

First supervisor: Dr Andrew Peet
Second supervisor: Dr Theodoros Arvanitis
Applications from: UK/EU Nationals
Application closing date: 24th April 2009

Project Title:
Magnetic Resonance Spectroscopy Metabolite Profiles for Characterising Childhood Tumours

Project description/abstract:



The University of Birmingham
offers a PhD Studentship in
Magnetic Resonance Spectroscopy for Characterising
Childhood Tumours

as part of the
CR-UK and EPSRC Cancer Imaging Programme at the Children's Cancer
and Leukaemia Group (CCLG)
In Association with the MRC and Department of Health, England

Stipend and fees available for UK/EU nationals

The UK's Children's Cancer and Leukaemia Group is undertaking a five year programme of research to develop and evaluate advanced magnetic resonance imaging techniques for the enhanced management of childhood cancer. As part of this exciting initiative, five PhD studentships will become available at centres in the UK. The programme will provide extensive support for the studentships including the provision of dedicated post doctoral fellowships and workshops for promoting collaboration and research skills. Overall, these studentships offer an excellent opportunity to gain a PhD at the interface between the physical sciences, biomedical research and the clinical environment.

The studentship advertised here is based at the University of Birmingham and will start in October 2009. The research will focus on developing and evaluating

the technique of in vivo magnetic resonance spectroscopy (MRS) for characterising childhood tumours by their metabolite profiles and investigating the relationship of these metabolite profiles to other imaging and biological information. The studentship will involve the investigation of new MRS acquisition protocols, research in signal processing and the use of pattern recognition techniques. The research will be carried out between the Brain Tumour Research Group and the Biomedical Informatics, Signals and Systems Research Laboratory. The work builds on a close collaboration between the University of Birmingham and Birmingham Children's Hospital and the close links with the clinical team will ensure an emphasis on making new methods available to clinicians.

For further information please contact:

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Applications are made via the University of Birmingham website

References:

Lisa M Harris, Nigel P Davies, Lesley MacPherson, Shaheen Lateef, Kal Natarajan, Marie-Anne Brundler, Spyros Sgouros, Martin W English, Theodoros N Arvanitis, Richard G Grundy and Andrew C Peet, Magnetic Resonance Spectroscopy in the assessment of Pilocytic Astrocytomas, *Eur J Cancer*, 2008; **44** : 2640-7. PMID 18835152

NP Davies, Wilson M, Harris LM, Natarajan K, Lateef S, L MacPherson, S Sgouros, RG Grundy, TN Arvanitis, AC Peet, Identification and characterisation of childhood cerebellar tumours by in vivo proton MRS using discriminant analysis of metabolite profiles, *NMR in Biomedicine*, **21(8)**, 908-18, (2008).

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Areas of interest:

Biophysics Applied Physics Computational Chemistry Medical Physics Medical/Clinical Science
Biochemistry/Biophysics Physical Chemistry