



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Astrophysical Fluid Dynamics, Faculty of Mathematics and Physical Sciences



Salary: Grade 7 (£32,548 – £38,833 p.a.) Due to external funding restrictions, appointments will not be made above £33,518

Reference: MAPMA1072

Closing date: 2 January 2018

Interview date: Week commencing 15 January 2018

Fixed-term for 24 months, available from 1 April 2018

We will consider job share/flexible working arrangements

Research Fellow in Astrophysical Fluid Dynamics

School of Mathematics, Faculty of Mathematics and Physical Sciences

Are you an ambitious researcher looking for your next challenge? Do you have an established background in Astrophysical Fluid Dynamics? Do you want to further your career in one of the UK's leading research intensive universities?

We are looking for a Research Fellow to join our Science and Technology Facilities Council (STFC) funded project, which will investigate tidal flows in stars and giant planets, with the goal to understand the mechanisms of tidal dissipation in convective regions. The project will involve performing hydrodynamical simulations to study tidal flows in spherical and ellipsoidal geometries using one or more existing codes (including Nek5000). The results from these simulations will be applied to interpret current observations of extrasolar planets and close binary stars, and to make predictions.

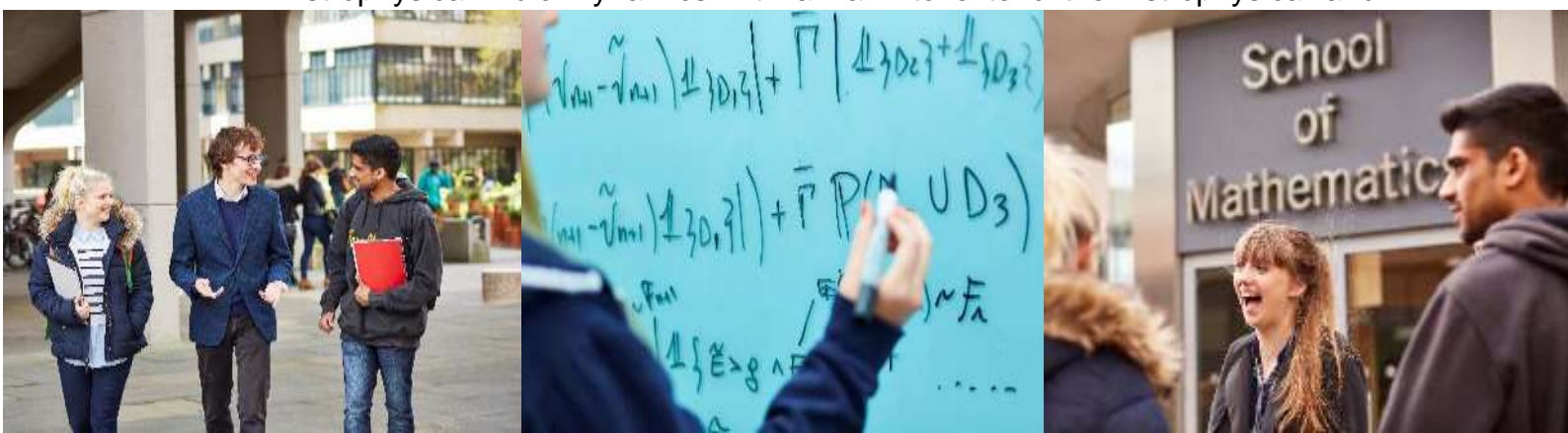
You will work in close contact with [Dr Adrian Barker](#) in the Department of Applied Mathematics, and you will join the Astrophysical and [Geophysical Fluid Dynamics](#) research group, which is one of the largest such groups in the world. This project will strongly complement and benefit from other STFC-funded projects at Leeds, such as those in planetary and stellar dynamos. The post will be available from 1st April 2018, but the start date is flexible and could be delayed up until 1st October 2018 at the latest.

You will have a PhD in a relevant discipline (e.g. Astrophysics, Applied Mathematics, Computational Fluid Dynamics or Planetary Sciences), together with computational experience. You will also have the ability to conduct independent research and a developing track record of publications in international journals. In addition, you will have excellent communication, planning and team working skills.

What does the role entail?

As a Research Fellow your main duties will include:

- Designing, planning and conducting a programme of investigation, in consultation with Adrian Barker;
- Generating independent and original research ideas and methods in Astrophysical Fluid Dynamics with an aim to extend the Astrophysical and



Geophysical Fluid Dynamics Group research portfolio;

- Making a significant contribution to the dissemination of research results by publication in leading peer-reviewed journals, and by presentation at national and international meetings;
- Working independently and as part of a larger team of researchers, both internally and externally to develop new research links and collaborations and engage in knowledge transfer activities where appropriate;
- Contributing to the supervision of junior researchers and PhD students and acting as a mentor to less experienced colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and relating such evaluations to your own research;
- Contributing to, and encouraging, a safe working environment.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

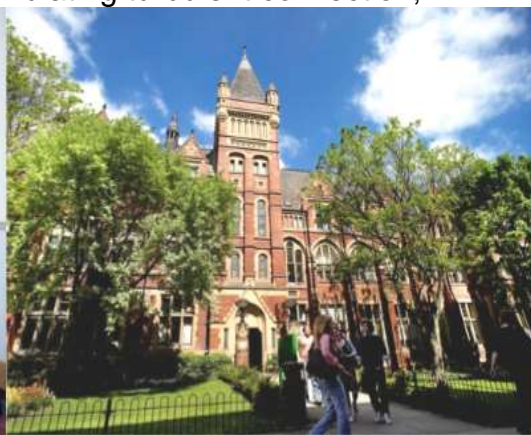
What will you bring to the role?

As a Research Fellow you will have:

- A PhD in Astrophysics, Applied Mathematics, Computational Fluid Dynamics, Planetary Sciences, or a closely allied discipline;
- Experience in scientific computation, particularly computational fluid dynamics;
- The ability to design, execute and write up research independently;
- A developing track record of peer reviewed publications in international journals;
- Excellent communication skills, both written and verbal and the ability to communicate your research at national and international conferences;
- Good time management and planning skills, with the ability to meet tight deadlines;
- A proven ability to work well both independently and as part of a team;
- An ability to work accurately and carefully;
- A strong commitment to your own continuous professional development.

You may also have:

- Experience in programming and running simulations on parallel computers;
- Experience in simulating turbulent convection;



- Experience in studying tidal flows;
- Evidence of pursuing external funding to support research.

How to apply

You can apply for this role online; more guidance can be found on our [How to Apply](#) information. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

Contact information

To explore the post further or for any queries you may have, please contact:

Dr Adrian Barker, Lecturer in Applied Mathematics

Tel: +44 (0)113 343 5165

Email: A.J.Barker@leeds.ac.uk

Additional information

Working at Leeds

Find out more about the benefits of working at the University and what it is like to live and work in the Leeds area on our [Working at Leeds](#) information page.

A diverse workforce

The Faculty of Mathematics and Physical Sciences is proud to have been awarded the [Athena SWAN Bronze Award](#) from the Equality Challenge Unit, the national body that promotes equality in the higher education sector. Our [equality and inclusion webpage](#) provides more information.

Candidates with disabilities

Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our [Accessibility](#) information page or by getting in touch with us at disclosure@leeds.ac.uk.



Criminal record information

Rehabilitation of Offenders Act 1974

A criminal record check is not required for this position. However, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations on our [Criminal Records](#) information page.

