KTP Associate - Ultrasonic Inspection Software Development Engineer with PEAK NDT

Department	Electronic and Electrical Engineering (www.strath.ac.uk/engineering/electronicelectricalengineering/)		
Faculty	Faculty of Engineering (www.strath.ac.uk/engineering/)		
Staff Category	KTP	Reference No	292176
Reports To	The Head of Department, through Dr. Charles MacLeod (academic supervisor) and Simon Parke (industrial supervisor)	Grade:	RS79
Salary Range:	Up to £35K pa plus £6k training budget	Contract Type:	Fixed Term (24 months)
FTE	1	Closing Date	17/05/2020

Job Advert

The Centre for Ultrasonic Engineering (CUE) (www.cue.ac.uk) in partnership with PEAK NDT (https://www.peakndt.com) seeks to recruit a Knowledge Transfer Partnership (KTP) Associate in the state-of-the-art area of advanced inspection technologies. This is an exciting opportunity for a dynamic and enthusiastic person to lead the development of new and innovative ultrasonic inspection software developments for high-value manufacturing and asset inspection tasks as found in the Nuclear, Aerospace, Oil & Gas and Renewables sectors.

Peak NDT, based in Derby, are a world-leading designer and manufacturer of high-performance ultrasonic instruments and can trace their original roots back to Rolls-Royce MatEval. Their technology has long been used at the forefront of ultrasonic Non Destructive Testing (NDT) techniques for multi-channel conventional, to Phased Array and now Full Matrix Capture approaches. Their world-renowned MicroPulse line of products can boast over an accumulated 100 years of ultrasonic NDT experience. The KTP Associate will be primarily based at Peak NDT in Derby. You will also spend periods at the University of Strathclyde and the Technology and Innovation Centre in Glasgow.

PEAK are currently investigating future MicroPulse Phased Array instrument concepts and this KTP seeks to develop next-generation ultrasonic imaging software development tools for increased commercial deployment. Specifically, this will investigate new focal law generators for optimum ultrasonic wave transmission and reception in current and future ultrasonic inspections. This KTP will also investigate integration of advanced robotic and future transducer concepts for inspection of complex components build using traditional and cutting-edge metal additive processes.

The project is part of the Knowledge Transfer Partnership (KTP) programme that aims to help businesses improve their competitiveness and productivity through better use of knowledge, technology and skills that reside within the UK knowledge base. Successful Knowledge Transfer Partnership projects are funded by UK Research and Innovation through Innovate UK and are part of the government's Industrial Strategy. To find out how KTP works and the vital role you will play if you successfully secure a KTP Associate position please visit: www.ktpws.org.uk

The successful candidate will form an essential link between PEAK and the ongoing ultrasonic inspection, Non-Destructive Testing (NDT) and robotics research within CUE. The core aim of the project is for you to become the ultrasonic inspection software development expert within PEAK, in particular by leading the research and development of flexible automated ultrasonic imaging and inspection systems. To be considered for the role, you will have demonstrable experience in a relevant subject (e.g. physics, mechanical, electrical or control engineering); or have equivalent relevant experience in addition to a

relevant degree. Ideally, you will have understanding and capability in underlying wave (sound or light) propagation physics and concepts, software development and automation. You will have excellent written and communication skills, along with an ability to conduct both individual work and the ability to integrate work and collaborate effectively with the existing project team.

In addition to the KTP specific training and development program, you will have the opportunity to enrol for a part time MPhil/PhD with the University.

Job Description

Brief Outline of Job:

The successful candidate will form an essential link between PEAK and the ongoing ultrasonic inspection, Non-Destructive Testing (NDT) and robotics research within CUE. The core aim of the project is for you to become the ultrasonic inspection software development expert within PEAK, in particular by leading the research and development of flexible automated ultrasonic imaging and inspection systems.

Main Activities/Responsibilities:

1.	Conduct research and development as part of the KTP project for the realisation of the ultimate aim of flexible and commercially driven ultrasonic imaging and inspection systems.
2.	Develop new techniques for ultrasonic wave propagation focal laws for optimum transmission, reception and inspection.
3.	Develop and undertake Micropulse instrumentation interfacing and low-level programming.
4.	Undertake research in novel approaches to ultrasonic inspection, continually updating knowledge in the field.
5.	Develop new techniques in NDT research, applying appropriate approaches to identify areas for research and develop new research methods and extend the research portfolio with automation and robotics.
6.	Write up results of own research and contribute to the production of reports and publications.
7.	Prepare and disseminate project work and outcomes through business reports, business presentations, academic conferences and academic journal publications.
8.	Liaise and communicate with PEAK Management and partners throughout the project.

Person Specification

Educational and/or Professional Qualifications

(E=Essential, i.e. a candidate must meet all essential criteria to be considered for selection, D=Desirable)

E1 Good Honours Degree in Physics, Engineering, Computer Science, or equivalent.

Experience

E2 Experience in wave propagation concepts such as transmission, reception, reflection and refraction

E3 Software Programming experience in Labview, SQL, Matlab, C/C++ or similar languages

E4 Experience of the integration of multiple complex measurement systems.

E5 Experience in low-level industrial system control.

E6 Experience in interdisciplinary industrial system development and integration

D1 Experience in Ultrasonic Inspection and NDT

Job Related Skills and Achievements

E7 Ability to deliver projects to industrial customers i.e. to specification and within set timescales.

E8 Track record of safety considerations in industrial inspection.

E9 Developed ability to conduct both individual research and development work and contribute as part of a wider team and group.

E10 Excellent physics, mechanical, electric and software engineering skills

Personal Attributes	
E11	Self-starting capability on complex projects
E12	Ability to work effectively within a team environment
E13	Excellent written and verbal communication skills, with an ability to listen, engage and persuade and to present complex information in an accessible way to a range of audiences.
E14	An ability to plan and organise own workload effectively
Other Relevant Factors	
E15	Willing and able to travel to partner sites for technical meetings and project demonstrations
D2	Valid UK driving licence with access to own vehicle

Application Procedure

Applicants are required to complete an application form including the name of three referees who will be contacted before interview without further permission, unless you indicate that you would prefer otherwise. Applicants should also submit a Curriculum Vitae and a covering letter detailing the knowledge, skills and experience you think make you the right candidate for the job. Applicants should also complete the Equal Opportunities Monitoring Form.

Other Information

Further information on the application process and working at Strathclyde can be found on our website (http://www.strath.ac.uk/hr/workforus).

Informal enquiries about the post can be directed to Dr, Charles MacLeod, Lecturer (charles.macleod@strath.ac.uk).

Conditions of Employment

Conditions of employment relating to the KTP staff category can be found at: Conditions of Employment.

Rewards and Benefits

Our staff have access to a wide range of outstanding benefits that include financial rewards, family friendly and wellbeing benefits and career development opportunities, details of which can be found here.

Probation

Where applicable, the successful applicant will be required to serve a 6 month probationary period.

Pension

The successful applicant will be eligible to join the Universities' Superannuation Scheme. Further information regarding this scheme is available from Payroll and Pensions.

Interviews

Formal interviews for this post will likely be held by Skype.

Equality and Diversity

We value diversity and welcome applications from all sections of the community.

The University currently holds a Bronze Athena SWAN award, recognising our commitment to advancing women's careers in science, technology, engineering, maths and medicine (STEMM) employment in academia.

University Values

The University's Values capture what we're all about: who we are, what we believe in and what we stand for. Our Values have been derived from how we act and how we expect to be treated as part of Strathclyde.