



**OPPORTUNITY**

Where change  
gets real.



**Reference: 0402-24**

**Grade: 8**

**Salary: £37,099 to £39,347 per annum, depending on experience**

**Contract Type: Fixed term (48 months)**

**Basis: Full time**

## Job description

Applicants are welcome to join in the Aston Institute of Photonic Technologies (AiPT) one of the world's leading photonics research centres. AiPT comprises a vibrant team of researchers guided by world-leading academics with strong industry expertise and experience. AiPT cultivates an environment where academics, post-doctoral researchers and students cooperate to overcome major scientific challenges in a welcoming and collegial atmosphere. Our successful track record of scientific achievements ranges from nanophotonics, nonlinear photonics, and fibre lasers to medical lasers and bio-sensing for healthcare and the high-speed optical communications technology that underpins the internet and the digital economy.

It has recently been recognised that the fabrication of a range of emerging photonic microdevices promising to revolutionise computer, communication, and sensing technologies must be performed with unprecedented picometre (one-hundredth of the atomic size) precision.

The successful candidates for this position will be involved in the experimental and theoretical development of a new technology called Surface Nanoscale Axial Photonics (SNAP), which will enable this astonishing picometre fabrication precision.

Further aims of the project include:

- Theoretical modelling of nanoscale effects and processes in SNAP
- Development of experimental methods of picometre-precise fabrication of miniature optical devices at the surface of an optical fibre

## Main duties and Responsibilities

- ▶ To carry out research work, analytically, numerically, and experimentally, on the development of the SNAP platform.
- ▶ To develop the known and novel experimental methods of fabrication of SNAP structures and devices. Perform their experimental evaluation.
- ▶ To propose, theoretically develop and experimentally demonstrate new SNAP devices for applications in sensing, optical and quantum computing, telecommunications, and fundamental research.
- ▶ To write high quality scientific papers and research proposals.
- ▶ To disseminate the work through high-quality journal publications and presentations at national and international conferences.
- ▶ To assist in the supervision of PhD students jointly with the investigators.
- ▶ To coach junior colleagues in research.
- ▶ To assist in the supervision of Post-Graduate students in this area as needed.
- ▶ To perform any other duties appropriate to the role of Research associate.
- ▶ To collaborate in research initiatives with colleagues in and beyond the AiPT as appropriate.
- ▶ To undertake such other duties as may be reasonably requested and that are commensurate with the nature and grade of the post.
- ▶ To be involved in outreach activities to raise the regional and national profile of the College of Engineering & Physical Sciences in general and the AiPT and Nanoscale Photonics group in particular.
- ▶ To undertake such other duties as may be reasonably requested and that are commensurate with the nature and grade of the post.

## Teaching

- ▶ To undertake a limited amount of teaching with students at a range of levels, achieving good student feedback through critical reflective practice,
- ▶ To contribute to the assessment of student knowledge and the supervision of student projects.
- ▶ To assist in the development of student research skills.

## **External engagement**

- ▶ To represent the interests of the subject and School via activities to raise the regional, national and international profile, particularly with the professions, schools and businesses.
- ▶ To forge relationships with the professional bodies and other bodies representing relevant professional interests.

## **Citizenship**

- ▶ To carry out specific (School) roles and functions as may be reasonably required e.g., Head of Department, Programme Director, Personal Tutor, Admissions Tutor).
- ▶ To take part in the meetings and activities of the Academic Department and, on occasion, act as Chair of one or more of the School committees, these responsibilities being equitably distributed across the academic staff.
- ▶ To demonstrate the University's leadership values through own actions and behaviour.
- ▶ To 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
<b>Education and qualifications</b>	<p>1st class or upper second degree in Theoretical and Experimental Physics or equivalent.</p> <p>A PhD in theoretical and/or experimental physics or related subject allied to photonics, electromagnetics, and quantum mechanics.</p>	Application form
<b>Experience</b>	<p>Excellent publication record in high impact international journals and conferences.</p> <p>Experience in analytical and numerical modelling using the wave, Maxwell, and/or Schrödinger equations.</p> <p>Experience in experimental and theoretical study and development of optical microresonators and optical waveguides.</p> <p>Experience of initiating and conducting research up to doctoral level</p> <p>Experience of writing up/contributing to the write up of research for high quality publications.</p> <p>Experience of producing papers, posters, reports presenting at seminars, conferences etc.</p> <p>Experience of positive collaboration within and outside of candidate's immediate research team.</p> <p>Supervising other personnel involved in the project.</p>	Application form and interview
<b>Aptitude and skills</b>	<p>Strong skills in experimental optics and physics.</p> <p>Have creative problem-solving skills.</p> <p>Strong analytical and numerical calculation skills and mathematical modelling skills.</p> <p>Strong skills in solid state physics and</p>	Application form and interview

Essential	Method of assessment	
	<p>quantum mechanics.</p> <p>Experience in theoretical modelling and experimental investigation of optical devices including optical microresonators.</p> <p>Excellent English language communication skills to relay work in spoken and written media including writing high quality scientific papers.</p> <p>Ability to contribute to and coordinate collaborative project reports and deliverables.</p> <p>Ability to present data in both a clear and concise manner that is visually appealing.</p> <p>Ability to prepare written communications to a high standard.</p> <p>Ability to develop and maintain a research programme and to publish in high quality publications.</p> <p>Ability to harness IT as a research and teaching tool.</p> <p>A willingness to undertake further training as appropriate and to adopt new procedures as and when required.</p>	



## Contact information

### Enquiries about the vacancy:

Name: Misha Sumetsky

Job Title: Professor

Email: [m.sumetsky@aston.ac.uk](mailto:m.sumetsky@aston.ac.uk)

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

Recruitment Team via [jobs@aston.ac.uk](mailto:jobs@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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