Short Course on:

Statistical Parametric Mapping for fMRI 2010

(Presented by the Wellcome Trust Centre for Neuroimaging)

Oct 21 (Thurs) - 23 (Sat) 2010

The course will present instruction on the analysis and characterisation of functional imaging data. This includes Magnetic Resonance Imaging (MRI), functional MRI (fMRI), and Positron Emission Tomography (PET). The three-day course will be divided into **theoretical** sessions covering experimental design and statistical inference and **practical** sessions in which SPM will be used to analyse exemplar data sets. The course is suitable for both beginners and more advanced users. We advise students to gain at least some minimal familiarity with the methodology, for example, from reading introductory articles available from the SPM web page (http://www.fil.ion.ucl.ac.uk/spm/doc/intro/).

Thursday 21st October

Theoretical sessions

9.30 - 9.45 Introduction and Overview
Will Penny

9.45 - 10.45 Spatial preprocessing
Ged Ridgway

Coffee

11.00 - 11.45 The General Linear Model
Guillaume Flandin

11.45 - 12.30 Contrasts and Classical Inference
Jean-Baptiste Poline

Lunch

13.30 - 14.00 Group Analysis
Ferath Kherif

14.00 - 14.45 Random Field Theory
Justin Chumbley

Tea

Practical sessions

15.15 - 16.15 Introduction to SPM and spatial processing
John Ashburner and Ged Ridgway

16.15 - 17.00 Introduction to fMRI analysis
Maria Joao and Christophe Phillips

17.00 - 18.00 Clinic
Karl Friston

Friday 22nd October **Theoretical and practical sessions**

09.30 – 10.30 Experimental design
Sara Bengtsson

Coffee

10.45 - 11.45 Event-related fMRI
Christian Ruff

11.45 - 12.30 **Practical session:** Event-related fMRI analysis
Steve Fleming and Guillaume Flandin

Lunch

13.30 - 14.15 Bayesian Inference
Will Penny

14.15 - 15.00 Voxel Based Morphometry
John Ashburner

Tea

15.30 – 16.15 Dynamic Causal Modelling for fMRI
Andre Marreiros

16.15 – 16.45 DCM for fMRI: Advanced topics
Klaas Enno Stephan

16.45 - 17.15 **Practical session:** Dynamic Causal Modelling for fMRI
Hanneke den Ouden and Andre Marreiros

17.15 - 18.00 Clinic
Karl Friston

18.00 - **Social event:** Cheese & Wine Reception

Saturday 23rd October **Practical sessions**

10.00 - 10.30 Introduction to practical sessions
Will Penny

10.30 – 3.30 **Parallel practical sessions**
These sessions will cover the following topics:

PET data analysis

Voxel-based Morphometry

Basic analysis of fMRI

Basic analysis of fMRI (+Batch)

Advanced analysis of fMRI

Advanced analysis of fMRI (+PPMs)

Group analysis

Dynamic Causal Modelling for fMRI

15.30 – 16.00 Coffee

16.00 – 17.00 Summary session
(Group representatives to give mini-presentations on what they've learnt)