

THE UNIVERSITY OF MANCHESTER
PARTICULARS OF APPOINTMENT
FACULTY OF BIOLOGY, MEDICINE & HEALTH
SCHOOL OF BIOLOGICAL SCIENCES

DIVISION OF CELL MATRIX BIOLOGY AND REGENERATIVE MEDICINE

RESEARCH ASSISTANT - BASEMENT MEMBRANES

VACANCY REF:

Salary:	£30,487-£34,980 per annum depending on experience
Hours:	Full Time (1 FTE)
Duration:	Fixed Term for 48 months
Location:	Oxford Road, Manchester

Enquiries about the vacancy, shortlisting and interviews:

Name: Rachel Lennon / Jean Marc Schwartz

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How do tissues connect? Elucidating a newly identified matrix adhesion system

We are recruiting a **research assistant** to join this exciting collaborative project between Rachel Lennon at the University of Manchester, UK and David Sherwood at Duke University, USA, who were recently awarded an 8-year Wellcome Discovery Award.

Background and objectives

Tissues are surrounded and usually separated by basement membranes. However, some tissues connect through adjoining basement membranes. The functional significance and mechanisms underlying these connections remain elusive due to a lack of experimental models and tools.

A basement membrane linkage in the *C. elegans* uterus is essential for maintaining reproductive organ integrity. Using genetic manipulation and endogenous protein tagging, the Sherwood Lab discovered an adhesion complex that connects tissues through adjoining basement membranes. The Lennon Lab have shown that the components of this complex are conserved and present at basement membrane linkage sites in multiple human tissues including kidney filtration capillaries,

the blood-brain barrier, lung alveoli, the cochlea and eye. Strikingly, loss of linkage components in the kidney and cochlea results in tissue/basement membrane splitting and organ dysfunction.

With the Discovery Award funding, we will now use our complimentary approaches to explore the structure and mechanisms of this newly identified adhesion system through a platform of animal and cell systems. This research has great potential to transform our understanding of how basement membrane linkages help tissues to function and how this is disrupted through disease. In turn these discoveries will inform new approaches for protecting and repairing tissue connections, ultimately leading to improved human health.

Location and facilities in Manchester

This role will be based in the Wellcome Centre for Cell-Matrix Research, which brings together over 20 research groups and technologists with collective efforts focussed on understanding the extracellular matrix. Located at The University of Manchester, the Centre incorporates one of eight Discovery Research Platforms recently awarded by the Wellcome Trust. The Discovery Research Platform for Cell-Matrix Biology will address a range of practical, technological, and methodological barriers to understanding how changes in the extracellular matrix leads to tissue failure.

Purpose of the Role

The role will be based in Rachel Lennon's lab and will join a diverse team of over 10 research staff, technical staff, and PhD students. This position will incorporate research training, including the opportunity to undertake a PhD part time.

Key Responsibilities, Accountabilities or Duties:

- Actively read the scientific literature relating to (and around) the project.
- Design experiments in discussion with team members.
- Perform experiments using cell and animal systems.
- Analyse and interpret data using computer algorithms and modelling.
- To maintain accurate and complete records of all findings.
- Find solutions to problems and modify working practices.
- To present findings to colleagues.
- To undertake any necessary training and/or development.
- To attend relevant workshops and conferences as necessary.
- To develop research collaborations within the faculty and the wider community.
- To undertake appropriate administration tasks.
- Manage the efficient and safe operation laboratory areas.
- Comply with current regulations of the School, Faculty and University.
- Any other reasonable duties commensurate with the grade to support the strategies of the School or Faculty.

General

- Have an understanding of and commitment to promote the University's policies and procedures to support and promote Equality & Diversity.
- To maintain confidentiality of information in line with data protection requirements and University policy.
- To comply with Health and Safety requirements, including having an awareness of personal responsibilities to maintain a safe working environment.
- To contribute to the University's agenda for social responsibility, including sustainability.

Social responsibility (All Staff)

You are expected to display commitment to the University's third strategic goal of social responsibility, where the aim is to make a positive contribution to society through our full range of teaching, research, engagements and operational activities.

Personal Specification

Essential Knowledge, Skills, Experience and Qualifications:

- A bachelor's degree or equivalent in a biological science subject.
- Laboratory experience in cell and molecular biology.
- Experience in computer programming
- Knowledge of and compliance with relevant Health and Safety regulation.
- Ability to plan, organise and undertake a complex workload.
- Ability to work independently and as part of a team.
- Ability to liaise confidently and effectively with a range of individuals.
- Ability to meet deadlines.
- Ability to contribute to broader management and administrative processes.
- Competent computer skills including relevant scientific and analytical software.
- Ability to present information verbally, electronically and on paper.
- Ability to follow and deliver clear instructions and communicate effectively and politely with staff and students.
- Ability to work to a high standard with good reproducibility of results.
- Commitment to continuing professional development and willingness to undertake any necessary training and deliver in-house training to others.

Desirable Knowledge, Skills, Experience and Qualifications:

- Previous experience of extracellular matrix research.
- Experience of working with a range of animal experimental systems.
- Experience in omics data analysis or network analysis.
- Ability to use a range of microscopy systems.

Expectations and success factors

- To be a proactive team member and treat all colleagues and students with respect.

- To seek new knowledge and share ideas.
- To be open and responsive to change and innovation.

The Faculty of Biology, Medicine and Health

The Wellcome Centre for Cell-Matrix Research is integrated into the University through the Faculty of Biology, Medicine and Health, which was created in August 2016 when the Faculty of Life Sciences and the Faculty of Medical and Human Sciences were brought together in a new, 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 new Faculty is comparable in size to a medium-sized UK university. Thirty undergraduate and 90 postgraduate programmes will offer our 11,000 students the opportunities to develop the skills and knowledge they need for a successful career. The integrated structure of our Faculty enables a truly translational approach to biology, medicine and health - from pure discovery science through to clinical application and patient care. It also encourages collaborative working, enabling staff to deliver innovative, world-leading research that has a very real and positive impact on people's lives, as well as high-quality education and training.

Our high-quality research and teaching activities are organised into three Schools (Biological, Medical and Health Sciences) each with six Divisions that have their own coherent research and teaching focus, and drive their own research agendas, often around a single core theme (e.g. Neuroscience, Cancer, or Pharmacy). However, our overarching matrix structure provides a collaborative working environment that encourages team science across the Divisions and Schools to build research strengths and drive large-scale, collaborative research. This formed a significant part of our recent success in the REF exercise, with notable results in UoA5 (Biological Sciences, top 4 on research power, top5 on GPA) and in UoA3 (Allied Health Professions, Dentistry, Nursing & Pharmacy).

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.

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. UoM is committed to delivering an outstanding teaching and learning experience; contributing to the social and economic success of local, national and international communities; producing the highest calibre graduates; and developing our staff to be amongst the very best of their peers. To achieve these ambitious goals, UoM aims 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 with opportunities and support to help us all achieve our personal and professional goals. We are committed to creating an environment where diversity is celebrated and everyone is treated fairly, regardless of gender, gender identity, disability, ethnic origin, religion or belief, sexual orientation, marital or transgender status, age, or nationality. 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 ambitions.

The University of Manchester successfully renewed its Race Equality Charter Mark status in 2019 – currently only one of four higher education institutions in the UK who have done so (Race Charter Mark | Equality, Diversity and Inclusion | StaffNet | The University of Manchester) The School of Biological Sciences is strongly committed to promoting a diverse and inclusive environment (ED&I) and where everyone has equal opportunities with people being treated with respect and dignity. All three Schools within the Faculty hold an Athena Swan Silver Award which recognises their good practice in relation to gender; including flexible working arrangements, family-friendly policies, and support to allow staff achieve a good work-life balance. The University has been awarded with the Disability Confident Employer symbol by Jobcentre plus which guarantees interviews for any disabled applications who meet the minimum requirements for the job. The Disability Advisory and Support Service at the University (DASS: Disability Advisory and Support Service and University of Manchester Assessment Centre (The University of Manchester) supports students and staff with health problems by providing practical support.

We have a genuine commitment to equality of opportunity for our staff and students, and are proud 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.

Our strategic partnerships

Working alongside six local NHS Trusts, the Faculty is a key member of the Manchester Academic Health Science Centre (MAHSC) - a federation of equal partners that unites leading healthcare providers with world-class academics and researchers. It aims to be a global centre for the delivery of applied health research and education and provide leadership for our local and regional health systems.

It also plays a leading role in Health Innovation Manchester (HInM), which was launched in September 2015, as part of the UK Government's decision to devolve health and social care responsibilities to Greater Manchester. HInM offers a unique opportunity to bring together health and social care, academic and life science related business resources across the region to deliver an innovative health ecosystem that can help accelerate innovation into our local health and social care systems, enhance our global scientific standing and act as a magnet for inward investment.

Key partnerships in the charitable sector include Cancer Research UK; Diabetes UK; and the Wellcome Trust; and the Faculty will also has research and funding links to a number of commercial organisations including Unilever, AstraZeneca, GlaxoSmithKline and Boots, who will help us to bring new drugs and products to the market.

Working for the University of Manchester

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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.

The above particulars are intended as a general guide to the duties of the post and the conditions of service. They do not constitute a contract of employment between the University and the person appointed. The successful applicant will, however, receive a full set of conditions of service on appointment.