

Yu Liu

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Education and Research Experience

- OCT 2009–PRESENT **Postdoctoral Research Associate**
Working with Dr. Stephan Fueglistaler and Prof. Peter Haynes on problems in stratospheric water vapour and stratosphere-troposphere coupling
DAMTP, University of Cambridge, UK
- OCT 2005–SEP 2009 **Ph.D in Applied Mathematics**
Thesis title: “*Lagrangian studies of troposphere-to-stratosphere transport*”
Supervisor: Prof. Peter H. Haynes
DAMTP, University of Cambridge, UK
- OCT 2004–JUN 2005 **Certificate of Advanced Studies in Mathematics**
(Part III of the Cambridge Mathematics Tripos)
Trinity College, University of Cambridge, UK
- OCT 2001–JUN 2004 **BA (Honours) Mathematics**
Trinity College, University of Cambridge, UK
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Research Internships

- JUN 2004–SEP 2004 **Undergraduate Research Studentship**
“*Role of Inhomogeneities in two-dimensional pattern selection*”
Supervisor: Prof M. R. E. Proctor
DAMTP, University of Cambridge, UK
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Publications

- 2010 **Liu, Y. S., S. Fueglistaler and P. H. Haynes**, “The advection-condensation paradigm in the case of stratospheric water vapour”.
Submitted to J. Geophys. Res.
- IN PREPARATION **Liu, Y. S., S. Fueglistaler and P. H. Haynes**, “Age of air in the lower stratosphere: Revisiting the atmospheric ‘tape recorder’ signal”.
- Liu, Y. S., S. Fueglistaler and P. H. Haynes**, “Transport and mixing in the lowermost stratosphere from Lagrangian studies”.
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Selected Presentations

- 2010 “*Stratospheric water vapour: evaluating the advection-condensation paradigm*”, Met Office, UK (invited)
- “*Constraints on troposphere-to-stratosphere transport from model predictions of water vapour*”, Department of Meteorology, University of Reading, UK (invited)

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Selected Presentations (cont.)

- 2009 “*Troposphere-stratosphere exchange: constraints from water vapour*”,
Department of Chemistry, University of Cambridge, UK
- “*Troposphere-stratosphere exchange: constraints from water vapour*”, European
Geosciences Union General Assembly (EGU), Vienna, Austria (poster)
- 2008 “*Inter-comparisons of different approaches to calculating trajectories in the trop-
ical tropopause layer*”, 4th Stratospheric Processes And their Role in Climate
General Assembly (SPARC), Bologna, Italy (poster)
- “*Lagrangian studies of troposphere-to-stratosphere transport*”,
European Geosciences Union General Assembly (EGU), Vienna, Austria
- 2007 “*A trajectory based study of transport in the tropical tropopause layer*”,
Royal Meteorological Society Conference, Heriot-Watt University, Edinburgh,
UK
- “*A Lagrangian approach to studying troposphere-to-stratosphere transport*”,
Scottish Royal Meteorological Society, Edinburgh, UK (invited)
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Summer Schools

- SEP 2009 Cargèse International School on Water vapour in the Climate System
(WAVACS), Cargèse, France
- JUN 2007 Alpine summer school on Atmosphere-Ocean Convection in Climate Dynam-
ics, Valsavarenche, Valle d'Aosta, Italy
- SEP 2005 National Environmental Research Council summer school in geophysical and
environmental fluid dynamics, University of Cambridge, UK
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Skills

- COMPUTER SKILLS **Programming:** C, FORTRAN, IDL, Matlab, Mathematica, Perl, shell-scripting.
Operating Systems: Linux, Windows.
Publishing: L^AT_EX, HTML, Microsoft Word.
Webmaster for the Atmospheric Dynamics Group since 2007.
- LANGUAGES Bilingual in English and Chinese (Mandarin), Intermediate German, Beginner
French
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Teaching Experience

- 2005-PRESENT Supervisor of undergraduate mathematicians, giving tuition to pairs of students
in Dynamical Systems, Fluid Dynamics, Mathematical Methods, Differential
Equations and Vector Calculus. University of Cambridge, UK
- 2009 C programming demonstrator for CATAM (computing project for undergrad-
uate mathematicians). University of Cambridge, UK
- 2006 Computer demonstrator for the NERC summer school in geophysical fluid dy-
namics. Explained fluid problems using numerical simulations. DAMTP, Uni-
versity of Cambridge, UK
- 2001–2003 Classroom assistant in high school mathematics lessons.
Parkside Community College, Cambridge, UK

Prof. Peter H. Haynes

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Prof. Stephan Fueglistaler

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Prof. Geraint Vaughan

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