



OPPORTUNITY

Where change
gets real.



Reference: 0597-24

Grade: 08

Salary: 37,999 to 40,247, per annum, depending on experience

Contract Type: Fixed Term (36 Months)

Basis: Full Time

Job description

Job Purpose:

The Aston Institute of Photonics Technologies and the Department of Mechatronics and Biomedical Engineering (MBE) in the College of Engineering and Physical Sciences is looking to appoint **one Research Fellow** on a fixed term project entitled “**Adaptive OPTical metasurfaces for real-time, label-free and non-destructive multidimensional digital PATHology**”, funded by the H2020 project OPTIPATH. This is a joint research programme capitalizing on the knowledge and expertise of the 7 partners across of Europe in the modern photonics, biophotonics and clinical pathology. The main target of the project is to develop a non-destructive, label-free, real-time, 3D imaging technique for tissue samples, enabling live histopathological assessment during surgical and oncological treatments. This approach aims to provide a multidimensional pathology sensing paradigm by utilizing highly resolved and adaptive structured light with Orbital Angular Momentum, combined with 3D polarization and spectral information.

The Research Associate is expected to generate breakthrough ideas in the assigned area of research, as well as to carry out research in line with the project plan.

Main duties and responsibilities

- ▶ Design and developing theoretical formalism and a Monte Carlo-based computational tool to simulate the propagation of complex structured light carrying Orbital Angular Momentum (OAM) through turbid, tissue-like scattering media with complex internal structures.
- ▶ Contribute to the design of novel OAM-based imaging systems, with carefully determined short pulse durations for pulsed systems and appropriate wavelength selection for continuous-wave (CW) imaging systems.
- ▶ Contribute to the software development and testing for newly developed laser systems.
- ▶ To be the lead contributor to publications of research outcomes in high impact journals and major international conferences.
- ▶ To lead the delivery of reports associated with assigned projects.
- ▶ Contribute to research initiatives with colleagues in and beyond the School as appropriate.
- ▶ Engage in training and professional development programmes in the University consistent with personal needs and aspirations and with the strategic goals of the Institute.
- ▶ Support the development of further research proposals.
- ▶ Assist in the supervision of PhD students and MSc research projects.
- ▶ Assist with teaching duties (when required).
- ▶ Undertake such other duties as may be reasonably requested and that are commensurate with the nature and grade of the post.

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
Education and qualifications	<ul style="list-style-type: none"> ▶ 1st class or upper second degree in Theoretical and Experimental Physics or equivalent. ▶ PhD in experimental physics or related subject allied to photonics, electromagnetics, and quantum mechanics. 	Application form
Experience	<ul style="list-style-type: none"> ▶ Experience in Monte Carlo modelling of light propagation in tissue-like scattering medium, structured light with Orbital Angular Momentum, polarization optics and laser speckles. ▶ Lab Experience with complex structured light carrying Orbital Angular Momentum, polarization optics and laser speckles. ▶ Good publication record in international journals and conferences. 	Application form and interview
Aptitude and skills	<ul style="list-style-type: none"> ▶ Creative problem-solving skills. ▶ Programming skills in C / C++ and Python ▶ Strong skills in theoretical and mathematical physics related to electromagnetic theory and photonics including analytical and numerical modelling. ▶ Excellent English language communication skills to relay work in spoken and written media. ▶ Ability to contribute to and coordinate collaborative project reports and deliverables. 	Application form and interview

	Desirable	Method of assessment
Education and qualifications	<ul style="list-style-type: none"> ▶ PhD in the area of adaptive structured light with Orbital Angular Momentum, combined 3D polarization and light scattering. ▶ Substantial experience of successful research work after the Ph.D. 	Application form
Experience	<ul style="list-style-type: none"> ▶ Experience with Origin Pro, MatLab, Python. 	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.

Values + Behaviours

				
Innovation	Collaboration	Ambition	Inclusion	Integrity
We strive for excellence within ourselves and others, providing solutions to new and existing challenges.	We work best when we are collaborative, working together to contribute to the Aston community.	We strive together for improvement and innovation looking ahead to see the bigger picture.	We treat everyone in our community equally and how they would like to be treated.	We are open, honest and fair. We take ownership of the way we work and how we treat each other.

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 23.59pm 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.

Contact information

Enquiries about the vacancy:

Name: Igor Meglinski

Job Title: Professor in Quantum Biophotonics and Biomedical Engineering

Email: i.meglinski@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: You should ensure that you meet the eligibility requirements, including meeting the [English language standards](#). If you do not meet the eligibility criteria, any application for a work visa would be unsuccessful. Please see UKVI guidance for further information on eligibility, knowledge of English requirements and approved test centres <https://www.gov.uk/tier-2-general>

With the end of free movement for EU/EEA/Swiss nationals from 1 January 2021, the UK's new immigration system applies to all non-UK/Irish nationals who require a visa.

Where an individual is subject to UK immigration control, they will require a visa to work in the UK.

The following individuals do not need a visa for the UK, but do still have to prove their right to work before employment can commence:

- **British Citizens or Irish Nationals**
- **EU/EEA/Swiss nationals with Settled or Pre-settled status under the EU Settlement Scheme**
- **Non-EEA nationals with Indefinite Leave to Remain/Settlement in the UK**

The main routes available for those who need a visa to work in the UK are **Skilled Worker**, **Global Talent** and the **Graduate Route**.

You can find further information about each of these visa routes on our candidate immigration page.

If you will conduct research in your role, you may need to apply for and obtain ATAS clearance before Aston can issue a Certificate of Sponsorship for your visa application. Please see below for further details.

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>

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