Course: mathematical methods for neuroscience

Part I

1. Introduction (21.02.2023)

A general description of the concepts that we will follow during the course
Why each of the separate fields is important
What's the advantage of a holistic view of data

2. Statistics (28.02.2023)

How can we analyze a dataset using statistics
Which are the basic concepts and how we can choose
Examples of using statistics wrong and how we can avoid it
1. Data Detective Methods for Revealing Questionable Research Practices

3. Basic I (07.03.2023)

Introducing key concepts in neuroscience: Single cells and Networks
1. Synaptic Connectivity and Neuronal Morphology
2.   Dendrites: bug or feature?

4. Basic II (14.03.2023)

Introducing key concepts in neuroscience: Plasticity and learning
1. Are Dendrites Conceptually Useful?
2. Impact of Active Dendrites and Structural Plasticity on the Memory Capacity of Neural Tissue