Methods for designing and analyzing human MRI studies

This updated 4-day course combines theory (morning lectures) and practical PC sessions in small groups (afternoon). There are 2 user-levels. Day 1 and 2 are for beginners and day 3 and 4 for advanced users
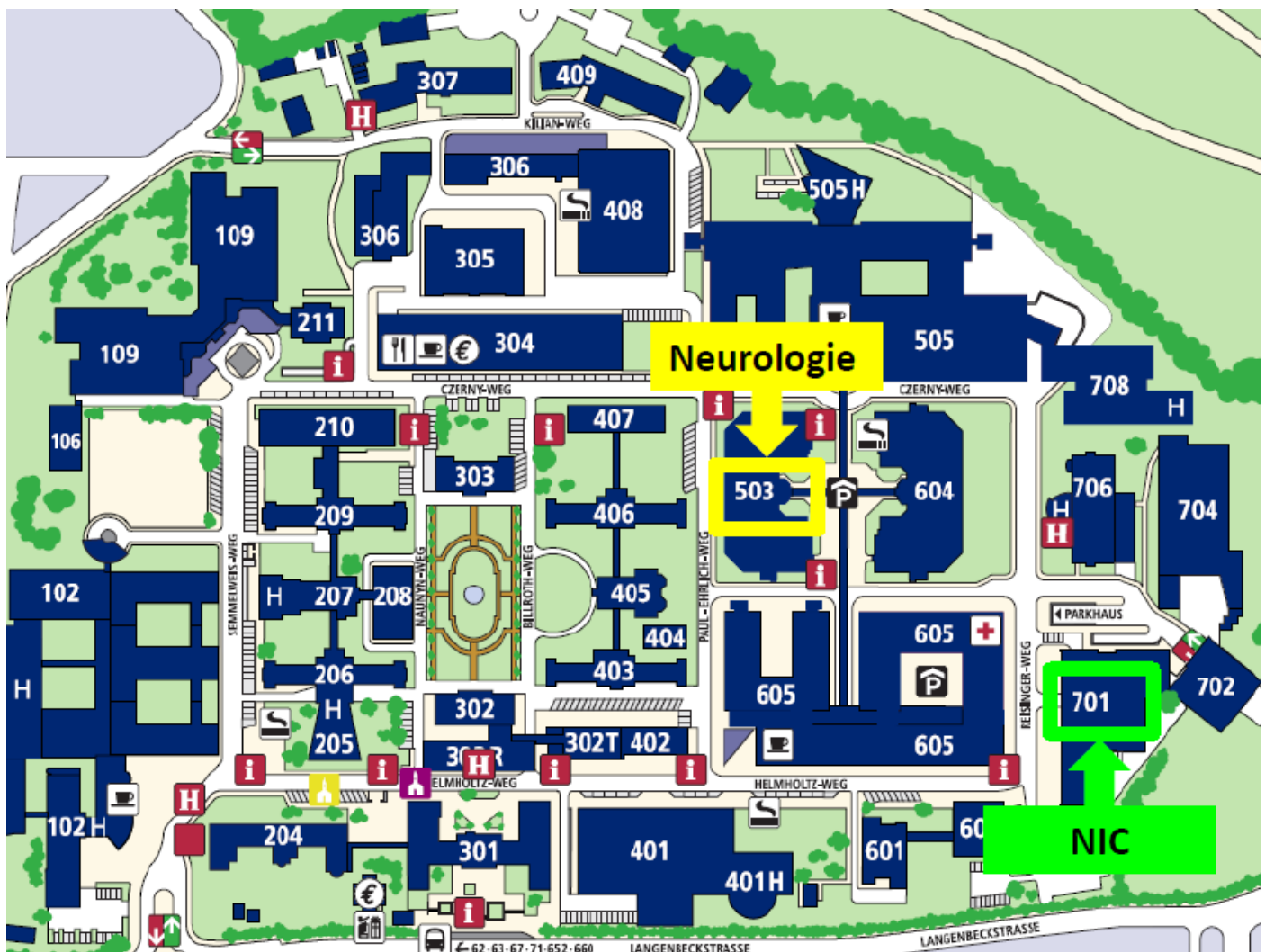
Goals:

- get an overview of human MRI applications with a focus on functional imaging
- understand the basic principles of fMRI design and analysis
- be prepared for in-depth methods courses elsewhere (e.g., Hamburg or London SPM course)

Language: English

Location: NIC offices, Building 701 for both theory and practical sessions (exactly location to be confirmed)

Map of the University Medical Center (Langenbeckstr. 1, 55131 Mainz):

Registration: nic-koordination@unimedizin-mainz.de
Melike Kocak, Tel: 06131/17-8419
Please indicate your field of research, your user-level (advanced/beginner) and which days you want to participate.

Program:

Monday, May 4th for beginners

9:15 – 10:00	Basic MRI contrasts
10:00 – 10:30	Physiological basis of the BOLD signal
	Coffee break
10:45 – 11:30	Preprocessing
11:30 – 12:15	General Linear Model, parameter estimation
	Lunch break
13:00 – 16:00	Practical session: Preprocessing

Tuesday, May 5th for beginners

9:00 –9:45	Inference statistics
9:45 – 10:30	Multiple comparisons
	Coffee break
10:45 – 11:30	fMRI designs
11:30 – 12:15	Event-related and block designs
	Lunch break
14:00 – 17:00	Practical session: 1st & 2nd level analysis

Wednesday, May 6th for advanced users

9:00 –10:30	Voxel-based Morphometry
	Coffee break
10:45 – 11:30	Functional and effective connectivity
11:30 – 12:15	Reproducible and flexible data analysis pipelines
	Lunch break
13:00 – 16:00	Practical session: Advance modules

Thursday, May 7th for advanced users

9:00 –10:15	PET analysis using SPM
10:15 – 11:00	Multivoxel pattern analyses
	Coffee break
11:15 – 12:30	Neuroimaging meta-analysis & meta-analytic modeling
12:30 – 13:30	Open discussion