MANCHESTER 1824
The University of Manchester

Job Description

Post Doctoral Research Associate	
Grade	Grade 6
Department	Division of Developmental Biology and Medicine, School of Medical Sciences, Faculty of Biology, Medicine & Health

Overall Purpose

The appointed PDRA will conduct a programme of preclinical research investigating mechanisms linking hypertensive disorders of pregnancy (e.g. preeclampsia) to long-term cerebrovascular risk and testing novel treatment strategies to improve long-term brain health. This work will run in parallel to ongoing human studies in the Maternal and Fetal Health Research Centre and contribute to our goal of improving women's health through translational research.

The postholder will independently perform laboratory-based experiments, analyse data and present to the research team at regular meetings, and prepare data for presentation at national/international research meetings and for publication. They will also support and supervise laboratory-based students and work with technical members of the team to deliver the project objectives.

Project background and purpose

Hypertensive disorders of pregnancy are associated with sustained cardio-cerebrovascular changes, including adverse blood pressure trajectories, myocardial remodelling, cardiac fibrosis, cerebrovascular injury and cognitive impairment. Whether these are induced by pregnancy, exacerbated by pre-existing hypertension, and amenable to treatment during pregnancy or in the early postpartum period remain unknown. This project will determine the mechanism(s) of post-pregnancy cardio-cerebrovascular dysfunction and establish whether the association is ameliorated by different methods of vasoactive treatments during and after pregnancy.

About the Team

This post is jointly based between (i) the Maternal and Fetal Health Research Centre (MFHRC) within the Division of Developmental Biology and Medicine, located in Saint Mary's Hospital (Manchester), (ii) the Division of Neuroscience and (iii) the Division of Cardiovascular Sciences at the University of Manchester. Our multidisciplinary team, comprising obstetricians, physiologists and neuroscientists are working together to improve outcomes in women following hypertensive pregnancies.

Key Accountabilities

- Conduct a programme of preclinical research and report on research outcomes, as directed by the Principal Investigators
- Work with project team (technician, PhD students) to deliver the overall objectives of the research project
- Analyse and interpret research data and draw conclusions on the outcomes
- Write up research work for publication

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- Continually update knowledge and understanding in field or specialism
- Communicate complex information, orally and in writing
- Work with colleagues on joint projects, as required
- Attend and contribute to relevant meetings
- Contribute to collaborative decision making with colleagues in areas of research direction
- Be involved in the supervision of student projects and assist in the development of student research skills
- Comply with Health and Safety requirements, including having an awareness of personal responsibilities to maintain a safe working environment.
- Contribute to the University's agenda for social responsibility, including sustainability.

Person Specification	
Knowledge	**Essential:** • Extensive specific and relevant laboratory experience in the field of pregnancy research and/or cardiovascular research and/or neuroscience research • Knowledge and experience of mechanistic *in vivo* research studies including behavioural studies in mice and/or rats • Knowledge of and compliance with regulatory frameworks for the use of animals in biomedical research.
Experience	**Essential:** • A Home Office personal licence and experience of planning and delivering *in vivo* studies (in mice and/or rats) • Management of animal colonies, particularly mice • Experience of performing surgical procedures in preclinical models • Experience of *in vivo* imaging techniques (e.g. ultrasound, 2-photon, magnetic resonance imaging) **Desirable:** • Experience of performing neurobehavioural tests in preclinical models
Skills	**Essential:** • Ability to work to a high standard with good reproducibility of results. • Ability to plan, organise and undertake a complex workload with multiple and competing priorities, with minimal supervision. • Ability to work independently and as part of a team • Ability to liaise confidently and effectively with a range of individuals • Computer skills including relevant scientific and analytical software (e.g. database management, statistical analysis packages) • Ability to clearly present information verbally, electronically and on paper. • Ability to contribute to administrative processes

	• Ability to follow and deliver clear instructions and communicate effectively and politely with staff and students.
Education	**Essential:** • Have, or be about to obtain, a relevant PhD (or equivalent)
Other	**Essential:** • Flexible approach to dealing with research problems as they arise • Willingness to work out of hours when necessary (e.g., during *in vivo* experimental periods) • Commitment to continuing professional development and willingness to undertake any necessary training and deliver in-house training to others. **Desirable:** • Strong journal publication record • Record of supervision of undergraduate and postgraduate students

Key Behaviours

One University: A 'One University' approach, whereby we break down silos and work collaboratively towards furthering the University's strategic goals, vision and values.

Freedom of Speech and Academic Freedom: Support the University's commitment to securing and actively promoting the importance of free speech and academic freedom within our community.

Service Excellence: Committed to prioritising service excellence and high performance to deliver great people-centred experiences.

Agility: Demonstrate a commitment to agility and continuous improvement by embracing change, championing innovation, and being flexible and forward thinking to adapt.

Sustainability: A sustainable approach that safeguards the University of the future by championing environmental practices, advancing digital capability, and supporting financial stability and philanthropic initiatives.

Inclusion: Support the University's ambition to create an inclusive place to work where every person matters, demonstrating a commitment to non-discriminatory conduct and respect for others, and fostering a University where people feel deeply connected to each other, to Manchester, and to the wider world.

Social Responsibility: Promote and champion the University's social responsibility ambitions to advance social inclusion, prosperous communities, better health, and cultural engagement.