



Job title	Postdoctoral Research Assistant	Job family and level	Research and Teaching Level 4
School/ Department	School of Physics and Astronomy	Location	University Park Campus

Purpose of role

The purpose of this role is to undertake the MRI 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"> ▪ Development of new methods for acquiring MRI data from the placenta ▪ Development of new methods for analysing MRI data from the placenta 	25%
2	Human experiments <ul style="list-style-type: none"> ▪ Helping to run clinical research studies and analyzing the resulting MRI data ▪ Ensuring these are run safely, ethically and in line with all other regulatory processes 	40%
3	Collaboration <ul style="list-style-type: none"> • Collaborating with biologists and mathematicians to build a biophysical model of the placenta, and with computer scientists to build a predictive model of outcome based on MRI and other data. • Collaborating with engineers to test a worn monitor in the MRI scanner 	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 <ul style="list-style-type: none"> • Presenting findings in internal and external meetings, technical reports, academic publications and other media. 	15%

Person specification

	Essential	Desirable
Skills	<ul style="list-style-type: none"> ▪ High level skills in coding for medical imaging ▪ Demonstrable experience of experimental science ▪ High level skills in scientific writing ▪ Demonstrable organizational skills 	<ul style="list-style-type: none"> ▪ Record of scientific publications
Knowledge and experience	<ul style="list-style-type: none"> ▪ MRI physics ▪ MRI safety ▪ Development of novel image analysis methods ▪ MRI physics development (acquisition, analysis or both) 	<ul style="list-style-type: none"> ▪ Placental MRI ▪ Scanning human participants ▪ Analyzing large data human datasets. ▪ Multidisciplinary working ▪ Data management and ethics
Qualifications, certification and training (relevant to role)	<ul style="list-style-type: none"> ▪ Postgraduate degree in Physical science or equivalent (or nearing completion) 	<ul style="list-style-type: none"> ▪ PhD in MRI Physics
Statutory, legal or special requirements	<ul style="list-style-type: none"> ▪ Willing to work with delivered human placentas? You probably will not be required to handle them directly. 	<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

