UNIVERSITY OF LEEDS

CANDIDATE BRIEF

KTP Associate – Ultrasonic Engineering

Faculty of Engineering and Physical Sciences, and Oil & Gas Measurement Ltd.

Salary: £30,000 – £38,700 plus training allowance of £6,000. This position is not on the University of Leeds salary scale.

Reference: CSRIS1136

Based at the company premises in Ely, Cambridgeshire

Fixed term for 36 months due to external funding for a fixed period.

This role is advertised subject to funding

KTP Associate – Ultrasonic Engineering
School of Electronic and Electrical Engineering, University of Leeds and Oil & Gas Measurement Limited

Do you have a strong background in ultrasonics at PhD level? Are you a multi-talented candidate keen to join a dynamic, interdisciplinary team of scientists and engineers to develop disruptive technologies of tomographic applications with end users in the oil & gas industry?

We have an opportunity for you to 'fast track' your career in industry by leading a strategically important project to a successful conclusion. Through a Knowledge Transfer Partnership (KTP), you will be working in partnership with Oil & Gas Measurement Ltd. and the School of Electronic and Electrical Engineering, University of Leeds, one of the UK's leading research intensive universities. This will provide an excellent opportunity for you to utilise your academic achievements in an industry setting.

Oil & Gas Measurement Ltd. (OGM) produces high quality products for the Oil & Gas Industry Custody Transfer applications. The KTP will develop and optimise a Wide-Band UltraSonic Tomography (WBUST), algorithm and hardware for Multiphase Flow Metering (MPFM) for application in the oil and gas industry. You will be working as an integral part of a team making decisions on the design and user experience of automated and predictive flow metering platforms focussing on the development of embedded firmware and software.

You will be based at the company premises in Ely, Cambridgeshire, but will be employed by the University of Leeds for the duration of the project, a fixed period of 36 months, spending no more than 7 months total at the University, in short periods. Travel between Cambridge and Leeds, and accommodation in Leeds, will be funded. The School of Electronic and Electrical Engineering will provide academic and technical support to you throughout the project.

You will have access to a training and development package worth £6,000, to be spent according to your needs and the project's requirements, enabling you to work effectively on the KTP, and to plan for your future career. Additionally, you will attend two weeks of residential KTP training to equip you with the skills and knowledge


required to complete the project successfully, for which time is allocated and funding provided.

In addition to the challenges of the post, you will be expected to work towards a chartered membership of an appropriate professional body.
OGM offers a supported programme towards Chartered Engineer status, as well as a discretionary annual performance-based bonus.

What does the role entail?

As a KTP Associate, your main duties will include:

- Developing prototypes and translating them from laboratory test units to industrial systems;
- Acquiring understanding of and ability to follow internal product design, specification and certification processes. OGM has a strict Product Creation Process (PCP) that works on a Stage Gate approach with Agile (or Sprint type) Project Management Manual;
- Learning skills including mechanical engineering for prototype design and build, established and innovative tomographic techniques and software design;
- Learning and/or conducting multiphase flow regime characterisation using tomographic techniques, with OGM's multi-phase flow loops, one of the largest in Europe and well instrumented, as a test-bed. Developing calibration techniques and associated training of colleagues;
- Understanding customer needs via meetings and prototype pilot/field testing;
- Producing product/market requirement specifications for product deployment;
- Demonstrating at trade shows to create and maximise interface with customers;
- Preparing manuscripts for peer review and presentation of scientific material aligned with company need for IP protection;
- Presenting at relevant conferences and submitting papers to quality journals;
- Developing competency in task estimation production and use of project plans to deliver tasks and report progress, amending project delivery as necessary;
- Communicating technical knowledge to staff and embedding it in process manuals and documents;
- Working with Marketing and Sales to set product requirements that meet customer needs at a commercially viable cost;
- Longer term, representing OGM to end users and potential customers.


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 KTP Associate you will have:

- A strong background in Ultrasonics at PhD level (or PhD close to completion). This may include Electronics / Mechanical Engineering / Physics / Medical applications, or similar;
- Experimental ultrasound laboratory and Practical Signal processing skills;
- Experience with object oriented Python / C / Matlab to accelerate algorithm implementation in FPGA/ASIC systems;
- Understanding of microcontrollers (ARM, Arduino or PIC), embedded computers and hardware integration;
- Experience with electrical engineering fundamentals, circuits, PCB design, testing, and troubleshooting;
- Knowledge of developing software architecture for automated systems and electromechanical components;
- Knowledge of/desire to learn aspects of multiphase turbulent flow, including phase change;
- Excellent written and oral communication; the ability to convey research to end-users, at academic conferences and industry events;
- Good record keeping and organisational skills;
- The ability to problem solve;
- Strong commercial awareness;
- Ability to work both individually and in a multi-disciplinary team within a multi-cultural organisation;
- Good negotiation skills and ability to influence decision making;
- Strong initiative and a proactive approach, with excellent organisational, planning and self-management skills, including the ability to prioritise workloads to meet deadlines/demand and deliver high quality outputs under pressure;
- Flexibility, and a willingness to travel.

You may also have:

- Industrial or post-doctoral experience in the disciplines relevant to this project;
- Knowledge and experience in product development processes;
- A strong desire to develop your career in a progressive engineering company;


- A full UK driving licence.

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 the advertised closing date.

Contact information

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

Dr David Cowell
Email: D.M.J.Cowell@leeds.ac.uk
Phone: +44 (0) 113 343 4965

Professor Steven Freear
Email: S.Freear@leeds.ac.uk
Phone: +44 (0) 113 343 2076

Dr Wes Maru
Email: Wes.Maru@oghl.co.uk
Phone: +44 (0) 1353 887847

Additional information

Candidates must be available for an onsite interview at the company premises.
The business's long term plan is to support continued business growth through continued research and development. Strong technical and professional performance in this project could open up an opportunity for permanent employment at OGM on conclusion of the KTP.

Working as a KTP Associate

You will be employed by the University of Leeds and will have access to University facilities. However, you will be based for the majority of your time at the company premises, working to their terms.
You will have access to the University's USS pension scheme, with generous employer contributions.

Faculty and School Information
Further information is available on the research and teaching activities of the Faculty of Engineering and Physical Sciences and the School of Electronic and Electrical Engineering.

A diverse workforce
The Faculty of Engineering is proud to have been awarded the Athena Swan 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.

The post is located at the company premises. Candidates with disabilities wishing to review access to the building are invited to contact Laura Dugdale (Research and Innovation Service), L.Dugdale@Leeds.ac.uk or Tel: 0113 343 0928.

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.