UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Fluid Mechanics, Faculty of Mathematics and Physical Sciences

Salary: Grade 7 (£32,548 – £38,833 p.a.)

Reference: MAPMA1068

Closing date: 15 December 2017

Fixed-term for two years

We will consider job share/flexible working arrangements

Research Fellow in Fluid Mechanics
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 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 project, working on designing, implementing and analysing algorithms to perform Direct Statistical Simulation of fluids (and potentially plasmas) in laboratory, geophysical and astrophysical settings, and comparing these with the statistics derived from Direct Numerical Simulation, where appropriate. The project will involve the evaluation of statistical approximations, the development of computationally efficient algorithms for parallel architectures and the analysis of the effectiveness of the procedure. You will work closely with the Principal Investigator (PI) Professor Steve Tobias in the Department of Applied Mathematics, and with the Co-Investigator Professor Brad Marston in the Department of Physics at Brown University.

You will have a PhD in Applied Mathematics, Physics, Engineering or a closely allied discipline, with a strong background in Fluid Dynamics and experience in designing, implementing and analysing algorithms for fluid problems on parallel architectures. 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 Professor Steve Tobias;
- Generating independent and original research ideas and methods in Direct Statistical Simulation in Fluid Dynamics with an aim to extend the research portfolio of the Fluid Dynamics group;
- 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 Applied Mathematics, Physics, Engineering or a closely allied discipline, with a strong background in Fluid Dynamics;
- Experience in designing and implementing algorithms for fluid problems on parallel architectures and in analysing the output of such algorithms;
- Experience in statistical methods;
- 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 turbulence modelling;
- Experience in non-equilibrium statistical mechanics;
- 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. Interviews will be held the week commencing 8 January 2018.

Contact information

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

Professor Steven Tobias, Professor of Applied Mathematics
Tel: +44 (0)113 343 5172
Email: S.M.Tobias@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.