



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in High-Speed Atomic Force Microscopy Methods Development, Faculty of Engineering and Physical Sciences



Salary: Grade 7 (£38,205 – £45,585 p.a.)

Reference: EPSPA1117

Location: University of Leeds campus

Closing date: Sunday 01 September 2024

Fixed-term for 2 years

We are open to discussing flexible working arrangements

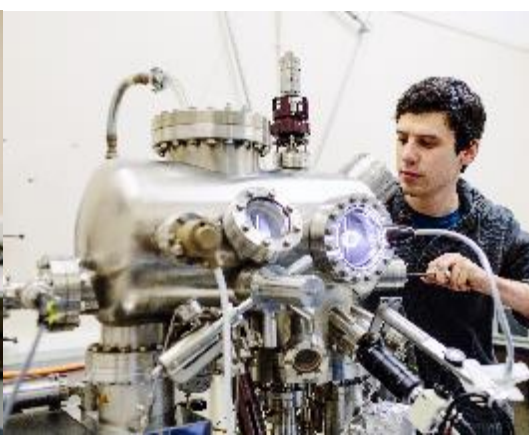
Research Fellow in High-Speed Atomic Force Microscopy Methods Development, School of Physics and Astronomy.

Are you an ambitious researcher looking for your next challenge? Are you interested in applying your research skills to develop new methods to improve resolution for healthcare applications? Do you want to further your career in one of the UKs leading research-intensive Universities?

You will join an EPSRC Open Fellowship project in the group of George Heath which aims to develop new Atomic Force Microscopy methods to improve spatial resolution and quantitatively map interactions with microsecond and at sub-nanometre resolution.

To better understand the behaviour of any disease and to develop treatment options for it, we need to understand processes occurring on the single molecule level as well as the cellular and tissue levels. However, biomolecules are highly dynamic and have complex structures which are difficult to observe simultaneously. Biomolecules such as DNA and proteins interact with many other molecules to perform their biological function. Exploiting these interactions with molecules such as drugs, to block or enhance function can be used to treat or prevent diseases. However, few experimental techniques can capture this information at the relevant spatiotemporal scales. In this project you will work experimentally develop AFM methods to enable near atomic resolution imaging of single biomolecules interacting with binding partners.

Holding a PhD (or have submitted your thesis prior to taking up the role) in Physics, Chemistry, Biophysics or a related field, you will have experience in atomic force microscopy of biological samples and a developing track record of peer reviewed publications in international journals.

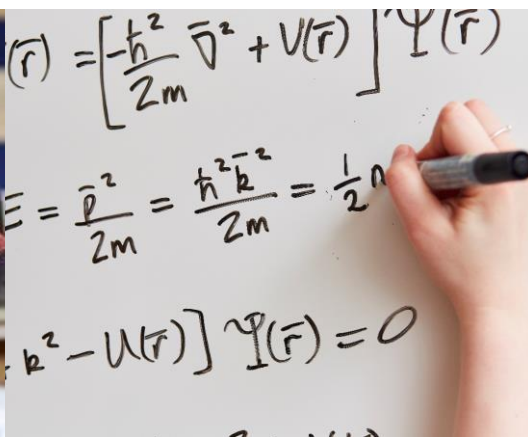


What does the role entail?

As a Research Fellow, your main duties will include:

- Experimental biophysics, including developing procedures to generate and optimize localization atomic force microscopy maps;
- Detailed image and numerical analysis;
- Generating and pursuing independent and original research ideas in the appropriate subject area under the guidance of the project lead (Dr George Heath);
- Developing research objectives and proposals and contributing to setting the direction of the research project and team including preparing proposals for funding in collaboration with colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own work;
- Making a significant contribution to the dissemination of research results by publication in leading peer-reviewed journals and by presentation at national and international meetings;
- Working both independently and also as part of a larger team of researchers, engaging in knowledge-transfer activities where appropriate and feasible;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;
- Contributing to the training of both undergraduate and postgraduate students, including assisting with the supervision of projects in areas relevant to the project.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.



What will you bring to the role?

As a Research Fellow, you will have:

- A PhD (or will have submitted your thesis prior to taking up the appointment) in Physics, Chemistry, Biophysics or a closely allied discipline;
- A strong background in atomic force microscopy imaging of biological materials;
- Experience in preparing and analysing biological samples;
- Experience in programming using Python, JavaScript and/or MATLAB;
- A developing track record of peer-reviewed publications in international journals;
- Good time management and planning skills, with the ability to meet tight deadlines and manage competing demands effectively without close support;
- Excellent communication skills both written and verbal, and the ability to communicate your research at national and international conferences;
- A proven ability to work well both independently and in an interdisciplinary team;
- A strong commitment to your own continuous professional development.

You may also have:

- Experience developing methodology (experimental or computational analysis);
- Experience with high-speed and/or high-resolution Atomic Force Microscopy;
- Experience with coordinating international collaborations.

How to apply

You can apply for this role online; more guidance can be found on our [How to Apply](#) information page. Applications should be submitted by **23.59** (UK time) on the advertised [closing date](#).

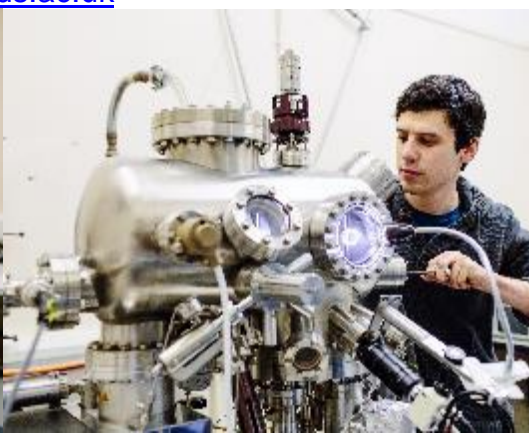
Contact information

To explore the post further or for any queries you may have, please contact:

[Dr. George Heath](#), University Academic Fellow

Tel: +44 (0)113 343 9718

Email: G.R.Heath@leeds.ac.uk



Additional information

Faculty and School Information

Further information is available on the research and teaching activities of the Faculty of [Engineering and Physical Sciences](#) and the [School of Physics and Astronomy](#).

A diverse workforce

As an international research-intensive university, we welcome students and staff from all walks of life and from across the world. We foster an inclusive environment where all can flourish and prosper, and we are proud of our strong commitment to student education. Within the Faculty of Engineering and Physical Sciences we are dedicated to diversifying our community and we welcome the unique contributions that individuals can bring, and particularly encourage applications from, but not limited to Black, Asian and ethnically diverse people; people who identify as LGBT+; and people with disabilities. Candidates will always be selected based on merit and ability.

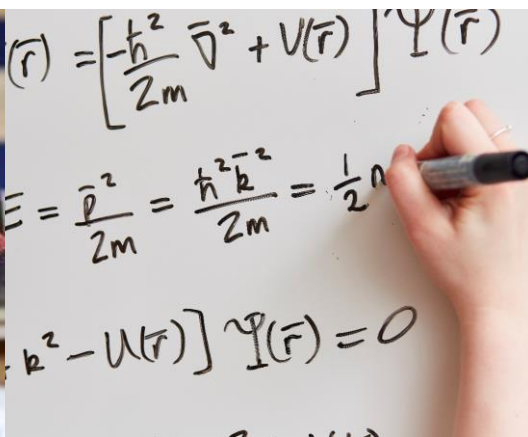
The Faculty of Engineering and Physical Sciences are proud to have been awarded the Athena SWAN [Silver](#) Award from the Equality Challenge Unit, the national body that promotes equality in the higher education sector. Our [equality and inclusion webpage](#) provides more information.

Working at Leeds

We are a campus based community and regular interaction with campus is an expectation of all roles in line with academic and service needs and the requirements of the role. We are also open to discussing flexible working arrangements. To find out more about the benefits of working at the University and what it is like to live and work in the Leeds area, visit our [Working at Leeds](#) information page.

Information for disabled candidates

Information for disabled candidates, impairments or health conditions, including requesting alternative formats, can be found on our [Accessibility](#) information page or by getting in touch with us at hr@leeds.ac.uk



Criminal record information

Rehabilitation of Offenders Act 1974

A criminal record check is not required for this position. However, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our [Criminal Records](#) information page.

Salary Requirements of the Skilled Worker Visa Route

Please note: that this post may be suitable for sponsorship under the Skilled Worker visa route but first-time applicants might need to qualify for salary concessions. For more information, please visit: www.gov.uk/skilled-worker-visa.

For research and academic posts, we will consider eligibility under the Global Talent visa. For more information, please visit: <https://www.gov.uk/global-talent>.

