



Job title	Research Assistant /Associate/Fellow	Job family and level	RT4A (RT4CTG) + RT4
School/ Department	School of Physics and Astronomy	Location	SPMIC University Park Campus

Purpose of role

To develop and apply multinuclear MR spectroscopy methods particularly for the GI and liver theme of the Nottingham Biomedical Research Centre. This requires specialist skills that are not found in all MR physicists.

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time per year
1	Developing MR spectroscopy acquisition and analysis methods <ul style="list-style-type: none"> ▪ Working on both Philips and GE platforms ▪ Working at 3T, 7T and 11.7T in future ▪ Training others to use MR Spectroscopy acquisition and analysis methods 	15%
2	Assisting in designing experiments, and collecting and processing experimental data <ul style="list-style-type: none"> ▪ This relates to multinuclear and 1H MRS and related techniques and is aimed at body or brain/body applications ▪ Providing expert advice on the design of clinical and physiological experiments to investigate in vivo biochemical pathways ▪ Coordinating experimental sessions with patient or healthy participants, including taking responsibility for all aspects of MR safety relevant to the scan ▪ Ensuring data is acquired according to the protocol to provide the best data quality possible (including QA) ▪ Managing and initial processing of data ▪ Managing data according to all local SOPs, guidelines and codes. ▪ Sharing results with collaborators from a broad range of backgrounds 	45 %
3	Analyzing data including multicompartmental modelling of biochemical pathways <ul style="list-style-type: none"> ▪ Developing models, coding them and fitting them to experimental data 	20 %
4	Dissemination and development of research area <ul style="list-style-type: none"> ▪ Presenting work at conferences and in publications. 	15 %

	<ul style="list-style-type: none">▪ Supporting the development of grants and other funding proposals to support in vivo Multinuclear spectroscopy work.	
5	Other tasks as required to further the research strategy of the SPMIC	5%

Person specification

	Essential	Desirable
Skills	<ul style="list-style-type: none"> ▪ Scientific programming to be able to write bespoke data analysis programmes when required. ▪ Excellent written and spoken communication skills ▪ Ability to work in an interdisciplinary environment ▪ Ability to work in a busy clinical research environment ▪ Excellent time management ▪ Organizational skills required to be able to run human scanning sessions, collect and analyse data. 	
Knowledge and experience	<ul style="list-style-type: none"> ▪ In vivo MR spectroscopy, including relevant physics, chemistry and biochemistry ▪ Track record of dissemination (publications etc) appropriate to career stage. 	<ul style="list-style-type: none"> ▪ In vivo MR spectroscopy at 7T ▪ Multinuclear MR ▪ Knowledge of biochemistry and relevant physiochemistry and NMR related to in vivo MR spectroscopy ▪ Experience of modelling biochemical pathways based using MR spectroscopy data
Qualifications, certification and training (relevant to role)	<p>Undergraduate qualification in physical sciences Postgraduate training in MR spectroscopy</p> <p>For Research Associate/Fellow</p> <ul style="list-style-type: none"> • PhD (or near to completion) in relevant subject. 	
Statutory, legal or special requirements	<ul style="list-style-type: none"> • DBS check not required 	

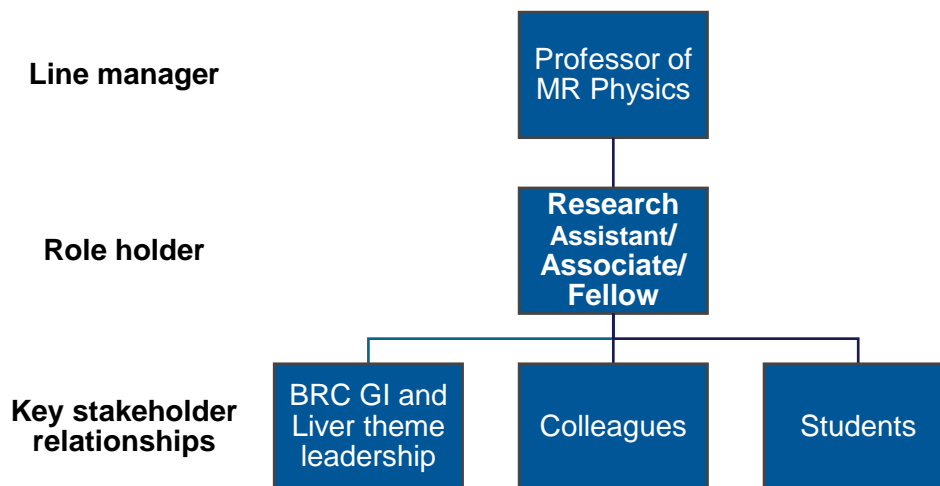


Expectations and behaviours

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



For job levelling/benchmarking purposes only – please remove before publishing

Decision making

Taken independently by the role holder

- How to run a scanning session safely
- Design and application of data acquisition and analysis protocols (with supervision as required)
- How to manage own time

Taken in collaboration with others

- Project design and planning
- Design of biochemical models that can be tested with MR spectroscopy

Referred to the appropriate line manager (Penny Gowland) by the role holder

- Expenditure (over a particular threshold)
- Issues related to ethics approvals
- Safety issues that cannot be resolved immediately