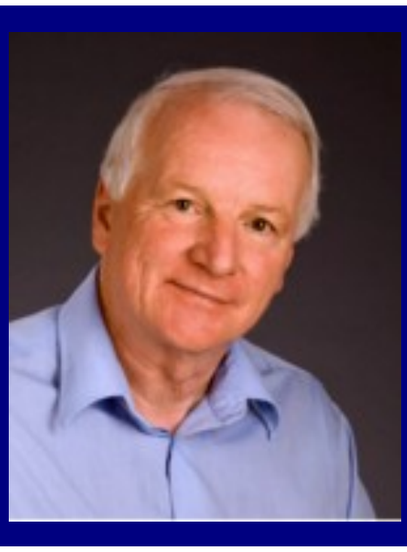
IEEE | EMB

London Ontario Chapter

IEEE-EMB/BIRC SEMINAR SERIES

Wednesday, December 7th 2011, 5:30-7:00 pm

(Pizza served at 5:30 pm)



Alex MacKay, D.Phil

Director, UBC Magnetic Resonance Imaging Research Centre, University of British Columbia, Canada

Title: Magnetic Resonance Relaxation in Brain

Auditorium A
3rd Floor
(Room B3-246)
University Hospital
London, Ontario

This Seminar Series is jointly sponsored by the London Chapter of the IEEE Engineering in Medicine and Biology Society and by BIRC (Biomedical Imaging Research Centre) at The University of Western Ontario

BIRC
BIOMEDICAL IMAGING RESEARCH CENTRE
The University of Western Ontario

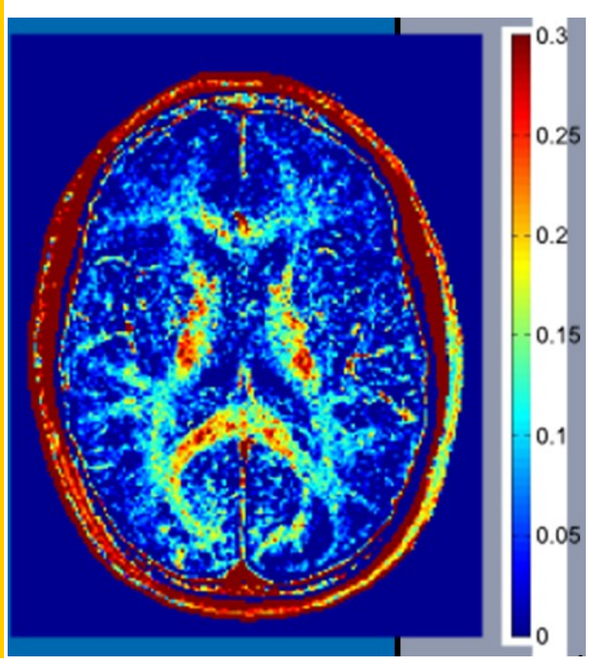
Contact:
Jackie Williams
tel. 519-931-5777
ext. 24076
jwilliams@robarts.ca

ABSTRACT

MRI courses and MRI textbooks make T_1 and T_2 relaxation sound trivial, boring and well understood. This isn't true. T_1 and T_2 weighted imaging are the corner stones of clinical MRI. It is shocking that in 2011 – about 30 years after the first clinical applications of MR, we still don't understand T_1 and T_2 in brain.

Most of this talk will attempt to demonstrate how accurate measurement of T_2 in white matter can enable one to probe the role of myelination in normal and abnormal brain. Conditions like dyslexia, multiple sclerosis and even math ability are affected by white matter myelination.

Later parts of the talk are more technical and will demonstrate the difficulties of accurate measurement of T_2 at 3.0T and will go on to show that nuclear magnetic resonance concepts like water exchange between different sites have to be considered in the interpretation of relaxation in brain.



A myelin water image from normal human brain