

## Candidate Brief

# Research Associate

**Reference:** R180052

**Salary:** Grade 7, £25,728 to £28,098 per annum

**Contract Type:** Fixed Term (initially for 6 months with the possibility of an extension for up to 24 months)

**Basis:** Full Time

**Closing Date:** 23.59 hours GMT on Monday 26 February 2018

**Interview Date:** To be confirmed

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## **Job description**

Aston University Research Associate for Newton Fund “Fibre optic sensor for food safety applications” project.

Aston University has been part funded by the Newton Fund to support the delivery of a project called “Fibre optic sensor for food safety applications”. The project will develop cost-efficiency fast detection photonic technology for food safety control. In particular the study will focus on producing a prototype fibre optic sensor for detection of formalin. This device will make major impact in improving the health and welfare of the vulnerable part of the population in Indonesia and in other developing countries.

### **Job Purpose:**

To carry out research towards the realization of cost-efficiency fast detection photonic technology for food safety control, both through experimental and through theoretical work (numerical simulations, developing of suitable mathematical models and device design).

The candidate must be able to develop independent and creative research activity, to fruitfully collaborate with the research team and with the external industrial partner (Branscan Ltd.), to provide technical solutions to problems concerning the development of the research direction and to disseminate the obtained scientific results.

### **Main Duties/Responsibilities:**

- ▶ To report on the analysis of the existing and emerging Fibre-optic Sensor (FoS) based technologies for formalin detection, summarizing a comprehensive analysis of all existing FoS-based methods and listing all new original approaches to detection of formalin in real time using various fibre base (including single-mode and multimode fibres modified by laser micro-machining, plastic and micro-structured fibres).
- ▶ To develop an innovative FoS technology for accurate and real time formalin detection in food.
- ▶ To demonstrate and test a prototype of formalin detecting sensor device. Four journal papers and at least five conferences papers are expected to be published as an academic outcome of this project.
- ▶ Study of the fundamental physics underlying optical sensing of formalin. The results of this study will provide the basis for the design of a Fibre-optic Sensor (FoS).
- ▶ Enhancement of the sensitivity of fibre-optic sensors for detection of formalin. Analysis of the existing and development of new fibre-optic based technologies for accurate and low cost detection of formalin.
- ▶ Design of the optimal FoS devices in collaboration with Branscan.
- ▶ Demonstration of the FoS formalin detection and knowledge transfer to Branscan.
- ▶ Publication of scientific results and their dissemination in scientific conferences.
- ▶ To assist project through any other duties appropriate to the role of Research Associate.

### **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 themselves and support the development of others.
- ▶ Ensure and promote the personal health, safety and wellbeing of staff and students.
- ▶ 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
<b>Education and qualifications</b>	MSc/PhD in Photonics.	Application form
<b>Experience</b>	<p>Experience of publishing research outcomes in leading international journals.</p> <p>Background of independent research.</p> <p>Planning and development of project activities.</p> <p>Presenting and talking to audiences who may be unfamiliar with area of Research which could be through conferences, exhibitions, or classrooms.</p> <p>Contribution to proposals and applications.</p>	Application form, interview and presentation
<b>Aptitude and skills</b>	<p>Innovative ideas in developing new techniques and applications.</p> <p>Ability to develop creative solution to research problems, numerically, mathematically and/or experimentally.</p> <p>Good knowledge of experimental techniques in photonics and with numerical modelling of photonics system.</p> <p>Ability to communicate results to the relevant scientific community.</p> <p>Well-developed analytical and organisational skills.</p> <p>Well-developed interpersonal and team-working skills.</p> <p>Self-consciousness on keeping working environment like laboratories in good conditions.</p>	Interview and presentation

	Desirable	Method of assessment
<b>Education and qualifications</b>	MSc, or PhD degree in Photonics, or an appropriate discipline, relevant to the project.	Application form
<b>Experience</b>	Developed funding application proposals independently.	Application form, interview and presentation

	Desirable	Method of assessment
	<p>Engaged and maintained a network of international research contacts.</p> <p>Experience of contribution to teaching.</p> <p>Experience in the outreach activities.</p> <p>Ability of day-to-day supervision of research students.</p>	
<b>Aptitude and skills</b>	<p>Willingness to explore unfamiliar research area.</p> <p>Interest in industrial links and business development.</p>	Interview and presentation

## How to apply

You can apply for this role online via our website [www.aston.ac.uk/jobs](http://www.aston.ac.uk/jobs). Applications should be submitted by 23.59pm 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](mailto:recruitment@aston.ac.uk).

## Contact Information

### Enquiries about the vacancy:

Name: Professor Sergei Turitsyn

Job Title: Professor

Tel: 0121 204 3538

Email: [s.k.turitsyn@aston.ac.uk](mailto:s.k.turitsyn@aston.ac.uk)

### Enquiries about the application process, shortlisting or interviews:

Recruitment Team via [recruitment@aston.ac.uk](mailto:recruitment@aston.ac.uk) or 0121 204 4500.

## Additional Information

Visit our website [www.aston.ac.uk/hr](http://www.aston.ac.uk/hr) for full details of our salary scales and benefits Aston University staff enjoy

**Salary Scales:** <http://www.aston.ac.uk/staff/hr/payroll-pensions-and-benefits/salary-scales/>

**Benefits:** <http://www.aston.ac.uk/staff/hr/payroll-pensions-and-benefits/>

**Working in Birmingham:** <http://www.aston.ac.uk/birmingham/city-living/>

**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:** Candidates who are not citizens of the United Kingdom, or another EEA member country, should check their eligibility to enter or remain the UK in advance of making any job application via the UKVI website <https://www.gov.uk/browse/visas-immigration/work-visas>. Before applying you should ensure that you meet the requirements, including meeting the English language standards. If you do not meet the eligibility criteria, any application for a work visa would be unsuccessful

**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 Protection Act 1998:** 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.

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



Full details of our terms and conditions of service and associated policies and procedures are available online at [www.aston.ac.uk/hr](http://www.aston.ac.uk/hr)