CSC 2025 Summer School – Group Project (2 + 2 + 1 hours)

Name of project: Too tired to put in effort?

Instructor(s): Selma Lugtmeijer

Learning aims or research questions:

In this project, you will explore how fatigue affects decision-making by examining when individuals choose to exert effort for a higher reward versus opting to rest for a lower one. Using a computational modelling approach, you'll first estimate how motivated each participant is to work for reward by calculating individual discounting parameters from trials where fatigue is not a factor. In the second part, you will apply and compare different models of fatigue to see which best explains changes in decision-making as fatigue accumulates.

Background reading:

Müller, T., & Apps, M. A. (2019). Motivational fatigue: A neurocognitive framework for the impact of effortful exertion on subsequent motivation. Neuropsychologia, 123, 141-151. https://doi.org/10.1016/j.neuropsychologia.2018.04.030

Müller, T., Klein-Flügge, M. C., Manohar, S. G., Husain, M., & Apps, M. A. (2021). Neural and computational mechanisms of momentary fatigue and persistence in effort-based choice. Nature Communications, 12(1), 4593. https://doi.org/10.1038/s41467-021-24927-7

What software they will need to use and install on their laptops: Matlab