

FULLY-FUNDED 3.5-YEAR-LONG PHD STUDENTSHIP - FLUID DYNAMICS

Department of Mechanical Engineering

The University of Sheffield, United Kingdom



The student will join a team of other researchers working on wall-bounded flow problems within the Department of Mechanical Engineering and the Leonardo Tribology Centre. More information about our research work can be found here:

Dr Pierre Ricco's website: <http://www.pierre-ricco.co.uk>

and here: Dr Artur Gower's website: <https://arturgower.github.io/>.

Topic of research: This project offers the unique opportunity to develop strong theoretical and numerical skills in both viscous fluid mechanics and acoustics in solids. The overall aim is to develop new ultrasonic sensors to measure oil viscosity in difficult-to-access environments, for which classical measuring techniques cannot be used. One application is sensors that work inside giant journal bearing as used for wind turbines. As part of the team, your role would be to develop mathematical models and computational methods to help interpret the signals received by these sensors. Along the way, you will learn techniques from fluid mechanics and elastic waves, while working on cutting-edge applications. There will be plenty of opportunities for interaction with industrial partners and for comparison between the theory/numerical data and unique experimental data collected in our world-class Leonardo Tribology Centre. The research project will be supervised by Dr Pierre Ricco and Dr Artur Gower.

Duration: 3.5 years.

Nationality The studentship is available for a student from the United Kingdom or from the European Union with 3 years residency in the UK.

Education A good 4-year degree or Master degree in Mechanical, Aeronautical, Civil, Chemical Engineering, Applied Mathematics or Physics.

Knowledge, skills

Fluid mechanics; desirable: wall-bounded shear flows, acoustic in solids.

Numerical analysis, in particular Computational Fluid Dynamics.

Good programming skills in C, Fortran, or any other high level language.

Desirable: final-year project on a fluid mechanics problem.

Other requirements

Unique self-motivation and passion for fluid mechanics.

Excellent communication of research results and writing skills.

Deadline: as soon as possible or until position is filled.

Apply here

For further information contact:

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