: [10.1038/nature08281](https://doi.org/10.1038/nature08281)
8. Stevens, B., 2007: On the growth of layers of nonprecipitating cumulus convection. *Journal of the Atmospheric Sciences*, **64**, 2916-2931. doi:[10.1175/JAS3983.1](https://doi.org/10.1175/JAS3983.1)
9. Stevens, B., G. Vali, K. Comstock, M. C. van Zanten, P. H. Austin, C. S. Bretherton, D. H. Lenschow, 2005: Pockets of Open Cells (POCs) and Drizzle in Marine Stratocumulus. *Bull. Amer. Meteorol. Soc.*, **86**, 51-57. doi: [10.1175/BAMS-86-1-51](https://doi.org/10.1175/BAMS-86-1-51)
10. Stevens, B., et al., 2019: A high-altitude long-range aircraft configured as a cloud observatory – the NARVAL expeditions. *Bulletin of the American Meteorological Society*, **100**, 1061-1077. doi:[10.1175/BAMS-D-18-0198.1](https://doi.org/10.1175/BAMS-D-18-0198.1)

²<https://www.mpimet.mpg.de/en/staff/bjorn-stevens/publications/refereed-publications/>