### Workshop: Basic processing

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## Overview

This workshop provides hands-on experience with **coding concepts** necessary for basic biosignal processing.

Students will go through computer code to carry out tasks of gradually increasing complexity.

These tasks are not directly related to psychophysiology, but they are designed to teach the coding concepts that are necessary for basic biosignal processing.

The sequence of tasks is designed to progress from no knowledge of coding to enough to be able to carry out basic biosignal processing in later sessions.

Once these fundamental coding concepts are covered, we will be able to apply them to psychophysiological data in later sessions.

## Learning outcomes

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

- Navigate a MATLAB script and identify key sections (setup, operations, outputs)
- Work with basic data types and simple data structures in MATLAB.

- Create, load, and inspect simple datasets for practice analyses.
- Generate and interpret basic plots of time-series data.
- Describe how signals can be represented in time and frequency terms.
- Apply simple, exploratory filtering steps and compare outcomes.

## 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. **Scripts** Scripts from the "Learn Psychophysiology" repository: https://github.com/GermanoGallicchio/LearnPsychophysiology

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

## Workshop structure

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

For this session, we will use these scripts:

pp01_*.m

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