



OPPORTUNITY

Postdoctoral Research Associate in environmental / geospatial modelling and data management

Reference: R220728

Grade: 8

Salary: £35,333 to £38,592 per annum, depending on experience

Contract Type: Fixed term (26 months).

Basis: Full Time

Job description

Job Purpose:

To create and contribute to the creation of knowledge by undertaking a specified range of activities within an established research program and/or specific research project.

The post holder will work within the Horizon Europe / InnovateUK funded project 'AllData4GreenDeal' (AD4GD) <https://www.ad4gd.eu/>. The consortium includes expert partners from 12 Universities, Research Institutes, SMEs, Governmental bodies and non-profit organizations across Europe and the UK. The Aston University team (lead academic and two PDRAs) will engage with a wide range of stakeholders and technologies to lay the groundwork for three exciting pilot case studies focussing on pollution, biodiversity and climate change, and will then coordinate the consortium in the implementation and delivery of those pilot studies.

AD4GD's mission is to co-create and shape the European Green Deal Data Space as an open hub for FAIR data and standards-based services. The focus will be on interoperability to bridge semantic and technology gaps, allowing stakeholders from many disciplines and application domains to access data and processing services that support decision-making around Green Deal priorities.

AD4GD will enable the integration of data from remote sensing, established Virtual Research Environments and Research Infrastructures, Internet of Things (IoT), socio-economic data, INSPIRE and Citizen Science in an interoperable, scalable and reliable manner. It will facilitate integration by including semantic mappings to different standards and dominant models bridging domain- and data source-specific semantic concepts such as the Essential Variables framework, as well as applying machine learning and geospatial user feedback to ensure quality, reliability and trustworthiness of data and workflows.

Main Duties and Responsibilities

- ▶ Collect research data through a variety of methods including direct stakeholder engagement, literature reviews and scientific experimentation.
- ▶ Develop research objectives and plans for personal and joint research, with the assistance of a mentor if required.
- ▶ Contribute to developing new models, techniques and technical tools.
- ▶ Analyse and interpret data, and apply knowledge in a way which develops new intellectual understanding
- ▶ Disseminate research findings in high quality publications, research seminars, etc.
- ▶ Present papers, posters and reports at seminars, conferences etc.
- ▶ Collaborate on specified research tasks with colleagues at Aston and the wider consortium, and lead these tasks where required.
- ▶ Deal with problems that may affect the achievement of research objectives and deadlines
- ▶ Provide guidance, as required, to support staff and any students who may be assisting with the research.

Specific post holder tasks as defined in the project bid:

- ▶ Engage with citizen science and IoT communities to help identify data types, standards, models and concepts relevant for Green Deal topics.

- ▶ Work with project partner CREAM to identify in situ monitoring networks relevant for Green Deal topics, and connect these networks with the Essential Variables (EVs) framework.
- ▶ Plan and lead work on identification and integration of socioeconomic and other data produced by city, national and regional administrations, in order to tackle analysis challenges in the Green Deal priority areas (with a focus on the specific pilot case studies, see below).
- ▶ Advise on co-design work (led by project partner Fraunhofer) on motivation and engagement of Citizen Science communities to identify interoperability obstacles for use and re-use of their data.
- ▶ Work with project partner ECMWF on the data integration necessary to allow ground truthing of Earth Observation data, Contribute to design of a data trustworthiness framework which will support verification and validation.
- ▶ Work with the Aston line manager and one other PDRA to coordinate work on three pilot studies, both internally and with the wider consortium. This post holder will work specifically on two pilot studies relating to water pollution and landscape ecology.
 - Pilot study 1: Work with project partners KWB (Berlin) and ATOS to develop a condition index for polluted small urban lakes which combines IoT, Citizen Science and remote sensing data with AI technologies to identify drivers and indicators for stressors of water quality. In particular, the post holder should lead on identification and integration of potential Citizen Science data on water quality, biotic signals and other key indicators of environmental quality.
 - Pilot study 2: Lead on delivery of FAIR computation services for assessing landscape functional connectivity (based on remote sensing and landcover maps) and validating policy and climate scenarios which will be prototyped in Catalonia. This will include porting/adapting existing algorithms to a Virtual Research Environment or similar platform.
- ▶ Contribute to dissemination activities to raise awareness and understanding of the activities and results among relevant target audiences (including decision- and policy-makers), and support community engagement.
- ▶ Summarise project work in high-quality scientific reports suitable for publication in peer-reviewed academic journals.
- ▶ Lead the writing and submission of deliverable reports for the European Commission and other project stakeholders.
- ▶ Assist in coordinating consortium partners on specific tasks led by Aston University, and document progress against the workplan and project milestones.

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	First degree in any discipline and a PhD (or equivalent work experience) in Computer Science, informatics, environmental modelling or other relevant subject. Previous postdoctoral experience is not essential.	Application form
Experience	<p>Planning and conducting self-directed research up to doctoral level (or equivalent professional R&D level)</p> <p>Engaging with stakeholders and eliciting requirements.</p> <p>Scientific programming with R, python or similar.</p> <p>GIS, geospatial or environmental modelling.</p> <p>Writing up/contributing to the write up of scientific research for high quality publications and/or reports.</p> <p>Presenting papers, posters and/or reports at seminars, conferences etc.</p> <p>Positive collaboration within and outside of candidate's immediate research team.</p>	Application form and interview
Aptitude and skills	<p>High level capability for analysis and synthesizing information.</p> <p>Excellent verbal communication skills and the ability to deal with a wide range of people.</p> <p>Ability to present data and results in a clear and concise manner that is visually appealing.</p> <p>Ability to maintain and facilitate dialogue between technical and other domains, or across disciplines.</p>	Application form and interview

	Essential	Method of assessment
	<p>Ability to organize own work with minimal supervision and to publish in high quality publications.</p> <p>Ability to actively collaborate within and outside the candidate's immediate research team.</p> <p>Interest in FAIR data principles and interoperability.</p> <p>A willingness to undertake further training as appropriate and to adopt new procedures as and when required.</p>	

	Desirable	Method of assessment
Education and qualifications	PhD in relevant field	Application form
Experience	<p>Experience with implementation of open workflows on VREs or similar platforms.</p> <p>Practical experience with citizen science and / or IoT and the characteristics of their data.</p> <p>Classification and analysis of Earth Observation data (e.g. satellite remote sensing).</p> <p>Awareness of the Essential Variables framework.</p>	Application form and interview
Aptitude and Skills	Experience in implementing FAIR data principles.	

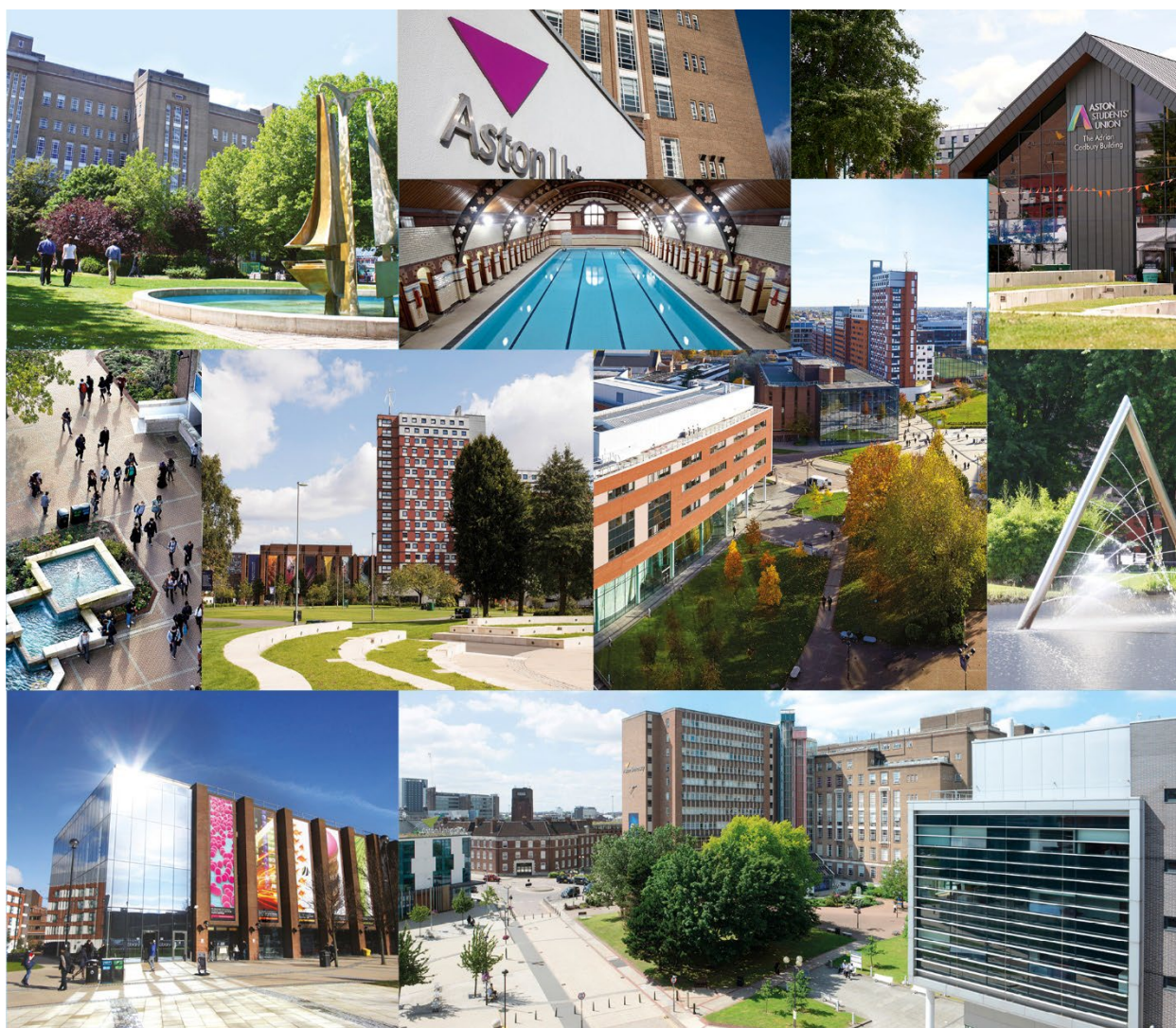
How to apply

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 jobs@aston.ac.uk.



Contact information

Enquiries about the vacancy:

Name: Lucy Bastin

Job Title: Reader in Computer Science

Email: l.bastin@aston.ac.uk

Enquiries about the application process, shortlisting or interviews:

Recruitment Team via 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: <https://www2.aston.ac.uk/staff-public/hr/Benefits-and-Rewards/index>

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:

New immigration system from 1 January 2021

A new immigration system has been introduced for people arriving in the UK from EEA countries with effect from 1 January 2021. In addition to those who have always required a visa, EU citizens who were not resident in the UK before 31 December 2021 will need to get a visa in advance.

You can find more information [here](#)

Candidates should check their eligibility to enter or remain in the UK in advance of making any job application via the [UKVI website](#). Before applying you should ensure that you meet the requirements, including meeting the English Language requirements. If you do not meet the eligibility criteria, any application for a work visa would be unsuccessful.

If you require a visa to work in the UK the most common types of visa are:

- Skilled Worker Visa <https://www.gov.uk/skilled-worker-visa>
- Global Talent Visa

If you are a leader or potential leader in one of the following fields you may be eligible to

apply for a Global Talent Visa:

- Academia or Research
- Arts and Culture
- Digital Technology

Please click the following link for further information and to check your eligibility for this visa. <https://www.gov.uk/global-talent>

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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**Where change
gets real.**