Photonics Engineer - KTP Associate

Reference: 1194-25

Salary: £40,000 - £42,000 per annum depending on experience and qualifications, with an additional £5,000 for the duration of the project for professional and personal development.

Contract Type: Fixed Term (30 Months)

Basis: Full Time

Job description

This 30-month project takes the form of a Knowledge Transfer Partnership (KTP), which provides you with practical and formal training and the availability of support from experienced mentors from Xtera Topco, Aston University and Innovate UK Business Connect.

Job Purpose:

This KTP project seeks to provide a means to detect and localise activity near subsea communication cables to alert to the threat of imminent cable damage. Historically this has largely been accidental damage caused by seismic activity or ship anchor drag. However, recently there has been a strong upsurge in the amount of damage linked to hostile actions, reflecting the huge economic and political capital represented by the communications links, which form the backbone of the internet.

The hardware developed in this KTP will be the first innovation step in a system that will ultimately enable 24/7 short-interval intelligent monitoring over the 25-year design life of typical submarine links.

The key innovation is developing distributed sensing technology, capable of operating across sub-sea links of over 1,000 km in length.

The KTP seeks to embed within Xtera new skills in:

- Laser based fabrication of custom fibre sensors.
- Optical sensor system design.
- FPGA-based signal processing techniques

The project will leave Xtera with a legacy capability in distributed sensing and related signal processing methods. The resources developed by the Associate will ensure effective future personnel training to enable long-term commercialisation.

Candidate Profile: PhD in photonics/optics (or physics with experience in photonics). BSc or MSc in Physics/Electronic Engineering or closely related subject

Essential skills/ experience required include:

- Strong analytical and problem-solving skills related to photonic/optic - based systems
- Laboratory skills, including the use of test and measurement equipment.
- Excellent communication and management skills.

Desirable:

- Hands-on experience in optical system design and testing.
- Experience working with lasers and laser safety.
- Skills in the design and implementation of interferometric fibre sensors.
- Experience in field programmable gate arrays.
- Strong ability to work independently and collaboratively in a team.

Personal attributes required for the role:

- Strong interpersonal skills facilitating work with various stakeholders.
- Strong communication and presentation skills. The ability to work within a cross-disciplinary project team.
- Leadership qualities, maturity, good self-organisation, and time management skills to assume ownership of and deliver the KTP project and ensure it achieves agreed milestones and objectives.

- Highly motivated and adaptable
- Industrial career focussed.
- Ability to work independently, as well as part of the team and use initiative.
- Strong desire to pursue innovative approaches and pathways

Main responsibilities:

- To develop novel monitoring technology for sub-sea telecommunications networks using photonic technologies to maintain cable integrity and detect potential damage or intrusion.
- To design, fabricate and optimise optical sensing systems to meet stringent performance requirements.
- Demonstrate advanced technical expertise (in optical device manufacture, sensing and fast electronic signal processing), good project management and good communication skills to interact between academia, internal and external business personnel including suppliers

Additional responsibilities

- Engage in continuous personal and professional development in line with the demands of the role, including undertaking relevant training and development activities to develop yourself and support the development of others.
- Ensure and promote the personal health, safety and wellbeing of staff.
- Carry out duties in a way which promotes fairness in all matters and which engenders trust.
- Promote equality of opportunity and support diversity and inclusion as well as working to support the University's environmental sustainability agenda and practices.

Person specification

	Essential	Method of assessment
Education and qualifications	▶ BSc or MSc in Physics/Electronic Engineering or closely related subject.	Application form and interview
Experience	▶ Laboratory skills, including the use of test and measurement equipment	Application form and interview
Aptitude and skills	▶ Strong analytical and problem-solving skills related to photonic/optic - based systems ▶ Excellent communication and management skills	Application form and interview

	Desirable	Method of assessment
Education and qualifications	▶ PhD in photonics/optics (or physics with experience in photonics).	Application form and interview
Experience	▶ Hands-on experience in optical system design and testing. ▶ Experience working with lasers and laser safety. ▶ Experience in field programmable gate arrays.	Application form and interview
Aptitude and Skills	▶ Skills in the design and implementation of interferometric fibre sensors. ▶ Strong ability to work independently as well as collaboratively in a team. ▶ Industrial career focused.	Application form and interview

University values

All staff are expected to demonstrate/promote the University's values and expectations, which are an integral part of our strategy and underpin the culture of the University. In addition, our leaders are expected to be accountable, help to execute strategic visions of the University and share and set clear expectations that inspire those around them.

How to apply

You can apply for this role online via our website https://www2.aston.ac.uk/staff-public/hr/jobs.

Applications should be submitted by 23.59 on the advertised closing date.
All applicants must complete an application form, along with your CV.

Any CV sent direct to the Recruitment Team and Recruiting Manager will not be accepted.

If you require a manual application form, then please contact the Recruitment Team via recruitment@aston.ac.uk.

Contact information

Enquiries about the vacancy:

Name: Prof David Webb

Email: d.j.webb@aston.ac.uk

Enquiries about the application process, shortlisting or interviews:
Recruitment Team via recruitment@aston.ac.uk or 0121 204 4500.

Additional information

Visit our website https://www2.aston.ac.uk/staff-public/hr for full details of our salary scales and benefits Aston University staff enjoy.

Salary scales: https://www2.aston.ac.uk/staff-public/hr/payroll-and-pensions/salary-scales/index

Benefits: Benefits and Rewards | Aston University

Working in Birmingham: https://www2.aston.ac.uk/birmingham

Employment of Ex-Offenders: Under the Rehabilitation of Offenders Act 1974, a person with a criminal record is not required to disclose any spent convictions unless the positions they applying for is listed an exception under the act.

Eligibility to work in the UK:

Non-UK/Irish nationals will require a visa or immigration permission that allows them to work in the UK.

The most common work visas are the Skilled Worker, Global Talent and Graduate immigration routes. You can find more information about these visa categories on our web page for candidates. The UKVI website provides further detail about different work visas and the eligibility criteria for each.

Academic Technology Approval Scheme (ATAS):
If you will conduct research in your role and you apply for a Skilled Worker or Temporary Worker GAE visa, you may need to apply for and obtain ATAS clearance before Aston can issue a Certificate of Sponsorship for your visa application.

This process can take at least 6 weeks to process, and Aston will consider this when confirming your expected start date. Processing times will increase between April and September and can longer to complete.

There is no fast-track option available. ATAS certificates will be processed in order of receipt.

You can find more information about ATAS on our candidate immigration page.

Before you start and Right to Work

90-day entry vignette
If you have applied for your visa outside of the UK, you will receive a vignette in your passport which is usually valid for 90 days. Please make sure to travel to the UK within the 'valid from' and 'valid to' dates on this visa. If you entered the UK before or after these dates, you would not 'activate' the visa and you would need to leave and re-enter the country.

You will also receive a decision letter confirming details about your immigration permission and where to collect your Biometric Residence Permit.

Cost of Living - Estate and Letting Agents

There are numerous Estate and Letting Agents in and around Birmingham that can help you find suitable accommodation. The Midland Landlord Accreditation Scheme provides a list of professional agencies and landlords who have applied with them for accreditation. Whilst accreditation is not a guarantee of quality, it provides some reassurance about the standard of the service they provide.

You can also use property search websites such as Rightmove or Zoopla.

Equal Opportunities
Aston University promotes equality and diversity in all aspects of its work. We aim to ensure, through our admissions policies for students, and our staff recruitment and selection processes that we encourage applications from all groups represented in the wider community at a local, national and international level.

The University will endeavour not to discriminate unfairly or illegally, directly or indirectly, against student or potential students, staff or potential staff. This commitment applies to all functions of the University and to any stage of an individual's career.

An Equal Opportunities Monitoring Form is included within the application form. Data you provide on the Equal Opportunities Monitoring Form will be included in a general database, for statistical monitoring purposes, enabling the University to monitor the effectiveness of its Policy, Codes of Practice and Guidelines on Equal Opportunities in Employment. Individuals will not be identified by name.

Data Protection
Your personal data will be processed in compliance with the Data Protection Act 2018 and the General Data Protection Regulation ((EU) 2016/679) ("GDPR"). The University's Data Protection Policy and Privacy Notices, including the Job Applicant Privacy Notice can be found at https://www2.aston.ac.uk/data-protection. Your application will only be used to inform the selection process, unless you are successful, in which case it will form the basis of your personal record with the University which will be stored in manual and/or electronic files. Information in statistical form on present and former employees is given to appropriate outside bodies.
Full details of our terms and conditions of service and associated policies and procedures are available online at https://www2.aston.ac.uk/staff-public/hr/policies

Aston University
Birmingham
B4 7ET, UK.
+44 (0)121 204 3000

www.aston.ac.uk