

Curriculum Vitae

Matthias Hofmann

Senior scientist at the
Potsdam Institute for Climate Impact Research

PERSONAL INFORMATION

Date and place of birth: April 27 1959 in Chemnitz (former Karl-Marx-Stadt), Germany

Marital Status: Married to Kristin Hofmann, two children

EDUCATION

1979 – 1984 Studies of Physics, University of Technology, Chemnitz (former Karl-Marx-Stadt)

July 1984 **Diploma in Physics** (*very good*), University of Technology, Chemnitz

1984 – 1989 PhD student, Department of Theoretical Physics, University of Technology, Chemnitz and College of Education Erfurt

09/29/1989 Escape from East Germany via Hungary because of political reasons

1990 – 1993 PhD student, Department of Theoretical Physics, University of Regensburg

May 1993 **PhD in Physics** (*magna cum laude*), University of Regensburg

PROFESSIONAL EXPERIENCE

1993 – 1994 Guest scientist, Department of Theoretical Physics, Friedrich Schiller University, Jena, Germany

1994 – 1997 PostDoc, Department of Physics at Alfred Wegener Institute for Polar- and Marine Research (AWI), Bremerhaven, Germany

12/1995 – 01/96 Participation in the ANTXIII/2 “MS Polarstern” cruise in the Southern Ocean and Antarctica

1997 – 1998 Visiting Research Scientist, Lamont-Doherty Earth Observatory (LDEO) of Columbia University, New York, USA

1998 – 2000 PostDoc, Department of Aquatic Ecology, University of Constance, Germany

2000 – 2011 Research scientist, Potsdam Institute for Climate Impact Research, Potsdam, Germany

since 2012 Senior scientist, Potsdam Institute for Climate Impact Research, Potsdam, Germany

RESEARCH GRANT

04/1997 – 03/1998 Research Grant of the “Deutsche Forschungsgemeinschaft” for funding my research project on marine stable carbon isotopes at the Columbia University, New York, U.S.A.

RESEARCH INTERESTS

Numerical algorithms for three dimensional modeling of ocean physics and biogeochemistry

Investigation of the dynamics and stability of the Atlantic Meridional Overturning Circulation

Investigation of the parameterization of the advective Eddy transport in the Southern Ocean

Assessing the impacts of the anthropogenic ocean acidification

INVITED RESEARCH TALKS

12/01/1995 M. Hofmann, Modeling the $\delta^{13}\text{C}(\text{POC})$ distribution in the World Ocean, Sea Fishery Research Institute, Cape Town, South Africa

28/04/2004 M. Hofmann and M. A. M. Maqueda, Transport and distribution of passive tracers in Ocean General Circulation Models, European Geoscience Union: EGU04-A-06464, Nice, France

12/05/2005 M. Hofmann and M. A. M. Maqueda, A more accurate scheme for tracer advection in ocean models: Fundamentals and applications, Alfred Wegener Institute for Polar- and Marine Research, Bremerhaven, Germany

07/09/2008 M. Hofmann, The Atlantic Meridional Overturning Circulation: Mono- or bistable?, MARUM University of Bremen, Bremen, Germany

01/28/2010 M. Hofmann, Der Einfluss der Ozeanversauerung auf die biologische Kohlenstoffpumpe, Faculty of Computer Science, University of Magdeburg

09/26/2012 M. Hofmann, Marine chlorophyll decline under global warming: Simulations with POTSMOM-C, IFM-GEOMAR University of Kiel, Germany

WORKSHOP ORGANIZED

05/03 – 05/04 2011 Declining chlorophyll(a) concentrations in the World Ocean (DECCA), held at the Potsdam Institute for Climate Impact Research

PEER REVIEW

Scientific Journals: Geophysical Research Letters, Journal of Geophysical Research – Oceans, Proceedings of the National Academy of Sciences U.S.A., Global Biogeochemical Cycles, Ocean Modelling, Biogeosciences and Biogeosciences Discussion, Journal of Climate, Environmental Research Letters, Nature Climate Change, Progress in Oceanography

Funding Agencies: National Science Foundation (NSF) U.S.A., Bundesministerium für Bildung und Forschung (BMBF) Germany, Natural Environment Research Council (NERC) UK, Oregon Sea Grant U.S.A.

TEACHING

Climate physics lectures at the University of Potsdam with two semester weak hours (SWS):

Winter semester	2009/2010	Der Kohlenstoffkreislauf des Ozeans und das Klima der Erde
Winter semester	2010/2011	Modellierung biogeochemischer Prozesse im Ozean
Summer semester	2011	Einführung in die globalen Meeresströmungen
Winter semester	2011/2012	Der Kohlenstoffkreislauf des Ozeans und das Klima der Erde
Summer semester	2012	Modellierung biogeochemischer Prozesse im Ozean

Supervision of Diploma-, Master-, and Bachelor thesis

2011/2012	Dirk Olonscheck, Bachelor thesis, “Enhanced temperature sensitivity of zooplankton metabolism could lead to accelerated oceanic chlorophyll(a) decline under global warming” together with Prof. Dr. Anders Levermann
2011/2012	Dzulia Terzijska, Diploma thesis, “Effects of different eddy parameterizations and elevated Southern Hemisphere winds on the Southern Ocean carbon sink” together with Prof. Dr. Stefan Rahmstorf
2012/2013	Sabine Mathesius, Master thesis, “Modelling the long-term effects of Carbon Dioxide Removal on ocean biogeochemistry and atmospheric CO ₂ concentrations” together with Prof. Dr. Stefan Rahmstorf and Prof. Dr. Dr. Hans Joachim Schellnhuber

MEMBERSHIPS

American Geophysical Union (AGU), European Geophysical Union (EGU)