CANDIDATE BRIEF

Research Assistant in 3D PIV Development, Faculty of Engineering & Physical Sciences

Salary: Grade 6 (£27,511 – £32,817 p.a. pro rata)

Reference: EPSME1019

Closing date: 08 March 2020

Part time, 40% full time equivalent

Fixed-term for 8 months

We will consider flexible working arrangements

Research Assistant in 3D PIV Development
School of Mechanical Engineering

Are you an ambitious researcher looking for your next challenge? Do you have a background in laser diagnostics and combustion science? Do you want to further your career in one of the UK's leading research intensive Universities?

We need an enthusiastic Research Assistant to work with us on exciting combustion research using advanced laser diagnostics. This study focuses on developing a 3D scanning particle image velocimetry (SPIV) within our combustion laboratory. Such technique can provide Mie scattering images in a large set of parallel light-sheet planes using a rapid scanning light-sheet which samples the flow in depth from which the three-dimensional flow field can be reconstructed in the scanned volume. As a highly motivated Research Assistant you will deliver conceptual design and practical lab work and help our project manager to arrange, coordinate and run practical SPIV measurement.

With a first degree or Masters in Mechanical Engineering or relevant discipline e.g. computing engineering or chemical engineering, you will have experience of combustion science and fluid dynamics along with the ability to develop Matlab code for image processing.

What does the role entail?

As a Research Assistant, your main duties will include:

- Undertaking conceptual design of 3D scanning particle image velocimetry (SPIV) and setting up the experimental apparatus using combine current PIV and swinging-sheet laser techniques;
- Responsibility for general maintenance and security of the laboratories and equipment, e.g. camera, laser, and MK-II fan-stirred combustion vessel;
- Performing 3D SPIV measurement for gaseous and liquid fuels;
- Working safely, with appropriate risk assessments;
- Performing 2D PIV measurements of the turbulent combustion as routine task;
- Writing reports, undertaking literature reviews and preparing papers for publication, with guidance as necessary;

- Supporting research activities, including contributing to research results and outputs and to the generation of independent and original ideas, ensuring a successful programme of investigation;
- Collating and analysing data to inform the direction and progression of the research project;
- Working both independently and as part of a larger team of researchers and stakeholders;
- Playing a role in the PhD' network, for example to share best practice and knowledge on laser systems;
- 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 a Research Assistant you will have:
- A first degree or Masters in Mechanical Engineering or relevant discipline e.g. Computing engineering, Chemical engineering;
- Good knowledge and experience of combustion science and fluid dynamics;
- Experience with the use of high speed camera and PIV laser technique;
- The ability to develop Matlab code for image processing;
- Knowledge of swinging-sheet laser concept;
- Experience in the safe use of high energy (Level 4) laser system;
- Experience of working in a workshop environment;
- Good interpersonal and communication skills, both written and verbal and the ability to communicate effectively with a wide range of stakeholders;
- Well-developed analytical skills;
- Good time management and planning skills, with the ability to meet tight deadlines;
- The ability to work proactively and independently, and effectively as part of a wider team;
- Developed organisational skills with the proven ability to prioritise work and deliver against demanding deadlines.

How to apply

You can apply for this role online; more guidance can be found on our [How to Apply](#) information page. 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. Junfeng Yang](#), Lecturer, School of Mechanical Engineering
Tel: 0113 343 2151
Email: [J.Yang@leeds.ac.uk](#)

Additional information

Faculty and School Information
Further information is available on the research and teaching activities of the [Faculty of Engineering & Physical Sciences](#), and the [School of Mechanical Engineering](#).

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.

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.

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 in our Criminal Records information page.