OSCOFAI aims to leverage cutting-edge machine learning techniques alongside clinical characteristics and biomarker discovery tools, for the investigation of the association between cognitive health and sleep.

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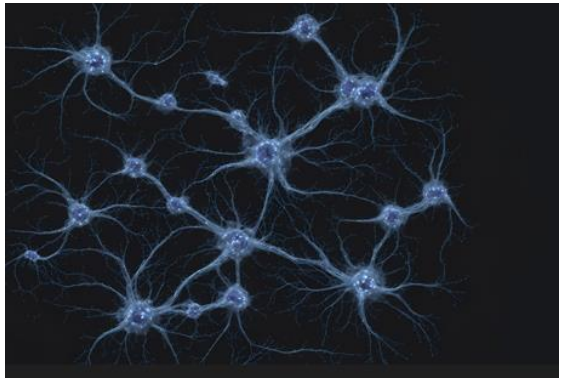
OSCOFAI

Objective Sleep-Wake measures and Cognitive Function: associations and mediating mechanisms using Artificial Intelligence methods

This project is carried out within the framework of the National Recovery and Resilience Plan Greece 2.0, funded by the European Union – NextGenerationEU (Implementation body: HFRI).



Why OSCOFAI?

Sleep health and circadian regulation have emerged as potential targets for early intervention in combating cognitive decline. However, there's still much to uncover about which aspects of sleep play the most critical role in cogntive health and the underlying mechanisms explaining the associations. OSCOFAI aims to bridge this gap by leveraging cutting-edge machine learning techniques alongside clinical characteristics and biomarker discovery tools.

Unlocking sleep's impact on cognition with AI

Key Aims of OSCOFAI:

- **Exploring Associations**: We're exploring the associations between sleep-wake cycle data and cognitive function.
- **Predictive Modelling**: Development of a predictive modelling tool for cognitive function using advanced signal processing and machine learning methods.
- **Investigating Mechanisms**: OSCOFAI investigates potential mediating mechanisms by extensively characterizing biomarkers. We employ traditional statistical methods and machine learning analyses to discover the connections between sleep-wake cycles and cognition.

Methodology:

Our study population will be drawn from the ongoing ALBION longitudinal study, focusing on older and middle-aged adults. Participants will undergo comprehensive neuropsychological and neurological assessments. Additionally, cerebrospinal fluid and blood samples will be collected, along with brain MRI and wrist actigraphy.

Impact of OSCOFAI

The OSCOFAI project holds immense promise. The findings will pave the way for the development of tailored interventions aimed at promoting healthy aging.

Contact us

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