UNIVERSITY OF LEEDS

CANDIDATE BRIEF

ImmunAID Postdoctoral Research Fellow, Faculty of Medicine and Health

Salary: Grade 7 (£34,304 – £40,927 p.a.)

Reference: MHLRM1168

Fixed-term until 17 March 2023 (the role is funded by external grant income). We will consider job share and flexible working arrangements.

ImmunAID Postdoctoral Research Fellow
School of Medicine
Leeds Institute of Rheumatic & Musculoskeletal Medicine

Applications are invited for a Postdoctoral Research Fellow position in the research group of Professor Michael McDermott on a project funded by the Horizion 2020 entitled "Immunome project consortium for Autoimflammatory disorders (ImmunAID)

You will co-ordinate projects related to Work Package 3 (WP3) of ImmunAID programme entitled: "Inflammasome-associated pathways in sporadic and undiagnosed systemic autoinflammatory disorders (SAIDs)". The overall goal of the tasks in WP3) is to assess the range of functions, dysfunction and biomarker potential of NLRP3 inflammasome complexes in SAID. Specifically, you will be working on task 3.3 of WP3 with the following aim:

- To characterise negative regulators of NLRP3 inflammasome activation, including the effects of decoy proteins, encoding CARD-only proteins (COPs) and the related PYRIN domain-only proteins (POPs), that competitively bind to integral inflammasome components.

We are using standard laboratory-based methods to investigate NLRP3 inflammasome activation products and the unfolded protein response (UPR) in cells from patients with SAIDs and selected cell lines. A Seahorse Analyser is used to examine metabolic pathways and quantify mitochondrial ROS (mROS) production. Cryo-electron microscopy (Cryo-EM) and bioimaging is used for structural molecular biology in collaboration with the Astbury Centre (Leeds).

Reporting to Prof McDermott, your work will be carried out in collaboration with Dr. Sinisa Savic, capitalising on the infrastructure and samples collected through the Leeds Centre for SAIDs, based across St James's University Hospital and Chapel Allerton Hospital. You will have access cells and sera (blood) from patients with genetically defined SAID and also those with sporadic or unknown causes. You will develop and validate assays for use in cell culture supernatants and biological fluids. Some of the work will be done in conjunction with the Protein Production Facility (run by Dr Brian Jackson) and the Centre for Biomolecular Interactions (run by Dr Iain



Manfield), both located within the Faculty of Biological Sciences in the Astbury Centre for Structural Molecular Biology.
In combination with one other Postdoctoral Research Fellow, you will support the management of the research group, specifically dedicated to this project, as required.

The post will be based primarily in the Wellcome Trust Brenner Building at the St. James's University Hospital site within the Institute of Rheumatic and Musculoskeletal Medicine.

What does the role entail?

As a Postdoctoral Research Fellow, you will:

- Work independently to develop and enhance the project experimental plan, Develop methods and techniques applicable to your own work and for widespread dissemination. Additionally, to evaluate methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to own work;
- Take responsibility for the day to day running of your area of the project, including the budget, and co-ordinate work with other internal and external collaborators. Identify additional resources to effectively deliver the project;
- Prepare reports for your supervisors and for team meetings to report progress, agree future work and exchange data/experience;
- Working as part of a larger team of researchers, engage in knowledge-transfer activities where appropriate and feasible. Develop internal and external networks for the exchange of information and for future collaboration;
- Train undergraduate and postgraduate students in relevant and developing laboratory techniques and co-supervise projects students working within the group;
- Prepare written papers for publication in journals with international standing and presentations to disseminate the research findings to both the academic and clinical communities and to the wider public at both national and international level leading to high quality publications in peer-reviewed journals, as appropriate;
- Maintain appropriate databases, keeping accurate written and computerised records and to ensure that these records are stored in a secure place, and to maintain confidentially of all electronically stored personal data in line with the provisions of the Data Protection Act/GDPR;



- Identify other research project opportunities and directions as they arise including assisting with drafting budgets and applications for potential research projects and grants;
- Work within and apply the standard operating procedures, health and safety regulations and quality assurance procedures of both the Institute and the School and be responsible for the health and safety management of relevant projects and research work;
- In compliance with University policy, to have a basic knowledge of the financial procurement procedures and regulations and to undertake relevant training/induction to gain this knowledge. Also to actively support and adhere to the Faculty's commitment to Equality and Diversity in line with the requirements of the Faculty Diversity Action Plan;
- Undertake travel to meet with / work with collaborators in Lausanne and Manchester.

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?

- A first degree and PhD in molecular biology subject;
- Previous experience of managing a project in a research field including demonstrable evidence of successfully setting and delivering project objectives within strict time limitations and budget;
- Familiarity with cell biology methods and demonstrated experience in molecular biological, biochemical and cell culture techniques including some experience in DNA cloning and ELISA;
- Evidence of having developed independent research skills, the ability to work independently and to organise and prioritise own work (and those of others if appropriate) and maintaining records;
- Computer literacy, including word processing, Excel and literature searches;
- Ability to interpret the scientific literature and incorporate into project;
- Effective interpersonal and communication skills, including previous experience presenting to an audience and writing detailed reports and preparing data;



- Evidence of an ability to write to a standard required for research reports/publications (at least co-authorship of peer-reviewed publications) and experience of submitting grant applications;
- Demonstrated the ability to work as part of a multidisciplinary team involving, technicians, clinicians, students and research personnel;
- Willingness to work flexibly, where necessary, to fulfil the needs of the research project;
- Willingness to travel within the UK and internationally, particularly able to meet/work with European collaborators and spend periods working in their labs;
- Effective data management skills, including knowledge of Data Protection requirements and a working knowledge of health and safety issues within the laboratory setting.

You may also have:

- Experience in working with RNA
- Experience in cell sorting, in immunohistochemistry and Western blotting
- Experience in protein expression and purification, and crystallography/cryo-electron microscopy
- Experience in using a Seahorse Analyzer to study cell metabolism
- Experience in writing COSHH and GM risk assessments, and Standard Operating Procedures (SOPs) for good laboratory practice.

How to apply

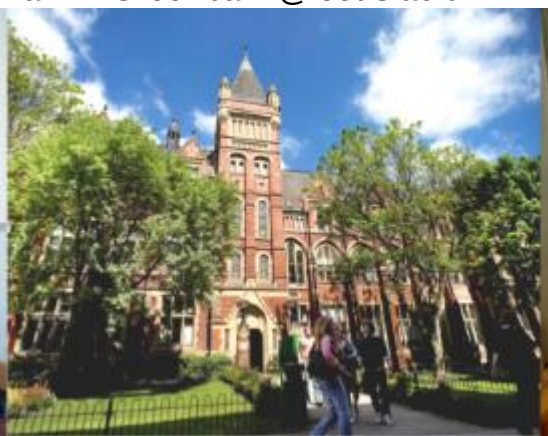
You can apply for this role online; more guidance can be found on our How to Apply information. Applications should be submitted by **23.59** (UK time) on the **5 October 2021.**

Contact information

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

Professor Michael McDermott, Professor of Experimental Rheumatology
Tel + 44 (0) 113 343 8641, Email: **m.mcdermott@leeds.ac.uk.**

If you have any specific enquiries about your online application please contact Angela Greenbank, email: A.Greenbank@leeds.ac.uk


Additional information

Find out more about the Faculty of Medicine and Health.

Find out more about Athena Swan in the Faculty of Medicine and Health.

Find out more about our Institute.

Find out more about our Research and associated facilities.

Working at Leeds
You can find out more about our generous benefits package and more about what it is like to work at the University and live in the Leeds area in our Working at Leeds information.

You will report to Dr Sinisa Savic, Associate Professor (Clinical), & Professor Michael McDermott, Professor of Experimental Rheumatology.

Candidates with disabilities
Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found in our Accessibility information or by getting in touch with us at disclosure@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.