Maria Almut Amata Rugenstein

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Education

PhD Candidate | ETH Zürich | Institute for Atmospheric and Climate Science
Ocean heat uptake efficacy and climate sensitivity advised by Reto Knutti 2014 –
Visiting researcher | Carnegie Department for Global Ecology, Stanford
three visits of 3-6 months, advised by Ken Caldeira 2015 – 2016

Master of Science | joint at ETH Zürich and Princeton University/GFDL 2009 – 11
Major in atmospheric and climate science | Master's thesis advised by Michael Winton
Study abroad | UK British Antarctic Survey, Cambridge 2011

Bachelor in Environmental Sciences | ETH Zürich 2006 – 09
Study abroad | Norway Teknisk-Naturvitenskapelige Universitet, Trondheim 2009

Professional and teaching experience

Research assistant

- Utrecht University, Netherlands, *The onset of the Antarctic circumpolar current* 2011 – 2013
- British Antarctic Survey, Cambridge, *Science policy, success rates of grant applications* 2011
- Institute for Environmental decisions, ETH Zürich, *Environmental philosophy* 2008 – 09

Teaching assistant

- *Climate Change Uncertainty and Risk* ETH Zürich,
  design and supervise exercises, grade student reports and presentations 2014 & 15 & 16
- *Earth- and Production Systems* ETH Zürich, grade exams 2014 & 2015
- *Ocean and Climate* Utrecht University,
  design and supervise exercises, grade exams 2012 & 13
- *Introduction to Environmental Systems* ETH Zürich,
  mentor small groups of student through a field study, organize excursions 2007 – 08
- *Introduction to Political Economics* ETH Zürich, grade exercises 2006 – 07

Fellowships and Awards

AGU OSPA poster prize (2014) | **Audience and panel prize** for best presentation at Buys Ballot symposium (2012) | **ETH medal for Master's thesis** (2012) | **German National Academic Foundation** student and PhD fellowships (2006–2013) | **NOAA Geophysical Fluid Dynamics Laboratory** sponsored visiting student fees of Princeton University (2010 – 11) | **British Antarctic Survey, ResClim/Norway** and **European Consortium for Ocean Drilling Research**, each funded participation and travel to summer schools (2011 & 12)

Publications and Presentations

- He, Winton, Vecchi, Jia, **Rugenstein**, 2016: *Transient climate sensitivity depends on base climate ocean circulation*, J. Climate accepted.
- **Rugenstein**, Caldeira, Knutti, 2016: *Dependence of global radiative feedbacks on evolving patterns of surface heat fluxes*, GRL, 43,18
- **Rugenstein**, Gregory, Schaller, Sedláček, Knutti, 2016: *Multi-annual ocean-atmosphere adjustments to radiative forcing* J. Climate, 29, 5643-5659
- **Rugenstein**, Sedláček, Knutti, 2016: *Nonlinearities in patterns of long-term ocean warming*, GRL, 43, 7
- Knutti and **Rugenstein**, 2015: *Feedbacks, climate sensitivity and the limits of linear models* Phil. Trans. R. Soc. A 373: 20150146
- **Rugenstein**, Stocchi, von der Heydt, Dijkstra, Brinkhuis, 2014: *Emplacement of Antarctic ice sheet mass affects circumpolar ocean flow*, Gbl.& Plan. Change 118, 16-24.
- **Rugenstein**, Winton, Stouffer, Griffies, Hallberg, 2013: *Northern High-Latitude Heat Budget Decomposition and Transient Warming*, J. Climate, 26, 609 – 621.
  - in prep.: Praetorius, Rugenstein, Caldeira: North Pacific Ocean warming enhances Arctic amplification
  - in prep.: Rugenstein, Bloch-Johnson, Gregory, Li, Frölicher, Mauritsen, Danabasoglu, Jonko, Cao, Paynter, Dufresne, Abe-Ouchi, Schmidt, ...: Millennia scale and equilibrium global climate model simulations

Scientific talks: AGU Fall Meeting San Francisco (2016 (inv.), 2015 & 2012) | Carnegie Internal Seminar Stanford (2016) | EGU meeting Vienna (2015) | Internal Seminar Noah Diffenbaugh Stanford (2014) | Ocean Heat Uptake Workshop Southampton (2014) | Ocean Gateways conference Jerusalem (2013) | Buys Ballot Research School for Fundamental Processes in the Climate System Nijmegen (2012) | Summer School Sea ice in the climate system Svalbard (2011)

Talks on science policy: Institute for Marine and Atmospheric Science Utrecht University (2013) | British Antarctic Service Board Meeting Cambridge (2011)

Scientific posters: International Paleoceanographic Conference Utrecht (2016) | AGU Ocean Science meeting New Orleans (2016 (inv.)) | AGU fall meeting San Francisco (2014, 2015, 2016) | Latsis Conference Zürich (2015) | EGU meeting Vienna (2014) | Swiss Global Change Day Bern (2014, 2015, 2016) | Graduate Climate Conference Seattle (2014) | various summer schools (2011-2015)

Summer schools and Workshops

Extreme Events and Climate (SCSS Switzerland 2015) | Science Meets Practice (CCES Switzerland 2015) | Ocean heat uptake (Southampton 2014) | Geophysical Fluiddynamics (FDSE Paris 2013) | Paleoclimatology (ECORD Urbino 2012) | Climate Modelling (NCAS Cambridge 2011) | Antarctic Funding Initiative (BAS Cambridge 2011) | Sea ice in the climate system (ResClim Svalbard 2011) | Earth's cryosphere and sea level change (ISSI Bern 2010) | German National Academic Foundation: Environmental Physics and Remote Sensing (Greifswald 2010) | Countryside, Landscape, and Scenery (Rot 2009) | Molecular Biophysics (Bonn & Berlin 2009) | Pseudo Science around 1900 (Marburg 2005)

Miscellaneous

Reviewer for | US National Science Foundation; Journal of Climate; Palaeogeography, Palaeoclimatology, Palaeoecology; Current Climate Change Reports; Climatic Change

Workshops organized | Millennia scale model intercomparison MPI Hamburg (2016); Climate sensitivity summer seminar ETH Zürich (2014)

Service | PhD representative IAC ETH Zürich (2014-2015) | student representative departmental committee of teaching (2010, 2013) | Mittelbau representative at the departmental conference (2014-2016) | mentoring undergrads at ETH (2010 - 2011)

Languages | fluent in German, English, and Dutch; some Norwegian and French

Computing | NCL, Ferret, Linux/Unix, running the Community Earth System Model and Hallberg Isopycnal Model, experience with the Geophysical Fluid Dynamic Laboratory Climate Models

Scientific Interests | Ocean heat storage and uptake, ocean dynamics, deep time paleo climate, climate sensitivity, stratospheric dynamics, theory of science