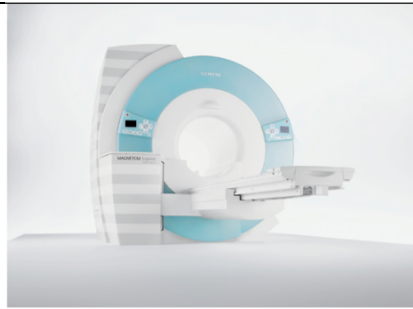


SFB TRR 58 & neurodapt Graduate School Methods in Human Neurosciences Workshop

Hamburg, 7th – 9th of October 2010

University Medical Center Hamburg Eppendorf (UKE)

Campus Lehre (N55) – Room 310/311



Thursday 7th – fMRI

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| 9:00 a.m. | Talk 1: Introduction to functional Magnetic Resonance Imaging (fMRI)
Physiological processes, BOLD-signal, MR physics |
| 9:45 a.m. | Talk 2: Statistical analysis of fMRI data I
Pre-Processing, General Linear Model, Designmatrix, 1st level analysis |
| 10:30 a.m. | <i>Coffee break</i> |
| 11:00 a.m. | Talk 3: Statistical analysis of fMRI data II
2nd level analysis (t-Tests, F-Tests), Multiple comparison correction |
| 11:45 a.m. | Talk 4: Advanced topics in fMRI
Genetics and functional brain imaging |
| 12.30 p.m. | <i>Lunch</i> |
| 1:30 p.m. | Hands-On fMRI: MR safety regulations; Working Memory fMRI experiment |
| 3:30 p.m. | <i>Coffee break</i> |
| 4:00 p.m. | Data Analysis: Demonstration Pre-Processing, Matlab & SPM8, Designmatrix in SPM, 1st level and 2nd level analyses |
| 6:00 p.m. | <i>Dinner at UKE</i> |
| 7:30 p.m. | Optional: Night Cruise through the “Speicherstadt”, starting at 7:30 pm from St. Pauli Landungsbrücke No. 3. Please reserve a spot with us beforehand. |





Friday 8th – EEG/MEG

9:00 a.m.	Talk 1: Biological fundamentals of the EEG Neuronal activity, post-synaptic potentials, dipole model, temporal and spatial summation, source localization
9:45 a.m.	Talk 2: Fundamentals of the MEG Magnetic fields, SQUIDs, source localization
10:30 a.m.	<i>Coffee break</i>
11:00 a.m.	Talk 3: Methods of Analysis EEG/MEG Spontaneous EEG, frequency bands, event-related potentials, time-frequency analysis, evoked vs. induced activity
11:45 a.m.	Talk 4: Selected MEG/EEG studies
12.30 p.m.	<i>Lunch</i>
1:30 p.m.	Hands-On MEG: Visual Experiment in the MEG (groups of 10), security in the MEG, demonstration of MEG recording, endogenous and exogenous artefacts, EOG, ECG
3:30 p.m.	<i>Coffee break</i>
4:00 p.m.	Data Analysis: MEG data analysis using Matlab and Fieldtrip, pre-processing, time-frequency analysis, plotting of results on sensor level, (beamforming analysis)
6:00 p.m.	<i>Break</i>
7:30 p.m.	Optional: Dinner at a Restaurant in St. Pauli. Please reserve with us beforehand.

Saturday 9th

10:00 a.m.	Talk 1: From mapping to mechanisms: imaging strategies based on simultaneous EEG-fMRI (Prof. Dr. Christoph Mulert)
11:00 a.m.	<i>Coffee break</i>
11:30 a.m.	Talk 2: Transcranial direct current stimulation (TDCS) and transcranial magnetic stimulation (TMS) (Dr. Friedhelm Hummel)
12:30 a.m.	<i>Lunch</i>