

INVERSE PROBLEMS IN NEUROIMAGING:

Recovery of Fibre Orientation from the Diffusion-Weighted MRI Signal

Tuesday 24th April 2012
Bute Building (Room 2.32)
(Bute Building, King Edward VII Avenue, Cardiff, CF10 3NB)

Synopsis: A one day workshop, organized by CUBRIC (School of Psychology) and the School of Mathematics, and funded by the ESPRC, to bring together neuroimaging scientists and mathematicians to discuss the state-of-the-art in methods to estimate the orientation of fibrous structure non-invasively from diffusion-weighted MRI signals.

09:00	09:15	Welcome and Introductory Comments Russell Davies School of Mathematics, Cardiff University, UK & Derek Jones CUBRIC, School of Psychology, Cardiff University, UK
09:15	10:00	Diffusion MRI: What's the (Inverse) Problem? Derek Jones, CUBRIC, School of Psychology, Cardiff University, UK
10:00	10:45	HARDI: from Past to Present Daniel Alexander, Microstructural Imaging Group Computer Science, University College London, UK
10:45	11:15	COFFEE
11:15	12:00	Diffusion Spectrum Imaging and the Geometric Structure of Brain Fiber Pathways Van Wedeen, Athinoula A. Martinos Center for Biomedical Imaging Harvard Medical School, Massachusetts General Hospital Charlestown, USA
12:00	12:45	The Spherical Wavelet Transform in HARDI Analysis and ODF Reconstruction Irina Kezele ADA CONTROLS INC., Canada.
12:45	13:30	LUNCH (Buffet lunch will be provided)

Inverse Problems in Neuroimaging (cont)

13:30	14:15	Using Spherical Deconvolution for Group Analyses of Apparent Fibre Density. J. Donald Tournier Brain Research Institute, Melbourne, Australia
14:15	15:00	Richardson-Lucy Spherical Deconvolution and New Tract Specific Indices Flavio Dell'Acqua Institute of Psychiatry, London, UK
15:00	15:30	TEA
15:30	16:15	Accelerated Diffusion Spectrum Imaging Using Compressed Sensing Marion Menzel / Jonathan Sperl GE Global Research Diagnostics & Biomedical Technologies Europe Munich, Germany
16:15	17:00	A Bayesian Spatial Analysis Of Diffusion Data Implemented Using Markov Chain Monte Carlo (MCMC) Simulation Martin King Imaging and Biophysics; UCL Institute of Child Health, UK
17:00	18:00	GENERAL DISCUSSION
18:00	19:00	Drinks Reception

REGISTRATION

Please send an email to Angela Reardon (ReardonA@cardiff.ac.uk)* confirming your attendance and indicating:

1. Your full name and affiliation
2. Whether you have any special dietary requirements
3. Whether you will stay for the drinks reception

*Email required even if you have already responded on the Doodle!
Thanks!