

# Statistical Parametric Mapping for PET & fMRI Short Course - Vancouver

August 5 (Thursday) - 7 (Saturday), 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/>). Schedule subject to minor changes.

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## Thursday 5<sup>th</sup> August

### Theoretical sessions

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|---------------|--|--------|
| 9.30 – 9.45   | Introduction and Overview<br><i>Tom Nichols</i>                  |        |
| 9.45 – 10.45  | Spatial preprocessing<br><i>Ged Ridgway</i>                      | Coffee |
| 11.00 – 11.45 | The General Linear Model<br><i>Ged Ridgway</i>                   |        |
| 11.45 – 12.30 | Contrasts and Classical Inference<br><i>Jean-Baptiste Poline</i> | Lunch  |
| 13.30 – 14.00 | Group Analysis<br><i>Darren Gitelman</i>                         |        |
| 14.00 – 14.45 | Random Field Theory & Alternatives<br><i>Tom Nichols</i>         | Tea    |

### Practical sessions

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|---------------|--|--|
| 15.15 – 16.15 | Introduction to spatial processing<br><i>Ged Ridgway &amp; Tom Nichols</i>         |  |
| 16.15 – 17.00 | Introduction to fMRI analysis<br><i>Darren Gitelman &amp; Jean-Baptiste Poline</i> |  |
| 17.00 – 18.00 | Clinic<br><i>All</i>   |  |
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Friday 6<sup>th</sup> August

## Theoretical and practical sessions

09.30 – 10.30 Experimental design  
*Tom Nichols*

*Coffee*

10.45 – 11.45 Event-related fMRI  
*Jean-Baptiste Poline*

11.45 – 12.30 **Practical session:** Event-related fMRI analysis  
*Tom Nichols and Ged Ridgway*

*Lunch*

13.30 – 14.15 Bayesian Inference  
*Tom Nichols*

14.15 – 15.15 Voxel Based Morphometry  
*Ged Ridgway*

*Tea*

15.45 – 16.45 PPI's & Dynamic Causal Modelling for fMRI  
*Darren Gitelman*

16.45 – 17.15 **Practical session:** Dynamic Causal Modelling for fMRI  
*Darren Gitelman*

17.15 – 18.00 Clinic  
*All*

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**Saturday 7<sup>th</sup> May**

**Practical sessions**

10.00 – 10.30 Introduction to practical sessions  
*Tom Nichols*

10.30 – 12:00 **Parallel practical sessions**

12.00 – 13:00 lunch

13.00 – 14:30 **Parallel practical sessions**

14.30 – 15:00 coffee break

15.00 – 16:30 **Parallel practical sessions**

Four practical sessions will be offered in each session, on at least four following topics (as determined by interest of the attendees)

PET data analysis  
*Tom Nichols*

Voxel-based Morphometry  
*Ged Ridgeway*

Basic analysis of fMRI  
*Jean-Baptiste Poline*

Advanced analysis of fMRI  
*Tom Nichols*

Advanced analysis of fMRI  
*Darren Gitelman*

DCM for fMRI  
*Darren Gitelman*

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