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| Job title | Research Fellow | Job family and level | Research and Teaching Level 4 |
| School/ Department | School of Life Sciences | Location | Medical School, Queens Medical Centre |

Purpose of role

The purpose of this role is to undertake the ex vivo placental perfusion aspects of a Wellcome Leap project to investigate venous return of maternal blood from the placenta, how it affects placental blood flow and how it is influenced by uterine and placental contractions. Most importantly it will investigate whether impaired venous return, placental blood flow, or placental contractions are implicated in the aetiology of stillbirth and provide a novel marker of stillbirth risk.

| | Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role) | % time per year |
|---|---|------------------------|
| 1 | Method development <ul style="list-style-type: none"> ▪ Develop new perfusion methods for capturing maternal venous return pathways from the placenta ▪ Develop new methods for acquiring MRI data from the perfused placenta | 25% |
| 2 | Human experiments <ul style="list-style-type: none"> ▪ Dual perfusion of ex vivo placenta, analysing oxygen and tracer transport , post-perfusion immunocytochemical analyses of vein position diameter and size and tracer leakage. ▪ Ensuring these are obtained from consented patients, using our ethics, run safely and in line with all other regulatory processes | 40% |
| 3 | Collaboration <ul style="list-style-type: none"> • Collaborating with MRI physicists and mathematicians to build a biophysical model of the placenta, and with computer scientists to build a predictive model of outcome based on MRI, biological and mathematical data. | 15% |
| 4 | Training and supervision <ul style="list-style-type: none"> • Training other members of staff to use new techniques and analysis package techniques. • Supporting PhD students | 5% |
| 5 | Dissemination | 15% |

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| | <ul style="list-style-type: none"> Presenting findings in internal and external meetings, technical reports, academic publications and other media. | |
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Person specification

| | Essential | Desirable |
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| Skills | <ul style="list-style-type: none"> High level skills in immuno-imaging and image acquisition Demonstrable experience of experimental science Record of publications Demonstrable organisational skills | <ul style="list-style-type: none"> Record of presentations at conferences |
| Knowledge and experience | <ul style="list-style-type: none"> Vascular/Placental Physiology Immunocytochemistry, image analyses Pregnancy Complications | <ul style="list-style-type: none"> Physiological Perfusion of vasculature, understanding role of flow and oxygenation Working with ex vivo human placenta Knowledge of endothelial adhesion molecules and signalling Confocal Microscopy, Image J analyses Data management and ethics |
| Qualifications, certification and training (relevant to role) | <ul style="list-style-type: none"> PhD in Physiology, Pharmacology, Biology or equivalent | <ul style="list-style-type: none"> Experience of Vascular Imaging |
| Statutory, legal or special requirements | | <ul style="list-style-type: none"> Willing to have course of hepatitis vaccinations to work with delivered human placentas if needed. |



The University of Nottingham is focused on embedding equality, diversity and inclusion in all that we do. As part of this, we welcome a diverse population to join our work force and therefore encourage applicants from all communities, particularly those with protected characteristics under the Equality Act 2010.



The University is a signatory of the Declaration on Research Assessment (DORA). As such we commit to focus on the scientific content of publications (where requested or provided as part of the recruitment and selection process) as a basis for review of quality, and consideration of value and impact of research conducted, rather than any proxy measures such as Journal Impact Factor.

Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

- Valuing people** Is friendly, engaging and receptive, putting others at ease. Actively listens to others and goes out of way to ensure people feel valued, developed and supported.
- Taking ownership** Is clear on what needs to be done encouraging others to take ownership. Takes action when required, being mindful of important aspects such as Health & Safety, Equality, Diversity & Inclusion, and other considerations.
- Forward thinking** Drives the development, sharing and implementation of new ideas and improvements to support strategic objectives. Engages others in the improvement process.
- Professional pride** Is professional in approach and style, setting an example to others; strives to demonstrate excellence through development of self, others and effective working practices.
- Always inclusive** Builds effective working relationships, recognising and including the contribution of others; promotes inclusion and inclusive practices within own work area.

Key relationships with others



