Aston University
BIRMINGHAM UK

UNIVERSITY OF THE YEAR 2020 The Guardian

Reference: R210127

Salary £33,797 to £35,845 (Grade 8)

Contract Type: Full Time

Basis: Fixed Term

Closing Date: 23:59 GMT on 1st June 2021

Interview Date: 30th June 2021

Research Associate in Mathematics

Athena SWAN Silver Award

EDI GENDER CHARTER

Candidate brief

Job description

Job Purpose:

The revolutionary NEU-ChiP project will see scientists use human brain stem cells on microchips to push the boundaries of machine learning capabilities by harnessing the unrivalled power and adaptability of the human brain neurons. This research associate position will support the project by enhancing our theoretical understanding of the emerging information content within the neuronal cluster, through analysis and modelling, and in devising training methodologies for given data.

https://www.aston.ac.uk/latest-news/stem-cell-ai-brain-chip-project-aims-revolutionise-computing-power

Main Duties and Responsibilities

- Carry out research work, analytically and numerically, jointly with the co-investigator and the NEU-ChiP research team in the area of inference, information build-up and learning methods in the general context of the project.
- Apply established techniques and develop new methods inspired by Bayesian methods and statistical physics methodology for understanding the emergence of structure within neuronal clusters and their dynamics. This will be carried out on a highly noisy incomplete data, posing a significant theoretical and computational challenge.
- Apply the new training algorithms and developed methods in simulations and in real neuronal devices to evaluate their efficacy and suitability.
- Disseminate the work through high-quality journal publications and presentations at national and international conferences.
- Aid in the supervision of Post-Graduate students in this area as needed.
- Any other duties appropriate to the role of PDRA.

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	The post holder should have PhD in Theoretical Physics, Mathematics or a similar degree with a strong mathematical content, preferably with	Application form

	Essential	Method of assessment
	background in statistical physics and Bayesian techniques.	
Experience	They should also have a proven track record in applying methods and techniques from statistical physics and Bayesian inference to investigate complex systems, preferably in a multi-disciplinary context.	Application form and interview
Aptitude and skills	They must have excellent mathematical and computational skills, should be motivated, independent and have the ability to solve theoretical and practical problems.	Application form and interview

	Desirable	Method of assessment
Education and qualifications	Understanding of neuronal systems and their properties at a basic level would be an advantage.	Application form
Experience	Experience in research work as part of an interdisciplinary team.	Application form and interview
Aptitude and Skills		Interview

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: David Saad
Job Title: Professor
Email: d.saad@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:

Post-Brexit transition period / EU Settlement Scheme

The post-Brexit transition period ended on 31 December 2020. If you are an EU/EEA citizen and you were a resident in the UK before 31 December 2020, you and your family members (including non-EU citizens need to apply to the EU Settlement Scheme to continue to live, work and study in the UK beyond 30 June 2021. The deadline for applying to the EU settlement scheme is 30 June 2021. You can apply via the Government webpage https://www.gov.uk/settled-status-eu-citizens-families

Irish Nationals do not need to apply for settlement as they retain the right to work in the UK.

New immigration system for EU/EEA and Swiss Nationals who were not resident in the UK before 31 December 2020

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 moving to the UK to work will need to get a visa in advance. You can find more information on the following website. Candidates should check their eligibility to enter or remain in 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. 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