



UNIVERSITY OF LEEDS

## CANDIDATE BRIEF

Research Fellow in Computational Biology, Faculty of Biological Sciences



**Salary: Grade 7 (£39,105 - £46,485 p.a.)**

**Reference: FBSBM1214**

**Available on a fixed-term basis for 36 months (to complete specific time limited work)**

**This role will be based on the university campus with scope for it to be undertaken in a hybrid manner. We are also open to discussing flexible working arrangements.**

# Research Fellow in Computational Biology

## School of Biomedical Sciences

**Are you an ambitious researcher looking for your next challenge? Do you have an established background in Computational Biology? Do you want to further your career in one of the UKs leading research intensive Universities?**

Calcium is a key mediator in translating electrical triggers into mechanical action in muscle, a process known as excitation-contraction coupling, ECC. Calcium also serves as an important secondary messenger in cardiomyocytes (like in other cells), relating messages about stress, energy demands, resource allocation, transcription dynamics. For reliable rhythmic activity and ECC, cardiomyocytes have evolved a specialized internal compartment serving as the main calcium storage, the sarcoplasmic reticulum (SR), which is dynamically emptied and refilled on each heartbeat. However, there are many non-SR organelles traditionally engaged in calcium signaling, operating at a wide range of time scales, include the endoplasmic reticulum (ER), mitochondria, lysosomes, peroxisomes, late endosomes, and the nucleus, among others. The role these play in ECC and its dysfunction remain to be elucidated.

This project involves an international and interdisciplinary team of experts, that will apply optogenetic techniques to experimentally characterise the spatial relationships between these organelles and integrate these data with computational modelling. This post specifically focuses on the computational modelling aspects of this project, in the development of novel models of spatial calcium handling that integrates super-resolution structure-function relationships in multiple organelles. On this project, the successful candidate will have the opportunity to work with researchers in USA and Japan.

### What we offer in return

- 26 days holiday plus approx.16 Bank Holidays/days that the University is closed by custom (including Christmas) – That's 42 days a year!
- Generous pension scheme plus life assurance– the University contributes 14.5% of salary
- Health and Wellbeing: Discounted staff membership options at The Edge, our state-of-the-art Campus gym, with a pool, sauna, climbing wall, cycle circuit, and sports halls.



- Personal Development: Access to courses run by our Organisational Development & Professional Learning team.
- Access to on-site childcare, shopping discounts and travel schemes are also available.

And much more!

The University of Leeds and the Faculty of Biological Sciences are committed to providing equal opportunities for all and offer a range of family friendly policies. The University is a charter member of Athena SWAN (the national body that promotes gender equality in higher education), and the Faculty of Biological Sciences was awarded a Silver award in 2020. We are proud to be an inclusive Faculty that values all staff, and are happy to consider job share applications and requests for flexible working arrangements from our employees. Our Athena SWAN [webpage](#) provides more information.

## Main duties and responsibilities

- Designing, planning and conducting a programme of investigation, in consultation with Dr. Michael Colman.
- Generating independent and original research ideas and methods in Computational Biology, with an aim to extend the Leeds Systems Physiology Lab's research portfolio;
- 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 independently and as part of a larger team of researchers, both internally and externally, to develop new research links and collaborations and engage in knowledge transfer activities where appropriate;
- Contributing to the supervision of junior researchers and PhD students and acting as a mentor to less experienced colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and relating such evaluations to your own research;
- To contribute to, and to encourage, a safe working environment.

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.



## Qualifications and skills

### Essential

- A PhD (or close to completion) in Computational Biology, Biophysics, Biomedical Engineering, or a closely allied discipline;
- Experience in the development and application of stochastic models of spatial calcium handling in cardiomyocytes, image analysis, and the integration of structural and functional experimental data into such models.
- Experience in computer programming in languages such as C/C++, Python, and Matlab. There will not be time for training in these fundamental techniques in this post, and the successful candidate must be ready to immediately work on model development.
- The ability to design, execute and write up research independently;
- A developing track record of peer reviewed publications in international journals;
- Excellent communication skills, both written and verbal, and the ability to communicate your research at national and international conferences;
- Good time management and planning skills, with the ability to meet tight deadlines;
- A proven ability to work well both independently and as part of a team;
- Ability to work accurately and carefully;
- A strong commitment to your own continuous professional development

### Desirable

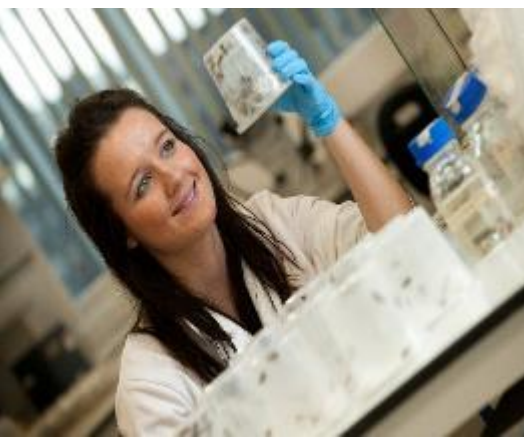
- Experience in development of models of cardiac electrophysiology, and multi-scale approximations.
- Evidence of pursuing external funding to support research.

## 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.

Your application should include:

- A supporting statement providing evidence to support each requirement listed on the 'What will you bring to the role' section of the Candidate Brief (no more than two sides of A4, minimum font size 11);



- An academic curriculum vitae, including a list of your publications.

## Contact information

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

Dr. [Michael Colman](#), Associate Professor in Systems Physiology

Email: [M.A.Colman@leeds.ac.uk](mailto:M.A.Colman@leeds.ac.uk)

## Additional information

Find out more about the [Faculty of Biological Sciences](#) and the [School of Biomedical Sciences](#)

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 Biological 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, those who belong to a minority ethnic community; people who identify as LGBT+; and disabled people. Candidates will always be selected based on merit and ability.

### 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 under the 'Accessibility' heading on our [How to Apply](#) information page or by getting in touch by [emailing HR via hr@leeds.ac.uk](mailto:hr@leeds.ac.uk).



## Security checks

Appointment to this post will be subject to appropriate security checks being carried out with your permission by a third party company

## 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

Please note: If you are not a British or Irish citizen, you will require permission to work in the UK. This will normally be in the form of a visa but, if you are an EEA/Swiss citizen, this may be your status under the EU Settlement Scheme.

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 [the Government's Skilled Worker visa page](#).

For research and academic posts, we will consider eligibility under the Global Talent visa. For more information, please visit [the Government's page, Apply for the Global Talent visa](#).

