Post-doctoral researcher in functional MRSI

At the Wellcome Centre for Integrative Neuroimaging, in Oxford, we are currently seeking an enthusiastic post-doctoral researcher to develop novel acquisition and reconstruction techniques for functional spectroscopic imaging.

Details
We’re looking for someone to drive the creation of new acquisition and/or reconstruction techniques for functional magnetic resonance spectroscopic imaging (fMRSI) using ultra-high field (7T) MRI. The project aims to develop novel fMRSI pulse sequences, incorporating cutting edge 7T (parallel transmit) hardware, motion correction, sequence trajectories, and reconstruction techniques. There is substantial scope for customising the role within this overall project aim, and previous experience of spectroscopy is not a requirement. The project will integrate with new custom analysis techniques; part of an existing collaboration with WIN’s leading analysis group (which develops the widely used FSL package). The post-holder will also have opportunities for supervision of students and time to develop their own research interests.

Recent lab outputs. The lab has been at the centre of recent open-science efforts in MRS, leading the creating of the NIfTI-MRS data standard and spec2nii (top right), developing new MRSI visualisation tools (in FSLeyes, top left). Recently we have focussed on developing new analysis approaches to functional spectroscopy in our own fitting software, FSL-MRS.
The post is initially for 4 years, funded from a Wellcome Trust award. Applications will close at midday on 30th June 2023. Salary information and candidate profile can be found in the official job posting.

About the Lab
You will be based at the Wellcome Centre for Integrative Neuroimaging, also known as FMRIB, at the University of Oxford. You’ll join a newly forming spectroscopy group, with a specialism for developing open science tools for magnetic resonance spectroscopy. The tools have a particular focus on developing advanced analysis and acquisition tools for dynamic (functional) spectroscopy of the human brain. See fsl-mrs.com and the list below for some of our recent work. The spectroscopy group is part of the larger WIN/FMRIB Physics Group led by Prof Peter Jezzard and Prof Karla Miller.

Recent work
- A new, open format for MRS: NIfTI-MRS - https://doi.org/10.1002/mrm.29418
- Understanding uncertainty in data denosing - https://doi.org/10.1002/mrm.29018
- Advanced sequence trajectory development - https://doi.org/10.1002/nbm.4813
- Flexible processing and MRS fitting toolbox- https://doi.org/10.1002/mrm.28630

WIN & Oxford
WIN/FMRIB is an incredibly friendly, collaborative, and supportive lab. We are lucky to have a huge number of spectroscopy users, who range from neuroscientists to clinicians, and who drive the direction of our technical development. The science we do often takes place across research groups, with physicists, image analysis, software developers, and eventual users all having input. The physics group covers a huge range of research interests and directions, being part of it is a great chance to learn more about cutting-edge MR imaging, reconstruction, and contrasts apart from spectroscopy.

More information and contact
The full details can be found in the official job posting. Feel free to get in touch for more details on email, or find me, Will Clarke, at ISMRM in Toronto.