



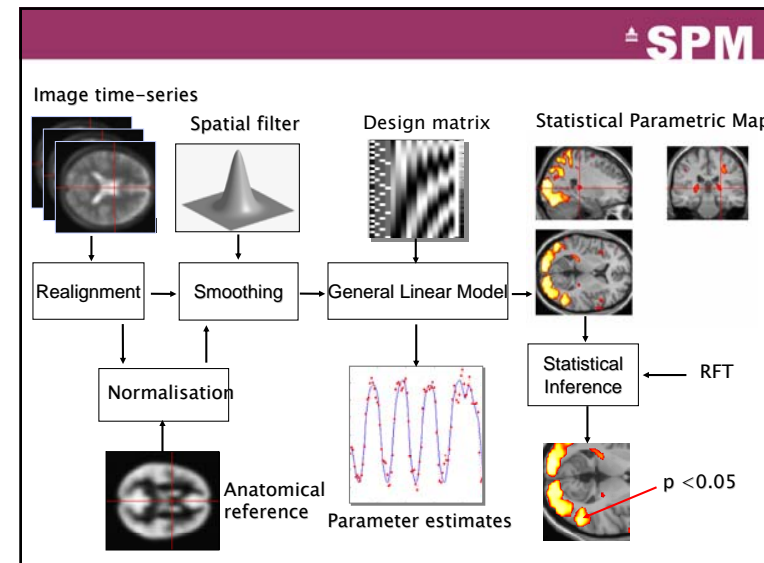
SPM

SPM Software & Resources

Wellcome Trust Centre for Neuroimaging
University College London





SPM Course
London, October 2008 / Liège, September 2009



SPM


Software: SPM8

- ❑ Open Source academic freeware (under GPL)
- ❑ Documented and informally supported
- ❑ Requirements:
 - MATLAB: 7.1 (R14SP3) to 7.6 (R2008a)
no toolboxes (EEG/MEG requires 'signal')
 - Supported platforms (MEX files):

Linux (32 and 64 bit)
Windows (32 and 64* bit)
Mac Intel (32 bit)

- Images File Format:
 - Read: NIFTI-1 / Analyze
 - Write: NIFTI-1
 - Import: DICOM, MINC, ECAT7

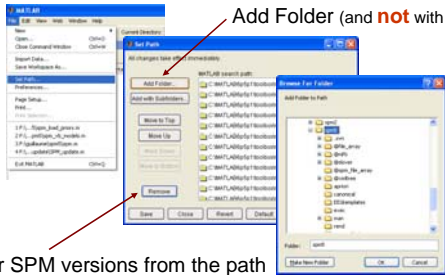


* soon

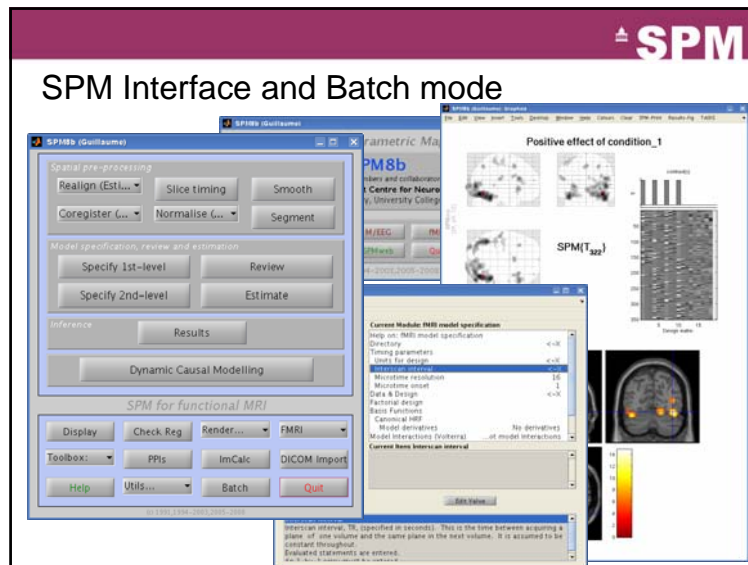
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SPM8 installation

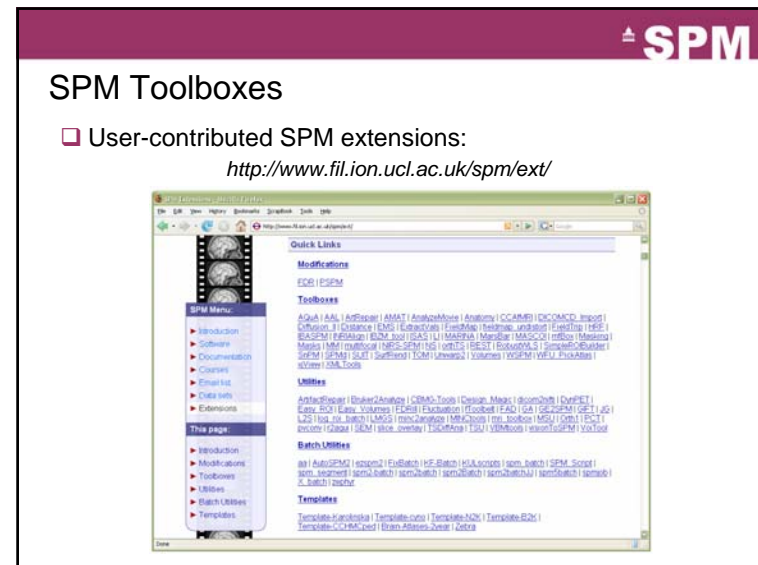
- ❑ Download and install main distribution:
<http://www.fil.ion.ucl.ac.uk/spm/software/spm8/>
- ❑ Download and install the updates:
ftp://ftp.fil.ion.ucl.ac.uk/spm/spm8_updates/
- ❑ Set MATLAB path:
 - Add Folder (and **not** with Subfolders)



Remove older SPM versions from the path



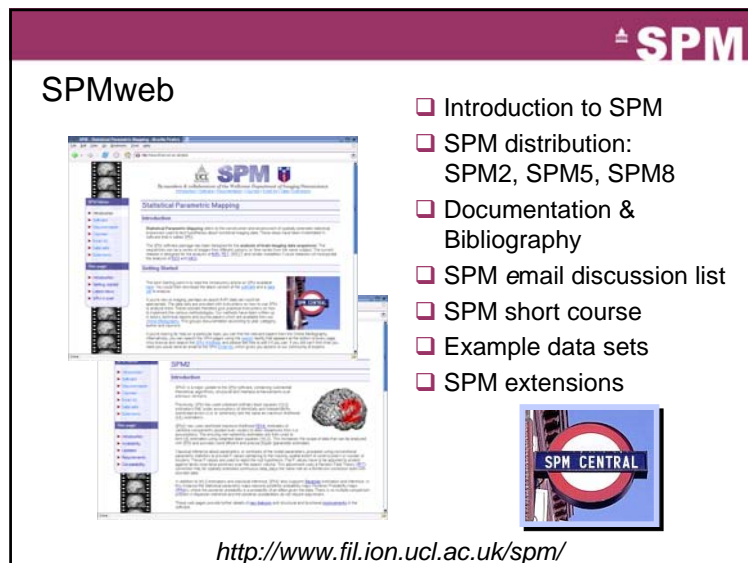
SPM Interface and Batch mode



SPM Toolboxes

- ❑ User-contributed SPM extensions:

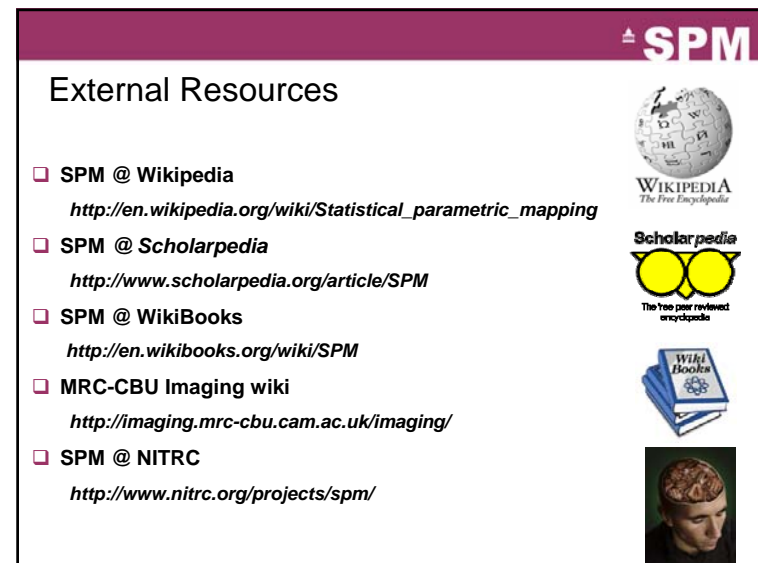
<http://www.fil.ion.ucl.ac.uk/spm/ext/>



SPMweb

- ❑ Introduction to SPM
- ❑ SPM distribution: SPM2, SPM5, SPM8
- ❑ Documentation & Bibliography
- ❑ SPM email discussion list
- ❑ SPM short course
- ❑ Example data sets
- ❑ SPM extensions

<http://www.fil.ion.ucl.ac.uk/spm/>




External Resources

- ❑ SPM @ Wikipedia
http://en.wikipedia.org/wiki/Statistical_parametric_mapping
- ❑ SPM @ Scholarpedia
<http://www.scholarpedia.org/article/SPM>
- ❑ SPM @ WikiBooks
<http://en.wikibooks.org/wiki/SPM>
- ❑ MRC-CBU Imaging wiki
<http://imaging.mrc-cbu.cam.ac.uk/imaging/>
- ❑ SPM @ NITRC
<http://www.nitrc.org/projects/spm/>


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SPM Documentation

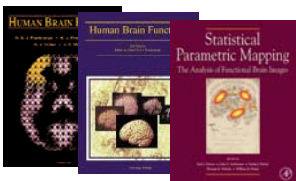
Peer reviewed literature




Online help & function descriptions



SPM Books:
Human Brain Function I & II
Statistical Parametric Mapping

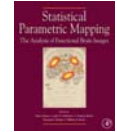


SPM Manual



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Overview references



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"Imaging Cognitive Anatomy" *Trends in Cognitive Sciences* 1:21-27

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"The geometry of random images" *CHANCE* 9(1):27-40

Worsley KJ (1997)
"An overview and some new developments in the statistical analysis of PET and fMRI data"
Human Brain Mapping 5:254-258


Worsley KJ (1999)
"Statistics of Brain Mapping"
52nd Session of the International Statistical Institute, Helsinki, Finland.

Acton PD, Friston KJ (1998)
"Statistical parametric mapping in functional neuroimaging: beyond PET and fMRI activation studies" *European Journal of Nuclear Medicine* 25:663-667

Rabe-Hesketh S, Bullmore ET, Brammer MJ (1997)
"The analysis of functional magnetic resonance images"
Statistical Methods in Medical Research 6(3):215-237


Pettersson KM, Nichols TE, Poline J-B, Holmes AP (1999)
"Statistical limitations in functional neuroimaging I: Non-inferential methods and statistical models"
Phil. Trans. R. Soc. London. B 354:1239-1260

Pettersson KM, Nichols TE, Poline J-B, Holmes AP (1999)
"Statistical limitations in functional neuroimaging II: Signal detection and statistical inference"
Phil. Trans. R. Soc. London. B 354:1239-1260



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SPM Online Bibliography



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Publications about "RFT"

Thesis

- A.P. Holmes. *Statistical Issues in Functional Brain Mapping*. PhD thesis, University of Glasgow, December 1994. Keyword(s): [RFT](#), [PET](#), [GLM](#) [bibtex-entry]


Articles in journal or book chapters

- J. Chumbley and K.J. Friston. *False Discovery Rate Revisited: FDR and Topological Inference Using Gaussian Random Fields*. *NeuroImage*, 2003. Keyword(s): [FDR](#), [RFT](#) [bibtex-entry]
- D. Pantazis, T.E. Nichols, S. Baillet, and R.M. Leahy. *A comparison of random field theory and permutation methods for the statistical analysis of MEG data*. *NeuroImage*, 25:383-394, 2005. Keyword(s): [RFT](#), [MEG](#), [nonparametric](#) [bibtex-entry]
- S. Hayasaka, K.L. Phan, I. Liberzon, K.J. Worsley, and T.E. Nichols. *Non-Stationary Cluster Size Inference with Random Field and Permutation Methods*. *NeuroImage*, 22:676-687, 2004. Keyword(s): [Cluster](#), [RFT](#), [nonparametric](#) [bibtex-entry]

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SPM Mailing List

- spm@jiscmail.ac.uk
- Web home page
 - <http://www.fil.ion.ucl.ac.uk/spm/support/>
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 - Monitored by SPMAuthors
 - Usage queries, theoretical discussions, bug reports, patches, techniques, &c...



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