

Alexander Robinson

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EDUCATION

Jan 08 – Feb 11 University of Potsdam, Potsdam, Germany

- PhD in *Climate Change / Geophysics*, defended 01. February 2011 (magna cum laude)
- Dissertation title: *Modeling the Greenland Ice Sheet response to climate change in the past and future*
- Supported by the Marie Curie research training network NICE (Network for Ice Sheet and Climate Evolution)
- Advisors: Stefan Rahmstorf, Andrey Ganopolski, Reinhard Calov

Sep 00 – May 05 The Pennsylvania State University, University Park, PA

- B.S. in *Engineering Science and Mechanics, Honors* (May 2005, GPA: 3.37/4.00)
- Academic Minors: *German, International Studies*
- Thesis: *Molecular Dynamics Simulations of Impinging Nitrogen Atomization*
- Award: membership, Delta Phi Alpha – National German Honors Society

EXPERIENCE

Jan 08 – Feb 11 Potsdam Institute for Climate Impact Research, Potsdam, Germany

- Student researcher: investigating the stability of the Greenland Ice Sheet related to climate-ice sheet interactions; paleo modeling and future projections of contributions to sea level rise; development and coupling of a regional climate model for simulation of the Greenland Ice Sheet
- Attended courses: Statistical thermodynamics; Earth's Climate History; Physical Oceanography; NICE summer/winter schools; Karthaus Glaciology Summer School

Sep 07 – Dec 07 The Pennsylvania State University, University Park, PA

- Student researcher: development of a non-linear, probabilistic model optimization toolbox (continuation of work from previous year); supervised by Klaus Keller, Richard Alley
- Attended courses: Geophysical Fluid Dynamics; Dynamics of the Earth; Issues in Geosciences

Sep 06 – Jul 07 Fulbright scholarship, Berlin, Germany

- Independent research: development of a non-linear, probabilistic model optimization toolbox; explored effects of uncertainty on parameters of IAM and paleo-climate models, using data assimilation to improve model performance; sponsored by Thomas Bruckner of TU-Berlin and the Fulbright Association

Nov 05 – Aug 06 Medos Codman (Johnson & Johnson), Le Locle, Switzerland

- Engineering internship in biomedical industry: improved processes for production of an implantable micro-valve designed to combat the effects of *hydrocephalus*; analyzed production issues and developed new device testing methods

May 05 – Nov 05 The Pennsylvania State University, University Park, PA

- Researcher in climate modeling: developed coupled climate-economic, population-economic models; investigated effects of climate thresholds on predictions; applied MCMC model optimization, data assimilation, evolutionary optimization

May 04 – Aug 04 Danish Fundamental Metrology, Copenhagen, Denmark

- Student researcher in nanometrology: programmed functions in C++ to analyze/manipulate images obtained from an atomic force microscope

Aug 03 – Dec 03 German Aerospace Center, Lampoldshausen, Germany

- Student researcher in fluid dynamics: programmed parallel FORTRAN model for *molecular dynamics simulations* of liquid N₂ atomization in a combustion chamber of N₂ gas with impinging injector geometry

COMPUTATIONAL EXPERIENCE

- Unix/Linux shell, Python, Matlab, R, Grads
- FORTRAN, C++, MPI (parallel computing)
- HTML, php

FOREIGN LANGUAGES

- **German** (fluent)
- **Spanish** (fluent)
- **French** (intermediate)
- **Greek** (intermediate)

PUBLICATIONS

5. **Robinson, A.**, Calov, R., and Ganopolski, A.: Multistability and critical thresholds of the Greenland Ice Sheet, *submitted*.
4. Ganopolski, A. and **Robinson, A.**: Palaeoclimate: The past is not the future, *Nature Geoscience*, 4(10), 661-663, doi:10.1038/ngeo1268, 2011.
3. **Robinson, A.**, Calov, R. and Ganopolski, A.: Greenland ice sheet model parameters constrained using simulations of the Eemian Interglacial, *Climate of the Past*, 7(2), 381-396, doi:10.5194/cp-7-381-2011, 2011.
2. **Robinson, A.**, Calov, R. and Ganopolski, A.: An efficient regional energy-moisture balance model for simulation of the Greenland Ice Sheet response to climate change, *The Cryosphere*, 4(2), 129-144, doi:10.5194/tc-4-129-2010, 2010.
1. Keller, K., **Robinson, A.**, Bradford, D. F. and Oppenheimer, M.: The regrets of procrastination in climate policy, *Environmental Research Letters*, 2, 024004, doi:10.1088/1748-9326/2/2/024004, 2007.