UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Officer, Faculty of Engineering & Physical Sciences

Salary: £18.03 per hour
Closing Date: 13 October 2019
Reference: EPSCP1002

Part time, casual post

Research Officer
School of Computing

Are you in the final year of your PhD at the University of Leeds and do you have an interest in commercially focused research? Can you undertake collaborative simulation projects with external organisations?

You will undertake applied research work on behalf of [Procter and Gamble](#) (P&G). Filling failures are ubiquitous in fluid operations and their consequences can be more far reaching than one might expect. Indeed, a better control of the filling process has an impact on consumer perception, amount of plastic needed for the packaging and overall process control.

Filling failure modelling is challenging: the negative transformations occurs in a very broad range of time and length scales that can be physical and/or process related.

CFD simulations can be a valuable tool to shed some light into the interplay of all the different levers that affect the filling process:
- Rheology
- Nozzle geometry
- Nozzle shutter dynamics
- Bottle geometry
- Environment conditions (e.g. centrifugal acceleration in rotary fillers)

This will be an hourly paid role (up to 20 hours per week) that would be ideal for a student in the writing up year of their PhD studies. It will provide excellent employment experience, working closely with a commercial customer, and building upon the research skills that will have been developed throughout the prior period of research study. We ask applicants to be able to commit for a minimum of six months to working in this role.

What does the role entail?

As Research Officer, your main duties will include:
- Maintaining a professional working relationship with the sponsor, Procter and Gamble, to assist their research and development through the application of Discrete Element Methods (DEM). You will work closely with P&G employees,

the Simulation Centre Manager and the project investigators;

- Engaging with P&G staff to fully understand the problem, contributing the specification of the simulation project to be undertaken to address this problem, undertaking the necessary simulations and modelling, reporting regularly on progress (both internally and to the P&G problem owner), providing results in a clear and accessible form (both written and verbally), and id
- There may be the need to visit P&G site;
- Participating in the research group and presenting research output where appropriate;
- Contributing to the research culture of the School, where appropriate;
- Continually updating your knowledge, understanding and skills in the research field.

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 Research Officer you will have:
- An undergraduate or Masters degree in Computer Science or Engineering or a closely allied discipline;
- The ability to develop and troubleshoot Python scripts;
- A background in the general CFD area and familiarity with popular codes in this area, such as Fluent, FLOW3D and openFOAM;
- The ability to use CFD postprocessing codes, Ansys CFD post, Ensight, or Paraview, to obtain the fluid flow information;
- Experience in using HPTC (super computers) to run CFD jobs in parallel;
- Familiar with the basic Linux commands and operation transferring files between Windows and Linux system;
- Self-motivated, good at time management and planning, with the ability to meet tight deadlines;
- Evidence of the ability to write high quality reports presenting results, findings and conclusions;
- Excellent communication and presentation skills, including the ability to work with both internal and external stakeholders to specify actions to meet a broader research goal;
- Proficiency in the use of Microsoft products: Word, Excel and PowerPoint;

- A proven ability to work well both individually and in a team.

You may also have:
- General background in coding and programming, especially in Python;
- General knowledge of dimensionless modelling, Buckingham Pi theorem and main non-dimensional groups;
- General knowledge of design of experiments;
- Experience in free surface flow and an understanding of the VOF methodology and be able to develop free surface model.

How to apply

You can apply for this role by sending a completed application form and your C.V. by email to **Mr Peter Bollada**, Simulation Centre Manager, p.c.bollada@leeds.ac.uk. There is no need for you to replicate the information provided on your CV on the application form (e.g. qualifications and work history).

Applications should be submitted by 23.59 (UK time) on **13 October 2019.**

Contact information

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

Mr Peter Bollada, Simulation Centre Manager
Tel: 0113 343 4699
Email: p.c.bollada@leeds.ac.uk

Additional information

Working at Leeds
You can find out more about our generous benefits package and more about what it is like to work at the University and live in the Leeds area in our Working at Leeds information.

Faculty and School Information
Further information is available on the research and teaching activities of the School of Computing.

A diverse workforce

The Schools in the Faculty of Engineering & Physical Sciences are proud to have been awarded the Athena SWAN Bronze or Silver 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 in our Accessibility information or by getting in touch with us at **disclosure@leeds.ac.uk**.

Criminal record information

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 accordance with our Criminal Records policy. You can find out more about required checks and declarations in our Criminal Records information.