Workshop: EEG processing

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Overview

This workshop provides hands-on experience with electroencephalography (EEG).

Students will go through computer code to process EEG data and extract relevant information about brain activity.

Learning outcomes

By the end of this workshop, students will be able to:

- Preprocess EEG data using MATLAB.
- Extract key brain activity parameters from EEG signals.
- Interpret EEG data in the context of psychophysiological research.

Requirements

1. **MATLAB** The computer code is written in MATLAB (https://en.wikipedia.org/wiki/MATLAB), a programming language often used for numerical computations in psychophysiology. To run MATLAB code you will need to use MATLAB software.

2. **"Prisma" for MATLAB** This toolbox will be used to extract frequency parameters (e.g., oscillations) from EEG data. https://github.com/GermanoGallicchio/Prisma
3. **Scripts** Scripts from the "Learn Psychophysiology" repository: https://github.com/GermanoGallicchio/LearnPsychophysiology
4. **Data** Hosted on an Open Science Framework (OSF) link: https://osf.io/k4ytm/files/vkwcu

Make sure you have installed all the required software and downloaded the scripts and data before starting the workshop.

Workshop structure

The workshop is designed to be interactive, with students following along with the provided MATLAB scripts and data.

For this session, we will use this script:

pp03_EEG.m

Let's switch to MATLAB and start working on the code.