



## School of Mathematics and Statistics

### Research Fellow in Applied Mathematics

Salary: £29,704 pa

#### Further Particulars

The University of St Andrews is the oldest university in Scotland, third oldest in the United Kingdom, with a long tradition of academic excellence. The University is regularly ranked as the best university in Scotland and one of the best in the entire UK. The School of Mathematics and Statistics is one of the most successful Schools within the University. For further details, see [www.mcs.st-and.ac.uk](http://www.mcs.st-and.ac.uk).

In St Andrews, Applied Mathematics is one of the three divisions comprising the School of Mathematics and Statistics (the other two are Pure Mathematics and Statistics). The Division of Applied Mathematics was ranked fourth in the UK in the latest Research Assessment Exercise in 2008. The Division consists of 16 permanent members of staff, 10 postdoctoral researchers and 23 PhD students (a 2:1 ratio between young researchers and staff). The Division consists of several world-leading research groups, including Solar Physics, Plasma Physics, and Vortex Dynamics. State-of-the-art computing facilities are available, including a parallel linux cluster.

This project aims to better understand the dynamics of vortices (swirling masses of fluid) occurring in rotating, stratified environments such as the Earth's atmosphere and oceans. Vortices are conspicuous features of planetary atmospheres in general, and their interactions can be extraordinarily complex. In this project, we will go beyond traditional approximations to better understand vortex stability and nonlinear evolution when the effects of rotation and stratification are weaker, i.e. when the Rossby and Froude numbers are no longer small.

For this project, candidates are expected to have an established track record in geophysical fluid dynamics, with extensive computational experience. The successful candidate will work in the Vortex Dynamics research group (for details, see [www-vortex.mcs.st-and.ac.uk](http://www-vortex.mcs.st-and.ac.uk)).

#### Representative Work Activities

- Develop research objectives/proposals
- Manage and conduct own research activities
- Analyse and research data and draw conclusions on the outcomes
- Disseminate and publish research findings (individually or in collaboration with colleagues)
- May be required to contribute to overall direction/aims/development of research programme
- Build contacts and participate in internal/external networks to develop knowledge, form relationships for possible future collaboration and identify potential sources of funds
- May be required to prepare proposals/applications for research grants
- Use initiative and creativity to identify areas for research, develop new research methods and extend the research portfolio

- Possess sufficient breadth/depth of specialist knowledge and experience in the discipline and of research methods and techniques to work within established research programmes

<b>KNOWLEDGE, SKILLS AND EXPERIENCE</b>		
<b>Criteria</b>	<b>Essential</b>	<b>Desirable</b>
Degree in relevant subject	√	
Hold or be near to completion of a PhD	√	
Experience of applying relevant analytical skills, techniques and methods	√	
High level analytical capability	√	
Good communication skills	√	
Ability to teach or train others		√
Engage in Continuing Professional Development	√	

Informal enquiries are welcome. Please contact Drs Jean Reinaud (jean@mcs.st-and.ac.uk), Richard Scott (rks@mcs.st-and.ac.uk), or Professor David Dritschel (dgd@mcs.st-and.ac.uk).

*If you are shortlisted for interview for this post, and have provided an email address, you will be notified by email (the email address used on your application form) to contact you. Otherwise, you will be notified by post.*

**Before an appointment can be confirmed, you will be subject to a Criminal Records Enhanced Disclosure check.**

**Please Quote ref: SK040/09**

Completed application forms together with a CV and covering letter should be returned either to [Jobline@st-andrews.ac.uk](mailto:Jobline@st-andrews.ac.uk) or by post or fax to Human Resources, University of St Andrews, The Old Burgh School, Abbey Walk, St Andrews, Fife KY16 9LB, Fax: 01334 462570 **not later than 5 pm on 15 October 2009. Please note - that applications received after this time will not be processed. We regret there are no mail box facilities after office hours (Mon – Fri - 9 am - 5 pm) for receipt of applications.**

The University is committed to equality of opportunity.

**Successful candidates will be shortlisted within six weeks of the closing date. If you have not been contacted within this period your application has been unsuccessful on this occasion.**

The University of St Andrews is a charity registered in Scotland (No SC013532).

