Course title: Matlab scripting (and debugging) for neuro-signal processing: special focus on EEG pre-processing

Organizer(s): Anna Custo (Unige and CIBM)

Credits: 2.5 ECTS

Summary: Learn to edit or create matlab scripts for faster data processing, in particular for EEG data processing. Learn how to use the matlab debug tool to customize scripts and functions or to fix problems. In particular: load a list of files for automated processing, open files of different data type (EEG, ERP, TXT, etc.), simple operations on file content (e.g., compute gfp peaks/extract peaks, read markers/verbose files info), use/customize EEGLab routines (e.g., display topographies, dc removal, avg reference, bandpass filter, etc.). In class evaluation/exercise: build a script for EEG inverse space data processing and/or similar multi-step data processing script.

Course level: Intermediate (PhD/advanced masters/post-docs)

Pre-requisites: Working knowledge of Matlab

Content of course sessions:
- 20.2: matlab scripting and debugging overview; data setting
- 21.2: automatic data processing I: input preparation
- 22.2: automatic data processing II: data manipulation
- 23.2: debugging; eeglab and routine customization
- 26.2: in class exercise I: multi-step script for advanced data processing
- 27.2: in class exercise II: multi-step script for advanced data processing
- 28.2: in class evaluation: test on multi-step scripting

Course materials: Slides will be uploaded on the course page a couple of days before class; own laptops can be used provided they have Matlab and EEGLab installed.

Location: Campus Biotech computer room, Geneva

Course dates:
20.2.2018 from 9:00-12:00
21.2, 22.2, 23.2, 26.2, 27.2.2018 from 9:00-12:00 and 13:00-16:00
28.2.2018 from 9:00-12:00

Evaluation: Grading based on performances in class, last day in class exercise, student’s progresses, and active participation.

Registration: The course is limited to 10 students. Register before February 10th by writing an email to: anna.custo@unige.ch with the course title as subject. Places will be given on first come – first served basis.