

THE UNIVERSITY OF MANCHESTER
PARTICULARS OF APPOINTMENT
BIOLOGY, MEDICINE HEALTH
SCHOOL OF BIOLOGICAL SCIENCES
DIVISION OF MOLECULAR AND CELLULAR FUNCTION
RESEARCH ASSOCIATE
VACANCY REF: BMH-032738

Salary: £38,448 - £46,970 per annum depending on experience
Hours: Full time (1 FTE)
Duration: Fixed Term, 36 months
Location: Oxford Road, Manchester

Enquiries About The Vacancy, Shortlisting And Interviews:

Name: Yogesh Kulathu

Email: yogesh.kulathu@manchester.ac.uk

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.

Based in the Faculty of Biology, Medicine and Health at the University of Manchester, this post offers the opportunity to establish genetic screening as a major discovery approach in the

laboratory. The successful candidate will work closely with the lab of Dr. Richard Timms at the University to use CRISPR screens in human cells to identify previously unrecognised components and regulators of quality control pathways controlled by ubiquitin signalling, then work collaboratively with team members to turn genetic discoveries into mechanistic understanding.

We welcome motivated and curiosity driven researchers who enjoy challenging questions, develop thoughtful experimental strategies 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 establish, optimise and apply CRISPR-based genetic screening in human cells to discover novel components of quality control pathways regulated by ubiquitin signalling. The post holder will take responsibility for developing robust screening workflows, from assay design and library delivery through sequencing-based readout, quality control and hit prioritisation. They will validate candidate genes with independent perturbations and rescue experiments and develop mechanistic follow-up studies with team members and collaborators.

The role combines ownership of a discovery-led research project with development of screening capability for the laboratory. The post holder will document methods, share expertise and contribute to collaborative research, while developing their scientific independence through publications, presentations and opportunities to shape new research directions.

Key Responsibilities, Accountabilities Or Duties

The range of duties will include:

- Responsibility for establishing and performing human cell CRISPR screening, optimizing screen conditions, setting up new methods, validating hits and defining mechanisms, and documenting workflows and training colleagues.
- Be involved in the development of student research skills.
- Conduct individual and collaborative research projects.
- Prepare research work for publication and dissemination.
- 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.
- Communicate material of a specialist or highly technical nature.
- Liaise with colleagues and students.
- 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 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 human cell genetics, CRISPR-based functional genomics and the principles of genetic screens, with an interest in ubiquitin biology, cellular quality control or stress responses.
- Experience in research methods and techniques to work within established research programmes including hands-on human or mammalian cell culture, CRISPR-mediated gene perturbation, molecular cloning, quantitative assay development and analysis of complex biological datasets. Applicants should understand screening design, controls, library coverage and hit validation. Previous experience establishing, optimising and analysing genetic screens is strongly desirable. Experience with lentiviral library delivery, flow cytometry or fluorescence-based reporters, and screen analysis in R or Python would be advantageous.
- Excellent communication and interpersonal skills
- Excellent time management and organisational skills
- Ability to work independently and as part of a team

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