

# Exploration of the microstructure of human REM sleep across the lifespan

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Location: **Chambéry (Jacob-Bellecombette)**

REM sleep accounts for 20-25% of a night's sleep in adult humans, and plays a key role in various functions, such as in emotional regulation (Walker and van der Helm, 2009) and in brain maturation (Marks et al., 1995). At the microscopic level, REM sleep exhibits two remarkably distinct microstates: phasic and tonic REM sleep (Simor et al., 2020). Phasic REM periods exhibit bursts of eye movements while tonic REM is defined by quiescent periods without eye movements.

The ambition of this project is to better understand the micro-architecture of REM sleep by exploring the evolution of these microstates across the lifespan. It is expected that this microscopic approach of REM sleep will offer new perspectives in our understanding of the mechanisms and functions of this sleep stage.

The selected candidate will analyze a large set (>1,000 nights) of polysomnographic (EEG, EOG and EMG) data coming from the NSRR database (Dean et al., 2016). Applicants should be familiar with MATLAB and/or Python, and have basic knowledge in signal processing. Applicants with a background in cognitive science, computer science and/or engineering are encouraged to apply.

The work will take place at the laboratoire de Psychologie et Neurocognition in Chambéry.

For further information, contact: [jean-baptiste.eichenlaub@univ-smb.fr](mailto:jean-baptiste.eichenlaub@univ-smb.fr), and join a detailed CV and transcripts of degrees.

## References

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