Samuel Edward Hatfield

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EDUCATION

DPhil Environmental Research, University of Oxford 2015 - present

- Advisors: Prof. Tim Palmer and Dr. Peter Düben
- Expected date of completion: August 2019
- Thesis title: *Numerical precision and ensemble data assimilation*
- Thesis topics: Data assimilation, numerical weather prediction, model error, observation error

MSci Physics, University of Bristol 2010 - 2014

- First-class honours, average mark 78%
- Final year project advisor: Dr. Simon Hanna
- Final year project title: *Knots in geometrically-confined polymers: nanochannels and other geometries*, mark 82%

PUBLICATIONS

- 2018: **Improving weather forecast skill through reduced precision data assimilation**, Sam Hatfield, Aneesh Subramanian, Peter Düben and Tim Palmer, *Monthly Weather Review*, **146**, 49-62, doi: 10.1175/MWR-D-17-0132.1

INVITED SEMINAR TALKS

- RIKEN Advanced Institute for Computational Science (AICS), Kobe, Japan — July 2017
- Atmosphere and Ocean Research Institute (AORI), University of Tokyo — July 2017
- Japan Meteorological Agency (JMA) — July 2017
- The Japan Agency for Marine-Earth Science and Technology (JAMSTEC, Yokohama Institute for Earth Sciences, Japan) — July 2017

CONFERENCES

- April 2018: **Society for Industrial and Applied Mathematics Conference on Uncertainty Quantification (invited oral presentation)**, Los Angeles, USA
  Reducing Precision in Ensemble Data Assimilation to Improve Forecast Skill
  Samuel Hatfield, Peter D. Düben, Matthew Chantry, Tim Palmer
- April 2017: **European Geosciences Union General Assembly (oral presentation)**, Vienna, Austria
  Improving Weather Forecasts Through Reduced Precision Data Assimilation
  Sam Hatfield, Peter Düben and Tim Palmer

- February 2017: **RIKEN International Symposium on Data Assimilation (oral presentation)**, Kobe, Japan
  Improving Weather Forecasts Through Reduced Precision Data Assimilation
  Sam Hatfield, Peter Düben and Tim Palmer
- July 2016: **The 5th Annual International Symposium on Data Assimilation (poster presentation)**, Reading, UK
  The use of inexact hardware in data assimilation for improved weather and climate prediction
  Sam Hatfield, Peter Düben, Aneesh Subramanian and Tim Palmer

AWARDS AND SCHOLARSHIPS

- June - August 2017: **Japan Society for the Promotion of Science (JSPS) Summer Programme**
  Fully funded 2 month research stay at the RIKEN Advanced Institute for Computational Science (AICS), Kobe, Japan hosted by Dr. Takemasa Miyoshi
- November 2016: **Elsevier travel grant**
  Awarded for poster and presentation at Oxford Environmental Research student conference, £1000 cash prize
- July 2014: **Undergraduate Awards Highly Commended** Awarded for MSci thesis, *Knots in geometrically-confined polymers: nanochannels and other geometries*

TEACHING

- Autumn 2017: Python demonstrator for Environmental Research 1st year students
- 2016 - 2017: MATLAB demonstrator for Oxford undergraduate students in Physics

OTHER EXPERIENCE

Microcosm Ltd., Bristol August 2014 - August 2015

- Worked on the front- and back-ends of a two-factor authentication system, SmartSign
- Learned PHP, JavaScript, CSS and HTML

Surrey Space Centre, University of Surrey Summer 2013

- Designed and built a Cherenkov radiation detector
- Developed MATLAB scripts for processing data from geostationary satellites on the radiation belts

Earth Sciences Department, University of Bristol Summer 2012

- Studied exploration geophysics, specialising in gravity surveys
- Analysed data from geophysical surveys of Lamb Leer cave in Somerset, using MATLAB

SUPERVISORS' CONTACT INFORMATION

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Atmospheric, Oceanic and Planetary Physics
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Dr. Peter Düben
European Centre for Medium-Range Weather Forecasts

Reading, UK
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