THE UNIVERSITY OF MANCHESTER

PARTICULARS OF APPOINTMENT

FACULTY OF BIOLOGY MEDICINE AND HEALTH

RESEARCH ASSOCIATE IN UBIQUITIN SIGNALLING

1 The University invites applications for the above post which is tenable three years from January 2027, with the possibility of extension subject to funding.

2 Salary will be Grade 6, according to relevant experience.

3 Informal inquiries may be made to Professor Yogesh Kulathu. Email: yogesh.kulathu@manchester.ac.uk

4 The University of Manchester values a diverse workforce and welcomes applications from all sections of the community.

Job title:	Research Associate
Salary:	Grade 6
Start/duration:	January 2027; fixed term for three years
Probation period:	9 months
Based at:	The University of Manchester
Responsible to:	**Professor Yogesh Kulathu** Principal Investigator and Professor of Cellular Biochemistry

BACKGROUND

The Kulathu laboratory investigates how ubiquitin and ubiquitin-like signalling coordinate cellular quality control, stress responses and clearance pathways to preserve cellular homeostasis. We seek to understand how cells recognise and eliminate faulty or unwanted proteins, and why failures in these systems contribute to disease. We use a multidisciplinary approach in our research combining innovative tool development with biochemistry, structural biology, proteomics, genetics and cell biology.

This post, based at the University of Manchester, is supported by BBSRC funding to develop precision tools to dissect ubiquitin signalling. The project will establish a nanobody toolkit to recognise polyubiquitin chains of different linkages and use these reagents to reveal how ubiquitin signals control cellular outcomes. The tools will connect molecular recognition with biochemical and cellular discovery, and provide a resource for the wider research community.
We welcome motivated and curiosity-driven researchers who enjoy challenging questions, tool and methodology development, and pursue unexpected findings. Inclusion, empathy and integrity underpin how we work together in the lab.

The University of Manchester

The University of Manchester is the largest single-site university in the UK with around 38,000 students and more than 11,000 staff. We aim to become one of the top 25 research universities in the world by 2020 and are committed to delivering (a) an outstanding teaching and learning experience; (b) contributing to the social and economic success of local, national and international communities; (c) producing the highest calibre graduates; (d) and developing our staff to be amongst the very best of their peers. Our trajectory is excellent, evidenced by recently being named as the world number one university in the THE Impact rankings.

We are unique in the UK higher education sector in having Social Responsibility as one of our three core strategic goals, sitting equally alongside our commitments to research and teaching. To achieve our ambitious goals, we aim to attract and retain the very best people to work across a range of academic disciplines and support functions.

The University of Manchester strives to make our community a welcoming, caring and enthusiastic one, fuelling ambition, combined with opportunities and support to help us all achieve our personal and professional goals. Our diverse job opportunities include an attractive benefits package with family-friendly policies that provide for flexible working. We care deeply about career and personal development, offering a structured induction programme for new staff, an annual performance and development review, staff training for all career stages and mentoring opportunities to support your career development. We have a genuine commitment to equality of opportunity for our staff and students, and our ambition is to employ a workforce that reflects the diverse community we serve.

As a global institution, situated at the heart of a lively, culturally diverse city, we welcome applicants of all nationalities. To help international job applicants plan for life in the UK, we have put together some useful information on passports and visas, travel to the UK, accommodation and a number of other practical considerations.

Faculty of Biology, Medicine and Health (FBMH)

The Faculty of Biology, Medicine and Health has an integrated structure to deliver a truly translational approach to the life sciences, ensuring smooth research pathways - from pure discovery science through to clinical application and patient care. With a total annual income of over £300 million, and over 3,000 members of staff, the Faculty is comparable in size to a medium-sized UK university. Thirty undergraduate and 90 postgraduate programmes offer our 11,000 students opportunities to develop the skills and knowledge they need for a successful career. The integration of discovery biology, clinical application and patient care within a single Faculty, particularly in a region with notable health inequality, provides us with a real opportunity to have a very significant and positive impact on people's lives.

Working for the University of Manchester

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At the University of Manchester we are committed to the development of all staff and through-out this post will offer training and personal development opportunities relevant to your skills, experience and career aspirations.

Overall Purpose of the Job

To develop, validate and apply a nanobody toolkit for studying polyubiquitin chains of different linkages. The post holder will engineer and characterize nanobodies, establish robust expression and purification workflows, and quantify binding affinity and linkage specificity using complementary biochemical and biophysical approaches.
Working with colleagues in structural biology, proteomics and cell biology, you will investigate molecular recognition and develop applications to detect, visualise and interrogate ubiquitin signalling in cells and tissues. The role combines a tool-development project with opportunities to pursue mechanistic questions, share validated reagents and methods, and develop scientific independence through publications and collaborations.

Key Responsibilities, Accountabilities or Duties

The range of duties will include:

- Responsibility for toolkit engineering and application; use of de novo protein design and other approaches to develop a tool kit of cellular sensors, recombinant protein and polyubiquitin preparation; quantitative characterisation of affinity and linkage specificity; development of biochemical and cellular applications; collaborative structural and proteomic studies; and documentation and sharing of validated reagents and methods
- Be involved in the development of student research skills.
- Conduct individual and collaborative research projects.
- Write up research work for publication.
- Translate knowledge of advances in the subject area into research activity.
- Deal with routine communication using a range of media.
- Communicate complex information, orally, in writing and electronically.
- Prepare proposals and applications to external bodies, e.g. for funding and contractual purposes.
- Communicate material of a specialist or highly technical nature.
- Liaise with colleagues and students.
- Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.
- Manage own research and administrative activities, with guidance if required.
- Work with colleagues on joint projects, as required
- Collaborate with academic colleagues on areas of shared research interest.
- Attend and contribute to relevant meetings.
- Use new research techniques and methods.
- Use initiative and creativity to identify areas for research, develop new research methods and extend the research portfolio.
- Use creativity to analyse and interpret research data and draw conclusions on the outcomes.
- Contribute to collaborative decision making with colleagues in areas of research.
- Plan and manage own research activity in collaboration with others.

PERSON SPECIFICATION

Essential;

- Have, or be about to obtain, a relevant PhD (or equivalent)
- At least one first author publication or preprint posted on BiorXiv or MedrXiv
- Specialist knowledge in the discipline including protein biochemistry or molecular biology, with a clear interest in ubiquitin signalling and the development of selective molecular probes
- Experience in research methods and techniques to work within established research programmes including strong practical skills in protein biochemistry or molecular biology, experimental design, troubleshooting and quantitative data interpretation. Experience with ubiquitin biology, recombinant protein expression and purification, molecular cloning or protein interaction assays is particularly relevant. Experience with nanobody or protein engineering, studying protein-protein interactions, structural biology or cellular imaging is desirable.
- Excellent communication and interpersonal skills
- Excellent time management and organisational skills
- Ability to liaise confidently and effectively with a range of individuals
- Flexible approach to dealing with research problems as they arise
- Willingness to learn and develop
- Ability to work independently and as part of a team

- Ability to present research in both written and oral formats
- Ability to meet deadlines
- The ability to evaluate complex data
- Ability to contribute to broader management and administrative processes.
- Ability to assess and organise resources