CURRICULUM VITAE[1]

Bjorn B. Stevens

Max-Planck-Institut für Meteorologie
Bundesstraße 53, D-20146 Hamburg / Deutschland
(Email, Webpage)

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, 2021-2024
HEAD, MPI-M Scientific Computing Lab, 2013-2020, 2024-
HEAD, International Max Planck Research School for Earth System Modeling, 2009-2011
VISITING SCIENTIST: Alexander von Humboldt postdoctoral fellowship, 1998-1999

Universität 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: Guest of Prof. R. Klein, presented lectures on "Cloud Math" in the math department during summer semester.

Dep't of Atmospheric and Oceanic Sciences, University of California, Los Angeles, 1999-2010

PROFESSOR (TENURED): July 1, 2007- July 31 2010 [2]
ASSOCIATE PROFESSOR (TENURED): July 1, 2003 - June 30, 2007
ASSISTANT PROFESSOR (UNTENURED): July 1, 1999 - June 30, 2003

[1] Updated April 30, 2024
[2] August 2008 - August 2010 on leave

National Center for Atmospheric Research, Boulder, CO, USA, 2000-2009
AFFILIATE SCIENTIST: Working jointly with the Climate and Global Dynamics and Mesoscale and Microscale Meteorology Divisions to understand and quantify the role of small-scale processes in large-scale circulations.

Advanced Study Program, NCAR, Boulder, CO, USA, 1996-1998
POST-DOCTORAL FELLOW: Research related to entrainment, sub-grid scale closures in large-eddy simulation, and physical processes in cloud-topped boundary layers. Visiting member of the Geophysical Turbulence Program, Advanced Study Program seminar, and Thompson Lectures Coordinator. Participant in 1997 Project LEARN. Initiated the Thompson Lectures Series.

Research Interests

Professor Stevens is interested in climate physics, broadly speaking how physical processes shape climate, both globally and regionally. His expertise mostly relates to atmospheric processes such as turbulent mixing, cloud microphysical processes, radiant energy transfer, their interaction, and their coupling to larger-scale atmospheric circulations. He also has a deep interest in the fundamentals of the various methodologies (theory, observations and modeling/simulation) used to advance understanding of the physical processes he studies.

Professor Stevens interests are documented by his contributions to understanding and measuring how turbulent mixing, cloud microphysical, and radiative processes influence cloud amount, ideas that have proven foundational in assessments of how clouds respond to warming, for how clouds and water vapor combine with aerosol perturbations and changing concentrations of carbon-dioxide to determine radiative forcing, and for how clouds and water vapor shape circulations. His research has identified different ways in which clouds, even without changing, mediate Earth's radiative response to warming. His methodological interests are reflected in his development of new approaches to airborne measurement, new observational platforms, as well as the expansion the frontiers of simulation science at both the largest and smallest scales.

Supervision

Prof. Stevens has been responsible, or co-responsible, for the supervision of 30 PhDs and 30 master students, and also supervised 33 postdoctoral fellows. He has served as an examiner or committee chair for many more PhD, master and bachelor thesis committees.

Post-Doctoral Supervision

Nine of Prof. Stevens' former postdocs or PhD students (Bordoni, Fiedler, George, Heus, Hohenegger, Mauritsen, Neggers, Nuijens, Voigt, Wu) have gone on to to Professorial level or tenure-track positions at leading Universities in the United States and Europe; seven (Dipankar, Klocke, Medeiros, Rauser, Sandu, van Zanten, Zhang) are in positions of scientific leadership in national laboratories. Many others are at earlier stages of similarly successful scientific trajectories.

Elina Plesca (science management), Divya Sri Pratruri, Geet George, Theresa Mieslinger (science management), Heike Konow (science management), Jiawei Bao, Matthias Brueck, George Datseris, Anurag

Dipankar, Gabor Drotos, Geet George, Stephanie Fiedler, Rieke Heinze, Thijs Heus, Cathy Hohenegger, Marcus Klingebiel, Lukas Kluft, Tobias Kölling, Anna Luebke (science management), Thorsten Mauritsen, Ann Kristin Naumann, Roel Neggers, Louise Nuijens, Florian Rauser (science management), Keno Reichers, Wiebke Schubotz (science management), Irina Sandu, Levi Silvers, Margreet van Zanten, Jessica Vial, Aiko Voigt, Christian Wengel, Julia Windmiller

Doctoral Supervision

30. Ángel Peinado. Convergence studies of km-scale global simulations. (Joint with Dr Daniel Klocke, 2021-)
29. Hairu Ding. Observational estimates of climate sensitivity. (2023-)
28. Helene Glöckner. Observational estimates of climate sensitivity. (Joint with Dr Hauke Schmidt, 2023-)
27. Clara Bayley. Observational estimates of climate sensitivity. (Joint with Dr Ann Kristin Naumann, 2022-)
26. Hernan Campos. Observational estimates of climate sensitivity. (Joint with Dr Ann Kristin Naumann, 2021-)
25. Anna Lea Albright. The Trade-wind boundary layer and climate sensitivity, 2022. (Joint with Dr Sandrine Bony)
24. Paul Keil. Tropical tropospheric temperatures, warming and implied mechanisms, Reports on Earth System Science, 2022. (Joint with Dr Hauke Schmidt)
23. Laura Paccini. Sensitivity of resolved convection to ocean and land surfaces in the tropical Atlantic and Amazon basin. *Reports on Earth System Science*, 250, 2021. (Joint with Dr Cathy Hohenegger)
22. Theresa Mieslinger. Small and Optically Thin Clouds in the Trades, PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 249, 2021. (Joint with Prof. Stefan Bühler)
21. Hauke Schulz. Meso-scale patterns of shallow convection in the trades, PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 248, 2021
20. Geet George. Observations of meso-scale circulation and its relationship with cloudiness in the tropics, PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 246, 2021. (Joint with Dr Sandrine Bony)
19. Lukas Kluft . Benchmark calculation of the climate sensitivity of radiative-convective equilibrium. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 239, 2020. (Joint with Prof. Stefan Bühler)
18. Tobias Benjamin Becker. On the interaction of precipitating convection with its environment and the role of convective organization, PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 202, 2017
17. Raphaela Vogel. The influence of precipitation and convective organization on the structure of the trades, PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 199, 2017. (Joint with Dr Louise Nuijens)
16. Bartholomeus Jacobus Henricus van Stratum. The influence of misrepresenting the nocturnal boundary layer on daytime convection in large-eddy simulation. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 187, 2017

15. Dagmar Fläschner. Intermodel spread in global and tropical precipitation changes. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 183, 2016. (Joint with Dr Thorsten Mauritsen)
14. Angela Cheska Siongco. Drivers of precipitation biases in the tropical Atlantic sector. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 181, 2016. (Joint with Dr Cathy Hohenegger)
13. Ritthik Bhattacharya. A two turbulence kinetic energy model for the scale adaptive treatment of the planetary boundary layer. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 154, 2014
12. Suvarchal Kumar Cheedela. Single Column Models and Low Cloud Feedbacks. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 148, 2014
11. Katrin Lonitz. Susceptibility of trade wind cumulus clouds to precipitation. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 147, 2014
10. Vera Schemann. Towards a scale aware cloud process parameterization for global climate models. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 145, 2014. (Joint with Prof. Johannes Quaas)
9. Benjamin Möbis. Factors Controlling the Position of the Inter-Tropical Convergence Zone on an Aquaplanet. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 129, 2013
8. Daniel Klocke. Assessing the uncertainty in climate sensitivity. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 95, 2011. (Joint with Prof. Johannes Quaas)
7. Louise Nuijens, Precipitating Shallow Cumulus Convection, University of California, Los Angeles, 2010
6. Panu Trivej, Spatio-temporal properties of shallow clouds with an emphasis on the area distribution of radar echoes, University of California, Los Angeles, 2009
5. Chien-Ming Wu, A study of the diurnal cycle of moist convection over land using a cloud system resolving model, University of California, Los Angeles, 2008. (Joint with Prof. Akio Arakawa)
4. Verica Savic-Jovcic, The structure and mesoscale organization of precipitating stratocumulus, University of California, Los Angeles, 2008
3. Simona Bordoni, On the role of eddies in monsoonal circulations: observations and theory, University of California, Los Angeles, 2007. (Joint with Prof. Tapio Schneider)
2. Brian P. Medeiros, Cloud-climate interactions in general circulation models, University of California, Los Angeles, 2007
1. Yunyan Zhang, On the Application of Mixed-Layer Model to the Stratocumulus-Topped Boundary Layer, University of California, Los Angeles, 2006. (Joint with Prof. Michael Ghil)

Masters Supervision[3]

Marius Rixen*(2024); Fiona Fix (2023); Stella Bourdin† (2020); Almuth Dorothea Neuberger (2020); Minjares-Gonzalez, Monica (2020, joint with Hartmut Borsch); Alon Azoulay⋆ (2019, joint with Hauke

[3]Qualifications: * Partial supervision as part of an ETH-Zurich master's internship; † Partial supervision as part of ENS master's internship; ⋆ Largely formal supervision

Schmidt); Jan Kaiser* (2018, joint with Thorsten Mauritsen); Paul Keil† (2018, joint with Thorsten Mauritsen); Hyunju Jung (2018, joint with Ann Kristin Naumann); Octave Tessiot† (2018); Marie-Lea Pouliquen† (2018); Matthias-Heinz Retsch† (2018, joint with Thosten Mauritsen and Cathy Hohenegger); Aude Untersee† (2017); Tim Rohrschneider (2017, joint with Dr Thorsten Mauritsen); Astrid Eichhorn† (2016, joint with Dr Jürgen Bader); Hauke Schulz (2016, joint with Dr Cathy Hohenegger); Jobst Müsse (2015, joint with Dr Stefan Kinne); Tobias Becker (2014, joint with Dr Jürgen Bader); Daniel Bittner (2014, joint with Dr Louise Nuijens); Dagmar Popke (2013); Heiner Matthias Brück (2013, joint with Dr Louise Nuijens); Jörg Burdanowitz (2013, joint with Dr Louise Nuijens); Jonathan Jan Schubert (2012, joint with Dr Traute Crueger); Malte Rieck (2011); Louise Nuijens (2005); Panu Trivej (2005); Brian Medeiros (joint with Prof. A. Hall) (2003); Simona Bordoni (2003); Jianjun Duan (2003); Verica Savic (2003)

Teaching

Prof. Stevens teaches regularly, mainly at the Universität Hamburg where he offers a graduate course (on topics ranging from radar meteorology to atmospheric waves) every winter semester, and has also taught undergraduate cloud physics. In addition to contributions to summer schools he lectures and co-organizes (together with Victor Brovkin) the annual introductory course for the International Max Planck Research School on Earth System Science in the summer semester, and initiated and helped develop a course on Generic Software Skills. While still at UCLA he contributed to the teaching programme at all levels, including to help develop a new undergraduate course on the climate system, as well as graduate courses on atmospheric thermodynamics, turbulence and convection.

- *Introduction to Earth System Modelling*, Universität Hamburg, annually since 2010.
- *Generic Software Skills*, Universität Hamburg, SS 2024 – conception and organization.
- *Settled Science and Open Questions (in Climate Science)*, Universität Hamburg, WS 2023/24.
- *Energy and Climate*, Universität Hamburg, WS 2022/23.
- *The Greenhouse Effect and Earth's Climate Sensitivity*, Universität Hamburg, WS 2021/22.
- *The Trade Winds*, Universität Hamburg, WS 2020/21.
- *Global Circulation and Climate*, Universität Hamburg, WS 2019/20.
- *Atmospheric Waves (or Everything you wanted to know about Waves)*, Universität Hamburg, WS 2018/19.
- *Principles of Active Radar and Lidar Remote Sensing*, Universität Hamburg, WS 2017/18.
- *Tropical Circulation Systems over the Atlantic*, Universität Hamburg, WS 2016/17.
- *Tropical Circulation Systems*, Universität Hamburg, WS 2015/16.
- *Four Questions from the Grand Science Challenge on Clouds, Circulation and Climate Sensitivity*, Universität Hamburg, WS 2014/15.
- *A climate system view of radiative transfer*, Universität Hamburg, WS 2013/14.
- *Concepts for Parameterizing Boundary Layers, Clouds and Convection in Large-Scale Models*, Universität Hamburg, WS 2012/13.
- *A climate system view of clouds, convection and turbulent mixing processes*, Universität Hamburg, WS 2011/12.
- *Aerosols and Cloud Physics*, Universität Hamburg, WS 2010/11.

- *Atmospheric Moist Convection*, Universität Hamburg, WS 2009/10.

Field Studies

Prof. Stevens has helped conceive and execute some of the most ambitious field studies conducted in the first part of this century, especially RICO, EUREC^{4}A, and ORCESTRA involved multiple airborne, sea-going and stationary platforms with extensive international coordination.

- LEAD PRINCIPLE INVESTIGATOR: ORCESTRA (Organized Convection and EarthCare Studies over the Tropical Atlantic), Aug-Sep 2024.
- LEAD PRINCIPLE INVESTIGATOR (JOINT WITH DR J. WINDMILLER, DR FELIX AMENT AND DR SILKE GROSS): of PERCUSSION (Persistent EarthCare under-flight studies of the ITCZ and organized convection), Aug-Sep 2024 as part of ORCESTRA.
- PRINCIPLE INVESTIGATOR: BOWTIE (Beobachtung von Ozean und Wolken – Das Trans ITCZ Experiment), Aug-Sep 2024, as part of ORCESTRA
- PRINCIPLE INVESTIGATOR: responsible for conceptualization and scientific organization of Atlantic transects: R/V Sonne cruise no. SO284 (2021); R/V Maria S. Merian cruise no. MSM-114/2, 2023. (joint with Dr J. Windmiller)
- CO-INVESTIGATOR: HALO-(AC)3. HALO flights, Kiruna Sweden, April 2022, Scientific Member Polar 6 flights, Longyearbyen, Svalbard, April 2022
- LEAD PRINCIPLE INVESTIGATOR (JOINT WITH DR S. BONY): EUREC^{4}A, January and February 2020, Barbados and Western Tropical Atlantic
- CO-INVESTIGATOR: Maria Sybille Merian Cruise 82-2, April-May 2019
- LEAD PRINCIPLE INVESTIGATOR: HALO NARVAL2 mission (Next-generation Aircraft Remote-Sensing for Validation Studies), August 2016
- LEAD PRINCIPLE INVESTIGATOR: HALO NARVAL-South mission (Next-generation Aircraft Remote-Sensing for
  Validation Studies), December 2013
- LEAD PRINCIPLE INVESTIGATOR: Barbados Cloud Observatory, 2010-
- LEAD PRINCIPLE INVESTIGATOR: (joint with Dr D. Lenschow) of DOCIMS, 2005
- LEAD PRINCIPLE INVESTIGATOR: (joint with Dr R. Rauber) of the RICO Field Study, 2004 - 2005, St. Johns, Antigua
- LEAD PRINCIPLE INVESTIGATOR: DYCOMS-II Field Study, 2001, Coronado, CA
- CO-INVESTIGATOR: Horizontal Array Turbulence Study (HATS), 2000, Kettleman City, CA

Professional Activities

- LEAD PRINCIPLE INVESTIGATOR: BMBF funded project WarmWorld, € 2 161 795 at the Max Planck Institute for Meteorology (2022-)
- MEMBER PERSPECTIVE COMMISSION: Max Planck Society Chemistry, Physics & Technology Section (2022–)
- LEAD PRINCIPAL INVESTIGATOR: NextGEMS, Next Generation Earth Modeling Systems. A 4 year €11 million Horizon 2020 funded project (2021-)

- 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)
- PRINCIPAL INVESTIGATOR: "The Role of Shallow Circulations in Organizing Convection and Cloudiness in the Tropics", International Space Science Institute (2017)
- LEAD PRINCIPAL INVESTIGATOR: HD(CP)^2, 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 (2012-2014)
- SCIENTIFIC STEERING COMMITTEES: ICON Board (2024-); Global Precipitation Experiment, GPEX (2022-); World Climate Research Programme (WCRP) Grand Science Challenge: "Clouds, Circulation and Climate Sensitivity" (2012-, co-lead); Working Group on Coupled Modelling, WGCM (2012-2017); Coupled Model Intercomparison Project, CMIP (2013-2018); Cloud Feedback Model Intercomparison Project, CFMIP (2012-2016); HALO / BMBF Gulfstream G 550 (2009-); Global Atmospheric System Studies, GASS (2009-2012)
- SCIENTIFIC ADVISORY BOARDS: Netherlands eScience Center Advisory Committee (2022-); Scientific Academic Advisory Committee (SAAC) Weizmann Institute of Science, Dep't of Earth and Planetary Sciences (2022); Ernst Strüngmann Forum (2021-2023); Vulcan Climate Modeling External Advisory Committee (2020-2021); DWD (German Meteorological Service, 2014-2022); Department of Physics, Leipzig University (2013-2017); NCAR Earth System Laboratory (2010-2012); ETH Center for Climate System Modeling (2010-, Chair since 2014); Aerosol, Clouds, Precipitation and Climate Initiative (2009-2011, Co-Chair 2010); European Facility for Airborne Research (2008-2011, Chair 2008)
- APPOINTMENT COMMITTEES: Committee for reviewing the leadership capacity of scientific members of the Max Planck Society (2018-2022); Max Planck Institute for Chemistry (2023); Max Planck Institute for Gravitational Physics (Albert Einstein Institute) (2017); Alexander von Humboldt Prize Commission Max Planck Society (2017-); Universität Hamburg (2012, 2017); Max Planck Institute for Astrophysics (2016); Institute of Meteorology, Freie Universität Berlin (2016); Max Planck Institute for Software Systems (2016); Max Planck Institute for Plasma Physics (2011, 2015); Tenure Commission of Max Planck Society's Chemistry, Physics & Technology Section (2014); Fritz Haber Institute of the Max Planck Society (2013); Max Planck Research Group Leaders (2009, 2014, 2016, 2019- as chair
- 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)

Workshop and Meeting Organization[4]

- Oberwolfach workshop on "Model Hierarchies in Atmosphere, Ocean, and Climate Sciences" (June, 2024)
- Epäjärjestelmällistyttämättömyydelläänsäkäänköhän Seminar, Levi Finland (April, 2024)
- The Berlin Summit for EVE Berlin (July 2023)
- Ringberg ORCESTRA, international planning (2023)
- Lorentz Center Workshop on "Digital Twin Earth" (February 2023)
- Ringberg EUREC[4]A, international planning workshop (2019)
- Understanding Clouds and Precipitation 2, Berlin (2019)
- Organizer of the ISSI (International Space Science Institute) International Team on "The Role of Shallow Circulations in Organizing Convection and Cloudiness in the Tropics", Bern (2017)
- Ringberg Workshop on "Bounding Aerosol Effective Radiative Forcing" (2016)
- ISSI (Bern) workshop on "Shallow Clouds, Water Vapor, Circulation and Climate Sensitivity" (2016)
- Understanding Clouds and Precipitation, Berlin (2016)
- Ringberg Workshop on "Earth's Climate Sensitivity" (2015)
- Ringberg Workshop on "Grand Challenge on Clouds, Circulation and Climate Sensitivity" (2014)
- Ringberg Workshop on "Global Cloud Resolving Modeling" (2013)
- International Summer School on Clouds and Climate, Les-Houches (2013)
- Institute for Pure and Applied Mathematics Long Program on "Model and Data Hierarchies for Simulating and Understanding Climate", UCLA, Los Angeles (2010)
- Institute for Pure and Applied Mathematics Summer school on "Modern Applied Mathematics for the Atmospheric and Oceanic Sciences", UCLA, Los Angeles (2003)

Funded Research

- ECMWF Copernicus: Destination Earth (DestinE), € 588 360, project conceptualization and Max Planck Society contribution, 2022-2024
- German Ministry for Research: preWarmWorld, € 181 245, Coordinator, 2021-2023
- European Commission (Grant Agreement 101003470): H2020 – NextGEMS: Next Generation Earth Modelling Systems, € 11 000 000, Coordinator, 2021-2025
- European Commission (Grant Agreement 855187): Contribution to the ERC Grant USMILE - Understanding and Modelling the Earth System with Machine Learning, € 232 596, 2020-2026
- German cluster of excellence CLICCS: Climate, Climatic Change, and Society: responsible for Sensitivity and Variability in the Climate System – A2: Clouds and Tropical Circulation, € 909 145, 2019-2025
- European Commission (Grant Agreement 820829): H2020 - CONSTRAIN, Constraining uncertainty of multi decadal climate projections, € 757 983, 2019-2023
- German Ministry for Research: MONSOON - The changing monsoon circulation in global storm resolving simulations, € 788 989, Coordinator, 2019-2022
- Platform for Advanced Scientific Computing (PASC): ENIAC - Enabling ICON model on heterogeneous architectures, € 134 460, Co-PI, 2017-2020

[4]As lead or co-lead, in the latter case as a member of a small (less than four member) organization committee

- German Ministry for Research: HD(CP)^2, High Definition Clouds and Precipitation for Climate Prediction, phase 2, € 1 500 000, Coordinator, 2016-2019
- European Commission (Grant Agreement 603445): BACCHUS Impact of Biogenic versus Anthropogenic emissions on Clouds and Climate: towards a Holistic UnderStanding, € 405 762, 2013-2017
- European Commission (Grant Agreement 312979): IS-ENES II: Infrastructure for the European Network for Earth System Modelling – phase 2, € 345 869, 2013-2017
- DFG CLISAP II - Integrated Climate System Analysis and Prediction: Sub-project A2: Climate Processes and Feedbacks, € 544 248, 2012-2017
- German Ministry for Research: HD(CP)^2, High Definition Clouds and Precipitation for Climate Prediction, phase 1, € 1 300 000, Coordinator, 2012-2016
- German Ministry for Research: MiKlip LiCoS Linking Composition and Circulation on Intermediate Spatio-Temporal Scales, € 263 000, 2011-2015
- DFG (with Dr Heiko Schmidt and Dr Juan Pedro Mellado): Analyse und numerische Simulation von Stratocumulus Wolken, € 136 300, 2011-2015
- European Commission (Grant Agreement 244067): EUCLIPSE EU Cloud Intercomparison, Process Study and Evaluation Project, € 427 000, 2010-2014
- DOE Cloud-Feedback Studies with a Physics Grid, $ 365 764, 2010-2012
- NSF Multiscale modeling of atmospheric processes: $ 1 000 000, 2006-2011 (Prof. A. Arakawa as Co-PI)
- NSF (ATM-00342625): Precipitation and Convective Statistics in the Trades: Observations, Simulations and Parameterization: $ 551 844, through 2008
- DFG (with Dr Hauke Schmidt and Prof. Norbert Peters): Metström: Ein hybrides Frontverfolgungs-Verfahren für Stratocumulus Wolken unter Berücksichtigung instationärer "Entrainment"-Prozesse, € 124 500, 2007-2011
- NSF (ATM-00336849): Collaborative Research: Climate Process Team on Low-Latitude Cloud Feedbacks on Climate Sensitivity: $ 271 630, through 2006
- NSF (DMS-0139666, CO-I with Prof. J. D. Neelin as PI): Collaborative Research: The Weak Temperature Gradient Equations for Tropical Atmosphere Dynamics: $ 180 017, completed 2006
- NASA (NGT5-30499 Investigations of links between subtropical stratocumulus and monsoons: (Bordoni, student fellowship) $ 48 000, through 2006
- NASA New Investigator Program: Surface Divergence and Non-Precipitating Boundary Layer Clouds: Integrating Simple Models Using Satellite Data: $ 286 653, through 2006
- NSF CAREER (ATM-9985413): The Marine Cloud-Topped PBL and Large-Scale Circulations: $ 433 966, 2001-2006
- NSF (ATM-0097053): Tests of Large Eddy Simulations of the Stratocumulus Topped Planetary Boundary Layer: $ 350 623, 2001-2005
- NSF (as CO-I): CMG Training: Modern Applied Mathematics for Atmospheric and Oceanic Sciences: $ 150 000, 2001-2004
- UCLA Council on Research Assistant Professor Initiative: SGS2000: Evaluating the Spatial Structure of Small-Scale Turbulence in the Atmospheric Surface Layer: $ 6000, 1999- 2001

Publications

Prof. Stevens has contributed more than 300 publications to the refereed scientific literature, more than 70% as first, second or conceptualizing last (non alphabetic) author. He has an (ISI) h-index of 85, an m-index of 2.9 and more than 34 000 citations, over 4000 per year in each of 2021, 2022, and 2023. He was recognized as an ISI highly cited researcher in the field of geosciences for the past five years (2019-2023). 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. The below list documents all of his publications, including commentary and published conference proceedings. An updated list of his publications is maintained here[5].

[336] Peter Bauer, Torsten Hoefler, Bjorn Stevens, and Wilco Hazeleger. Digital twins of Earth and the computing challenge of human interaction. *Nature Computational Science*, 4:154–157, 2024. doi:10.1038/s43588-024-00599-3.

[335] Jiawei Bao, Bjorn Stevens, Lukas Kluft, and Caroline Muller. Intensification of tropical precipitation extremes from more organized convection. *Science Advances*, 10, 2024. doi:10.1126/sciadv.adj6801.

[334] Hauke Schmidt, Sebastian Rast, Jiawei Bao, Shih-Wei Fang, Diego Jiménez de la Cuesta Otero, Paul Keil, Lukas Kluft, Clarissa Kroll, Theresa Lang, Ulrike Niemeier, Andrea Schneidereit, Andrew I. L. Williams, and Bjorn Stevens. Effects of vertical grid spacing on the climate simulated in the ICON-Sapphire global storm-resolving model. *Geoscientific Model Development*, 17:1563–1584, 2024. doi:10.5194/egusphere-2023-1575.

[333] Bjorn Stevens. A perspective on the future of CMIP. *AGU Advances*, 5, 2024. doi:10.1029/2023AV001086.

[332] Marc Prange, Bjorn Stevens, and Stefan Buehler. Emergence and circulation coupling of moist layers over the tropical Atlantic. *Geophysical Research Letters*, 2024.

[331] S. Schnitt, A. Foth, H. Kalesse-Los, M. Mech, C. Acquistapace, Friedhelm Jansen, U. Löhnert, B. Pospichal, J. Röttenbacher, S. Crewell, and Bjorn Stevens. Ground- and ship-based microwave radiometer measurements during EUREC4A. *Earth System Science Data*, 16:681–700, 2024. doi:10.5194/essd-16-681-2024.

[330] Michael Schäfer, Kevin Wolf, André Ehrlich, Evelyn Jäkel, Anna Elisabeth Luebke, Joshua Müller, Jakob Thoböll, Bjorn Stevens, and Manfred Wendisch. Introduction to the new airborne thermal infrared imager VELOX for remote sensing of cloud and surface properties. *AIP Conference Proceedings*, 2988(Radiation Processes in the Atmosphere and Ocean), 2024. doi:10.1063/5.0183450.

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