

Prof. Dr. Katja Matthes

EDUCATION AND APPOINTMENTS

GEOMAR Helmholtz Centre for Ocean Research Kiel – *Director*

2020 – present

GEOMAR Helmholtz Centre for Ocean Research Kiel – *Head of Research Division 1: Ocean Circulation and Climate Dynamics*

2018 – 2020

GEOMAR Helmholtz Centre for Ocean Research Kiel and Christian Albrechts University Kiel – *W3-Professorship for General Meteorology, Head of the Working Group "Physics of the Atmosphere"*

2012 – present

Helmholtz-Centre Potsdam, the German Centre for Geosciences (GFZ) and Faculty of Geosciences at the Freie Universität Berlin – *Head of the Helmholtz-University Young Investigators Group NATHAN (Quantification of Natural Climate Variability in the Atmosphere-Hydrosphere System with Data Constrained Simulations)*

2012 – 2015

Helmholtz-Centre Potsdam, the German Centre for Geosciences (GFZ) and Faculty of Geosciences at the Freie Universität Berlin – *W2-Professorship for Atmosphere-Hydrosphere Systems*

2010 – 2011

Helmholtz-Centre Potsdam, the German Centre for Geosciences (GFZ) and Faculty of Geosciences at the Freie Universität Berlin – *Leiterin der Helmholtz-Hochschul-Nachwuchsgruppe NATHAN (Quantification of Natural Climate Variability in the Atmosphere-Hydrosphere System with Data Constrained Simulations)*

2009 – 2011

Institute for Meteorology, Freie Universität Berlin – *PostDoc*

2004 – 2008

Reintegration phase of a Marie Curie Outgoing International Fellowship (OIF) SOLVO (The Influence of Solar Variability on Climate) within the 6th framework of the European commission

2007 – 2008

Postdoc National Center for Atmospheric Research, Boulder/CO, USA – *PostDoc, Outgoing phase of the Marie Curie Fellowship*

2004 – 2007

Institute for Meteorology, Freie Universität Berlin – *Dr. rer. nat.*

2003

Institute for Meteorology, Freie Universität Berlin – *PhD student (Stratospheric Research Group)*

2000 – 2003

Institute for Meteorology, Freie Universität Berlin – *Diploma in Meteorology (with distinction)*

2000

Institute for Meteorology, Freie Universität Berlin – *Studies of Meteorology*

1995 – 2000

HONORS AND AWARDS

2019: Contributing author, 6th assessment report, Intergovernmental Panel on Climate Change (WG I, Chapter 2)

2010: Interview film about career path from KISSWIN

2010: Admission to the AcademiaNet (<http://www.academia-net.de/>), a German online platform to enhance the visibility of excellent women in science

2009 - 2010: Selected participant of the Helmholtz-Mentoring program for women “In Führung gehen” („Preparing for Leadership“)

2008 - 2009: Selected participant of the 'ProFiL Programme' which prepares outstanding women for leadership positions in science and higher education from the Technische Universität Berlin, the Humboldt-Universität zu Berlin and the Freie Universität Berlin (ProFiL. Professionalisierung für Frauen in Forschung und Lehre: Mentoring – Training – Networking) (<http://www.profil-programm.de/>)

2004: Ernst-Reuter Award of the Freie Universität Berlin

2001: Award for the best young scientist from the “Stiftung Umwelt und Schadensvorsorge der SV Gebäudeversicherung, Stuttgart” at the DACH-Meteorologentagung in Vienna, Austria

RESEARCH INTERESTS

Key aspects

- Stratosphere-troposphere-ocean modeling with special focus on chemistry-climate modeling
- Role of the middle atmosphere for (natural) climate variability
- Mechanisms for Sun-climate connections
- Decadal climate variability and predictability
- Processes in the UTLS (Upper Troposphere Lower Stratosphere)
- Development of and contribution to international model intercomparison studies of climate variability and climate change

Teaching

Master of Science: "Climate Physics: Meteorology and Physical Oceanography"; in English:

- Modern Aspects in Meteorology I: "Climate Modeling and IPCC2013" (Vorlesung + Seminar)
- Modern Aspects in Meteorology II: "Data Assimilation" (Vorlesung + Seminar)
- Modern Aspects in Meteorology III: "The Stratosphere" (Vorlesung + Seminar)
- Advanced Meteorology: Cloud Physics (Vorlesung + Übungen)
- Advanced Meteorology: Radiation (Vorlesung + Übungen)
- Advanced Meteorology: Stratospheric Physics and Dynamics (Vorlesung + Übungen)
- Meteorological Seminar: "Clouds and Circulation"
- Advanced Meteorological Seminar: "Seamless predictions"
- Advanced Meteorological Seminar: "North Atlantic Climate Variability"
- Oceanography-Meteorology-Climate Seminar: "Decadal Variability and Trends of the Pacific Ocean-Atmosphere System"
- Meteorological Lunch Seminar

Bachelor of Science: "Physik des Erdsystems: Meteorologie - Ozeanographie - Geophysik"; in Deutsch:

- Literaturseminar der Meteorologie, Ozeanographie, Geophysik

COMITTEES

National

- 2019-2020: Co-speaker for POF-IV Topic 2 "Ocean and Cryosphere in Climate"
- 2019-2020: Chair of Examining Board Climate Physics MSc
- Since 2018: Chairwoman of the Scientific Advisory Board of the Leibniz-Institut für Atmosphärenphysik (IAP) in Kühlungsborn
- 2016-2021: Member and deputy chair of the German National SCOSTEP (Scientific Committee On Solar-Terrestrial Physics) committee
- 2013-2019: Member of the Scientific Advisory Board of the Karlsruhe Institute of Technology(KIT)
- 2016-2018: Member of the Scientific Advisory Board of the Leibniz-Institut für Atmosphärenphysik (IAP) in Kühlungsborn
- 2013-2017: Head of des GEOMAR Women's Executive Board (WEB)

International

- 2020: Co-chair of SCOSTEP's next program PRESTO - Predictability of variable solar-terrestrial coupling (2020-2024)
- Since 2017: Scientific Steering Group member of the World Climate Research Programme (WCRP) Grand Challenge Near-Term Climate Prediction (NTCP)
- 2011-2019: Member of the International Committee on the Middle Atmosphere (ICMA)
- Since 2011: Co-Chair of WG II-D "External Forcing of the Middle Atmosphere" of IAGA
- Since 2006: Coordination of the SPARC solar influence study group (SOLARIS-HEPPA) for the World Climate Research Programme – Stratospheric Processes and their Role in Climate (WCRP-SPARC) <http://solarisheppa.geomar.de>
- 2011-2015: Vice-chair of the EU-COST Action ES-1005 "Towards a more complete assesement of the impact of solar variability on the Earth's climate (TOSCA)"
- 2012-2014: Co-Leader of CAWSES TG1 "What is the solar influence on the Earth's climate"
- 2008-2012: Scientific Discipline Representative for the Scientific Committee on Solar Terrestrial Physics (SCOSTEP)
- 2001-2004: Co-coordination of the GRIPS (GCM Reality Intercomparison Project for SPARC) solar influence study group for WCRP-SPARC