

Neuroimaging: Mapping the function and structure of brain

Educational course

November
14-16
CEITEC MU
University
Campus
Bohunice, Brno

The course is focused mainly on master's and doctor's degree students in the field of human brain mapping regardless of primary background. However, any basic knowledge about a brain mapping will be convenient. Attendants will obtain theoretical and practical skills in several neuroimaging techniques.

The school will cover these topics:

- Principles of MRI
- Principles of functional magnetic resonance imaging (fMRI)
- Processing of fMRI data; dealing with artifacts in fMRI Practical hints for preparation of fMRI experiments and measurements
- Functional and effective brain connectivity with fMRI
- Morphometric methods and their reach to functional brain mapping
- Diffusion imaging
- Processing and analysis of EEG data
- Simultaneous measurement of physiological signals (EEG, ECG, breathing,...) and fMRI, practical aspects,
- processing of electrophysiological data for usage in the consequent fMRI analysis
- Specifics of animal MRI studies
- Practical hints for access to services provided by NMR lab at ISI ASCR and MAFIL CEITEC MU

There will be two types of practical sessions:

- 1) measurement in CF MAFIL (measurements with equipment available in MR labs and accompanying electrophysiological labs)
- 2) data analysis (processing of data in Matlab + SPM12 environment)

The course is for free but it is necessary to make a reservation due to limited capacity.

For reservation, please send email to: michaela.vanharova@ceitec.muni.cz.

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