



Job title	Research Fellow (Title will be 'Research Associate' where an appointment is made before PhD is completed))	Job family and level	Research and Teaching Level 4 (Appointment will be Level 4 career training grade where an appointment is made before PhD has been completed)
School/ Department	School of Medicine/MHCN/Precision Imaging	Location	The East Midlands Campuses of the University of Nottingham

Purpose of role

The purpose of this role will be to assist and support the Computational Neuroimaging research team in carrying out academic research which include planning and running experiments as well as carrying out analyses and tests and drafting of reports.

As part of a multi-site Wellcome Trust Bioimaging technology development programme grant, the post holder will work under the supervision of Prof. Stam Sotiropoulos and his established team (<https://conilab.nottingham.ac.uk>) at the Sir Peter Mansfield Imaging Centre, along with collaborators at Oxford, MIT and CEA Paris in developing novel neuroimaging approaches that sensitise brain MRI to cell type and shape. This will involve bringing together cutting-edge microscopy techniques (3D light-sheet microscopy and spatial transcriptomics) with diffusion MRI, diffusion MRS and molecular MRI in the mouse to develop novel contrasts that carry microscopical information and are translatable to humans. The post-holder will specifically work on data integration and biophysical modelling to make the most of the wealth of information in the multi-modal datasets that will be collected. They will also have the chance to contribute to tackling unique image processing challenges in whole-brain 3D light-sheet microscopy data.

The School of Medicine recognise the importance of continuous professional development and therefore the importance of providing opportunities, structured support and encouragement to engage in professional development each year.

To find out more about the School of Medicine, its values, vision, teaching and research, please see our [further information leaflet](#).

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time per year
1	Research: - To undertake supervised research, which may include planning, preparing, setting up, conducting and recording the outcome of experiments and fieldwork, developing questionnaires and conducting surveys within the framework of an agreed programme. - To work in conjunction with others in the research team, including the Nottingham local team, as well as the collaborators at Oxford, MIT	70 %



	and CEA Paris, to achieve the research project objectives within the required timeline.	
2	Engagement and Communication: - To contribute to the production of research reports and publications and prepare and present papers on research progress and outcomes to relevant groups including external bodies. - To communicate information and ideas to students and advise and assist other staff/students within area of expertise. - To build relationships with internal and external contacts to develop knowledge and understanding and form relationships for future collaborations	10%
3	Teach, supervise, examine and personal tutoring: You are expected to make a contribution to teaching that is in balance with wider contributions to research and other activities.	10%
4	Development: To continue to develop skills in and knowledge of research methods and techniques and contribute to the development of/or choice of techniques, models, methods, critiques and approaches.	10%
5	Other: Any duties appropriate to the grade and level of the post	N/A

Person specification

	Essential	Desirable
Skills	- Excellent oral and written communication skills, including the ability to communicate with clarity on complex information. - Ability to creatively apply relevant research approaches, models, techniques and methods. - Ability to build relationships and collaborate with others, both internally and externally - High analytical ability to analyse and illuminate data, interpret reports, evaluate and criticise texts and bring new insights.	- First-author publications in peer-reviewed journals - Ability to work autonomously and with large interdisciplinary teams. - Ability to adhere to deadlines, deliverables and dependencies when working within a large multi-site team of collaborators.



	• Ability to assess and organise resource requirements and deploy effectively • Publications in peer-reviewed journals or conference proceedings	
Knowledge and experience	▪ Some practical experience of applying the specialist skills and approaches and techniques required for the role. ▪ Experience in use of research methodologies and techniques to work within area. ▪ Experience with biophysical modelling and model fitting ▪ Excellent Programming/scripting skills (python/matlab/C++/bash) ▪ Exposure to Bayesian inference/uncertainty mapping approaches ▪ Experience in processing multimodal neuroimaging data (e.g. MRI, dMRI, SWI)	▪ Experience of developing new approaches, models, techniques or methods in neuroimaging ▪ Experience with (diffusion) MRI microstructure modelling ▪ Experience with MCMC and/or simulation-based inference ▪ Experience with (preclinical) MRI acquisition principles, denoising and distortion correction ▪ Experience with high performance scientific computing and handling big data ▪ Experience with image processing of microscopy/histology data ▪ Previous success in gaining support for externally funded research projects
Qualifications, certification and training (relevant to role)	• PhD or equivalent in relevant subject area or the equivalent in professional qualifications and experience in the neurosciences, psychology, computing, applied mathematics, engineering, or physics • OR near to completion of a PhD	
Statutory, legal or special requirements	• Willingness to adopt the vision and values of the School of Medicine.	





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

