

Samuel Edward Hatfield

Jesus College, Turl Street, Oxford, OX1 3DW, UK
samuel.hatfield@physics.ox.ac.uk | samhatfield.co.uk

EDUCATION	DPhil Environmental Research, University of Oxford 2015 - PRESENT <ul style="list-style-type: none">• Advisors: Prof. Tim Palmer and Dr. Peter Düben• Expected date of completion: August 2019• Thesis title: <i>Numerical precision and ensemble data assimilation</i>• Thesis topics: Data assimilation, numerical weather prediction, model error, observation error
	MSci Physics, University of Bristol 2010 - 2014 <ul style="list-style-type: none">• First-class honours, average mark 78%• Final year project advisor: Dr. Simon Hanna• Final year project title: <i>Knots in geometrically-confined polymers: nanochannels and other geometries</i>, mark 82%
PEER-REVIEWED PUBLICATIONS	<ul style="list-style-type: none">• 2018: Improving weather forecast skill through reduced precision data assimilation, Sam Hatfield, Aneesh Subramanian, Peter Düben and Tim Palmer, <i>Monthly Weather Review</i>, 146, 49-62, doi: 10.1175/MWR-D-17-0132.1
SUBMITTED PUBLICATIONS	<ul style="list-style-type: none">• 2018: The numerical precision of data assimilation should be adjusted to model error, Sam Hatfield, Peter Düben, Matthew Chantry, Keiichi Kondo, Takemasa Miyoshi and Tim Palmer, <i>Journal of Advances in Modeling Earth-Systems</i> (under review)
DEPARTMENTAL SEMINAR TALKS	<ul style="list-style-type: none">• Marine Meteorology Division, Naval Research Laboratory, Monterey, USA APRIL 2018• Scripps Institution of Oceanography, San Diego, USA APRIL 2018• 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: **SIAM Uncertainty Quantification (oral presentation)**, Anaheim, USA
Reducing Precision in Ensemble Data Assimilation to Improve Forecast Skill
Samuel Hatfield, Peter D. Düben, Matthew Chantry, Tim Palmer
- MARCH 2018: **6th Annual International Symposium on Data Assimilation (poster presentation, €500 travel support)**, Munich, Germany
Lowering precision in an atmospheric ensemble data assimilation system
S. Hatfield, T. Palmer, P. Düben
- 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****Professor Tim Palmer**

Atmospheric, Oceanic and Planetary
Physics
University of Oxford
Oxford, UK
tim.palmer@physics.ox.ac.uk

Dr. Peter Düben

European Centre for Medium-Range
Weather Forecasts

Reading, UK
peter.dueben@ecmwf.int