



Radboud University



Karolinska
Institutet



University of
Copenhagen



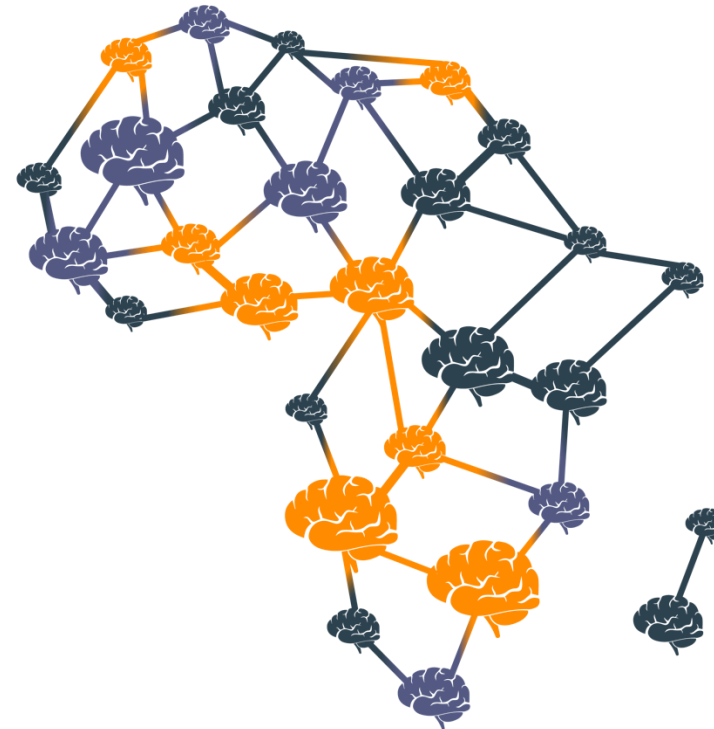
NatMEG



EEG workshop - outline

Robert Oostenveld
Mikkel C. Vinding

9-14 June 2025
Port Harcourt, Nigeria



**African
Brain
Data
Network**

Introductions

Robert Oostenveld



Mikkel C. Vinding



Motivation for this workshop

Most research requires considerable investments (money, expertise, time)

Most research is done in western countries on WEIRD participants

Western, Educated, Industrialized, Rich, and Democratic

Most medicines have been developed for and tested on white males

We want to contribute to impactful research for the whole society

Inclusion of diverse participants

Empowering researchers with their own societal and cultural background

Address diverse research questions

Deal with specific "African" topics

Goals for this workshop

To understand how to use EEG for research.

How to

- set up an EEG lab
- design experiments and tasks
- record EEG data
- preprocess EEG data
- analyze EEG data

To have a lot of interaction and learn from each other.

Scope of this workshop

EEG for research

- Understanding how the brain works
- Understanding how cognition and behaviour works
- Understanding differences between people in general

Not on EEG for clinical applications

- Diagnostics of neurological or psychiatric disorders
- Using EEG in treatment with neurofeedback or BCI
- The individual benefits

Clinical research

Research on clinical applications

Outline of the week

Monday

What is EEG and what can you do with it

Tuesday

How to design an experiment and record EEG

Wednesday

How to process EEG data

Thursday

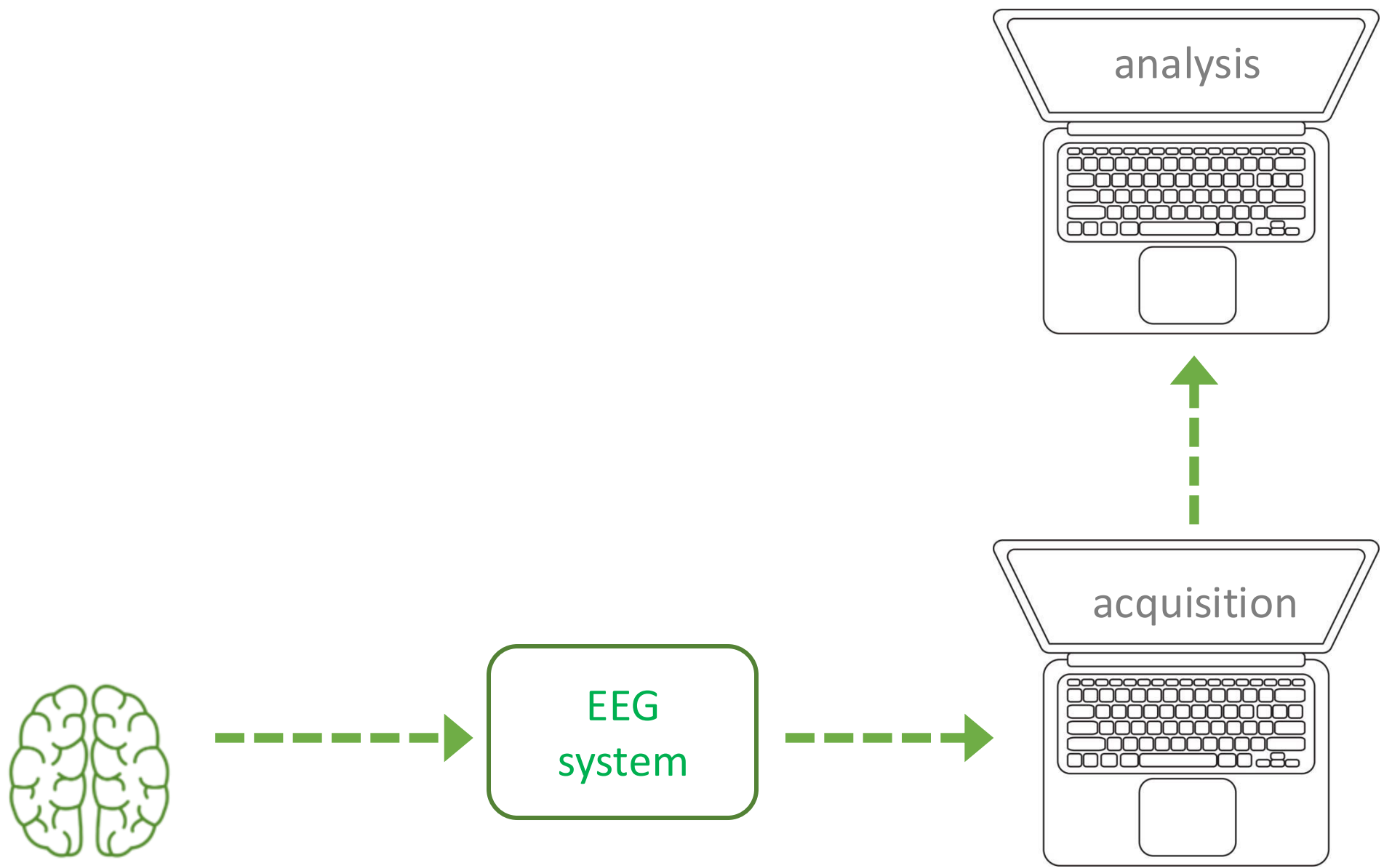
How to analyze EEG using ERPs

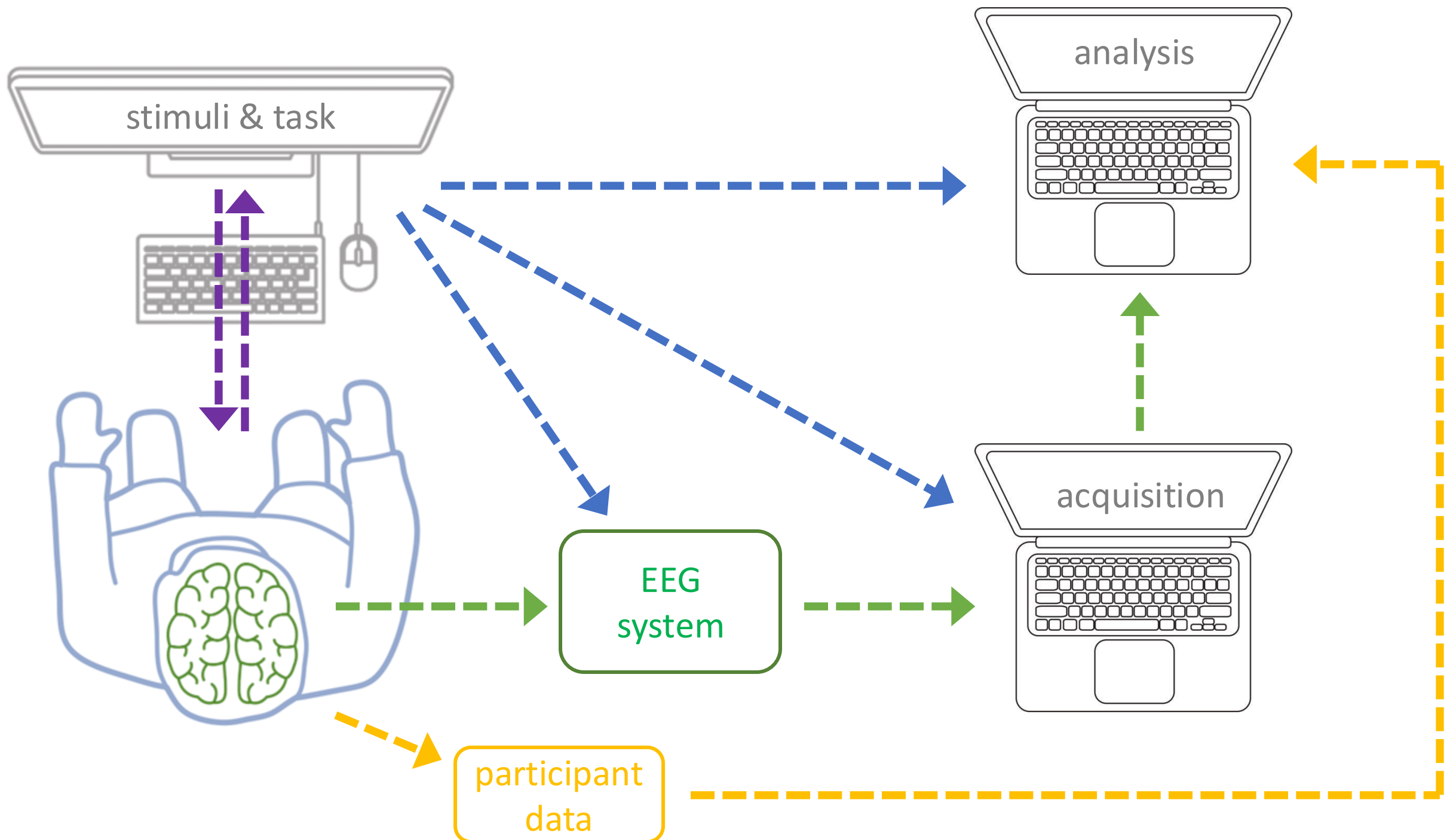
Friday

How to analyze EEG in the frequency domain

Saturday

Other and more advanced analysis methods





Practical format of the workshop

We will combine lectures and hands-on sessions

We will cover neuroscience, how EEG works, but also experimental practicalities

We will bring some equipment and have you try it out

You bring your computer and we will help you to set up specific software

- EEG acquisition software

- Experimental design and stimulus presentation (Psychopy)

- Data analysis (MATLAB and FieldTrip)

Format of the workshop

Lectures

Slides will be shared, see <https://www.fieldtriptoolbox.org/workshop/nigeria2025/>

Some discussion in break-out groups

Hands-on sessions

Design an experiment using PsychoPy

Use the EEG system to see brain activity

Record EEG during an experimental task

Analyze EEG data in MATLAB using FieldTrip

Wrap up and discussions

Plenty of interaction between us and you, and among you

Afterwards

Reading material

<https://www.fieldtriptoolbox.org/workshop/nigeria2025/#reading-material>

https://www.fieldtriptoolbox.org/references_papers/

The webpage will remain online, including analysis exercises

Video's of the lectures will be edited and uploaded to YouTube



Radboud University



Karolinska
Institutet



University of
Copenhagen



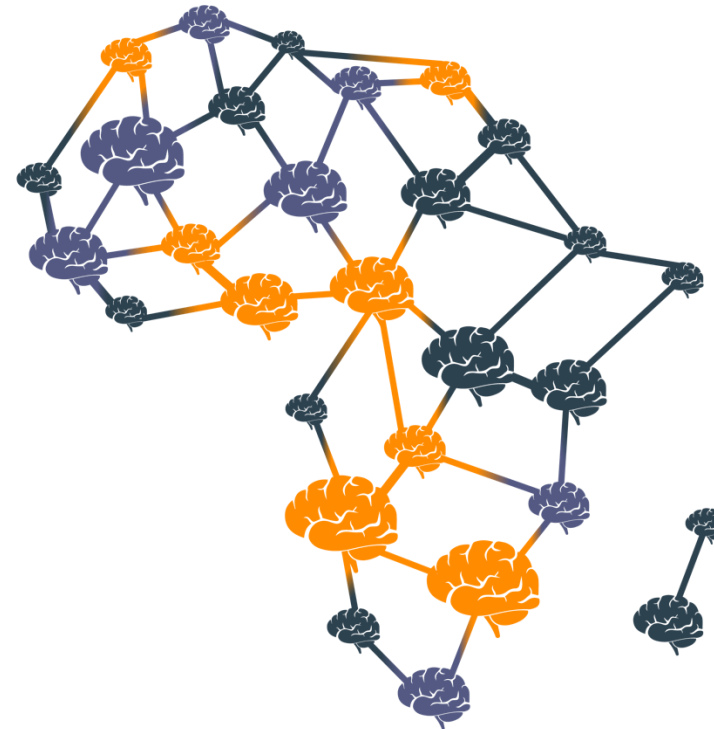
NatMEG



EEG workshop - outline

Robert Oostenveld
Mikkel C. Vinding

9-14 June 2025
Port Harcourt, Nigeria



**African
Brain
Data
Network**