

## EMSE<sup>®</sup> Workshop Schedule

Thursday-Friday, April 15-16, 2010

McMaster University, Hamilton Ontario Canada

### Thursday, April 15

**0830-0900**      ***Registration and Continental Breakfast***

**0900-1030**      ***Introduction to EMSE v5.3***

- Introduction
- Overview of EMSE Suite v5.3 Software modules
- Elements of time series analysis with EMSE Data Editor
  - Workspaces, projects, and data files
    - Average brain resources
  - Data preprocessing and filtering
    - Filtering and filter pipeline (history)
    - Express ocular artifact correction filter
  - Interactive time series visualization and data exploration
    - Events
    - Compressed Trial Array
- Averaging, events, linear merge, grand average
  - Event wizard

**1030-1045**      ***Coffee break***

**1045-1215**      ***Data editor: selected topics 1***

- Batch averaging
- Peak detection
- Frequency domain
  - FFT, power spectrum (PSD)
  - Coherence
- Time/frequency (wavelet) analysis
  - Total power, induced, phase-locked
    - Z-score
  - Coherence, phase synchrony

**1215-1315**      ***Lunch***

**1315-1445 Data editor: selected topics 2**

- Spatial components analysis
  - PCA
  - ICA
- Nonparametric statistics in signal space

**1445-1500 Coffee break**

**1500-1630 Source Estimation**

- Principles of EEG/MEG Source Estimation and Multimodal Dynamic Functional Brain Imaging
- Spatiotemporal dipole modeling
  - Multistart method for objective model selection
- Tomographic Estimation (sLORETA) and beamformers
- Cortically constrained current density
- DICS (Dynamic Imaging of Coherent Sources)
- Nonparametric statistics in source space
- Source estimation MRI Visualization

**Friday, April 16**

**0830-0900 Continental Breakfast**

**0900-1630 Selected topics and analyses - EMSE v5.3**

- This day will be devoted to working individually with workshop attendees on areas of special interest. You may bring your own data, and EMSE developers will work with you on your specific analysis needs, including both signal and image processing. Alternatively, you may choose to explore in greater detail some of the topics that were covered more superficially in the first day, or were omitted due to lack of time. Time will be available for coffee and lunch breaks.

Bring your laptop (Intel or AMD processor, Windows XP, Vista, or Windows 7, 1+ GByte RAM). Screen resolution: 1024x768 or greater (i.e., netbook screens are usually too small). We will provide you with a full-featured version of EMSE Suite v5.3 and example data to be used during the first day of the workshop.

Let us know if there are topics you would like to see covered that have not been included in this schedule. You can email us at [techsupport@sourcesignal.com](mailto:techsupport@sourcesignal.com).