## Guidelines for presentations

Neurobiologie 2 – EEG Praktikum 2025

### Paper presentation

This presentation is going to be your review of a paper, which uses mismatch negativity (MMN) paradigm. The goal of this assignment is to understand, how EEG is used to answer research question, how such experiments are design, and to understand the specific paradigm, which you are also going to implement in your project.

The presentation should not be longer than **20 minutes** and it should contain the following sections:

1. **Background [~ 3 minutes]**

Introduce the aims of the experiment and the specific research questions the authors sought to answer.

Note: All course attendees are already familiar with the concept of MMN, so your focus should be on the study-specific background – the theoretical and empirical context leading up to this particular research.

1. **Methods [~ 7 minutes]**

Present the experimental design. Make sure to answer the following questions:

* Who were the participants?
* What stimuli were used?
* What was the experimental procedure?
* How was the data analyzed?

Use diagrams or schematics if they help clarify the design.

1. **Results [~ 5 minutes]**

Summarize the key findings of the study. Highlight both behavioral and neural results (if applicable), and point out any particularly surprising or important outcomes.

1. **Further development [~ 5 minutes]**

Now that you know the study in detail, think creatively:

* What could be improved or changed in a follow-up study?
* What additional questions could this paradigm help address?
* How would you develop the idea further in your own research?

### Project presentation

This presentation will be a summary of your work during the two-weeks course about EEG. You will demonstrate what you worked on during this time. Remember that you will gradually learn about all the steps which are necessary for you to prepare this presentation. Please don’t hesitate to ask questions about developing this presentation.

The presentation should not be longer than **20 minutes** and it should contain the following sections:

1. **Background [~ 3 minutes]**

Introduce a little bit of a theoretical background for the project you conducted. One-two slides covering what is known in the field would be enough. It will serve a base for other participants of the course to understand why such experiment and analysis is conducted.

You can refer to papers reviewed by your or other groups during the first presentation.

1. **Research question [~ 2 minutes]**

Describe what you focused on during your analysis – which question you wanted to answer. Try to link it closely with the introduction to the background, so we could see how one results from the other.

1. **Results [~ 10 minutes]**

Share the outcome of your analysis. As you will focus on the details of preprocessing during your second presentation, here emphasize more the general results of your analysis.

Plots or any other graphical form of presenting your results will be very much appreciated.

1. **Future insights [~ 5 minutes]**

Think about what your results mean in the broader context of science. This part should have two components:

1. **Near future** – how would you improve the experiment, what would you do differently to get better results or to enrich the analysis.
2. **Wider perspective** – what could be the next step for this type of research, what other questions would you ask, what other methods could you use. Remember that this point should not be specific. Your goal should not be here to present a complete design of a new study. Just try to think creatively about developing and building on the project you took part in during this course.