

# CURRICULUM VITAE<sup>1</sup>

## **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

HEAD, MPI-M Scientific Computing Lab, 2013-

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

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<sup>1</sup>Updated October 16, 2020

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

PROFESSOR (TENURED): Continuing appointment, July 1, 2007.

ASSOCIATE PROFESSOR (TENURED): Continuing appointment, July 1, 2003.

ASSISTANT PROFESSOR: In the area of dynamic meteorology, appointment July 1, 1999.

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

AFFILIATE SCIENTIST

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

POST-DOCTORAL FELLOW

## **Synopsis of Research Interests**

Professor Stevens' research blends modeling, theory and field work to help articulate the role of aerosols, clouds and atmospheric convection in the climate system. He has made pioneering contributions to both theory and modelling of mixing and microphysical processes and their impact on the structure and organization of clouds. He has conceived and led landmark observational studies to: quantify cloud-top entrainment; decipher the structure of vertical motion in the tropical atmosphere; elucidate the role of precipitation on cloud cover; and test mechanisms of cloud feedbacks thought to underpin a large climate sensitivity. His contribution to an understanding of how clouds respond to warming, and how radiative forcing responds to aerosol perturbations, has proven fundamental to our present comprehension of the susceptibility of Earth's climate to perturbations.

## **Selected Professional Activities**

- 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 PRINCIPAL INVESTIGATOR: HD(CP)<sup>2</sup>, High Definition Clouds and Precipitation for Climate Prediction, a six year, €25 million, national project supported by the Germany Ministry of Education and Research (2013-2019)
- LEAD AUTHOR: Intergovernmental Panel on Climate Change, IPCC Fifth Assessment Report (2012-)
- 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: *AGU Advances* (2019-); *Bulletin of the American Meteorological Society* (2012-2017); *Atmospheric Chemistry and Physics* (2010-2013); *Journal of the Atmospheric Sciences* (2002-2007)
- JURY MEMBER: BBVA Frontiers of knowledge (2009-, Chair 2012-); AXA Outlook Awards, Chair (2013)

## Selected Honors

- LECTURER: 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)
- 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 18 PhDs and 26 master students, and also supervised 22 postdoctoral 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 240 refereed publications to the scientific literature, including three book chapters and two edited books. He has an (ISI) h-index of 63, >15 000 citations (>2500 in 2019). Prof. Stevens was a lead-author of Chapter 7, “Clouds and Aerosols” for the Fifth Assessment Report of the IPCC and, together with Sandrine Bony, leads the WCRP Grand Science Challenge on Clouds, Circulation, and Climate Sensitivity. A full list of his publications is maintained [here](#)<sup>2</sup> 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)

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

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)