Berlin School of Mind and Brain
Teaching Weeks Spring 2009

Teaching Week 2: **Neuroimaging**
16 – 20 March 2009
Course Organizer: John-Dylan Haynes

Location: Room 220, Luisenstraße 56, 10117 Berlin Mitte

Nota bene: Lectures on Mon, Tue, Wed & Fri

	Mon 16 March	**Tue 17 March**	**Wed 18 March**	**Thu**	**Fri 20 March**
9.15–10.45	MRI physics, technology and safety (Ittermann)	fMRI preprocessing (Weygandt)	fMRI connectivity analyses (Sterzer)	no lectures	EEG basics (Spitzer)
Break					
11.00–12.30	MRI physics, technology and safety (Ittermann)	fMRI preprocessing (Weygandt)	fMRI connectivity analyses (Sterzer)		Event-related potentials and spectral analysis (Spitzer)
Break					
13.30–15.00	Neurovascular coupling and BOLD response (Heinzle)	fMRI statistical modeling and hypothesis testing (Anders)	Multivariate analysis and decoding (Haynes)		After last session: Multiple Choice Test, 30 questions
Break					
15.15–16.45	Neurovascular coupling and BOLD response (Heinzle)	fMRI statistical modeling and hypothesis testing (Anders)	Multivariate analysis and decoding (Haynes)		
17.15–18.45			Transcranial magnetic stimulation (Blankenburg)		

Keywords
MRI physics, technology and sequences, MRI-safety, neurovascular coupling and the BOLD-response, preprocessing of fMRI data, statistical modelling and hypothesis testing (GLM), connectivity analyses (PPI, DCM, Granger causality), multivariate methods (ICA, clustering, pattern classification), technical, physiological and bioelectric/biomagnetic principles, evoked potentials, spectral analyses, transcranial magnetic stimulation

Textbook

Obligatory:
Huettel, Song & McCarthy (2004). Functional Magnetic Resonance Imaging.
Chapters: 1 – 12.
Recommended reading: Rugg & Coles (1996). Electrophysiology of Mind: Event-Related Brain Potentials and Cognition.