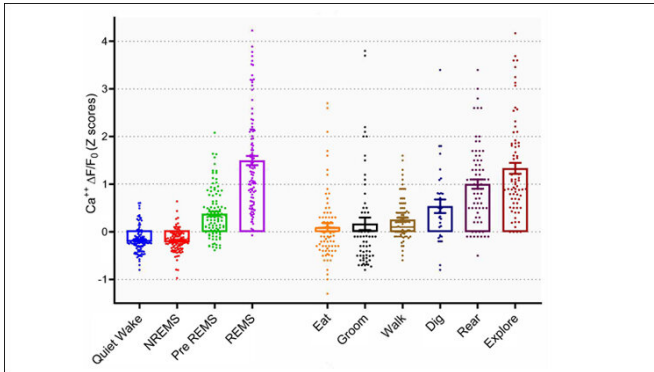


# Same brain cells active during sleep and exploration in mice

29 April 2019

More information: *JNeurosci* (2019). DOI: [10.1523/JNEUROSCI.0305-19.2019](https://doi.org/10.1523/JNEUROSCI.0305-19.2019)



Provided by Society for Neuroscience

Average fluorescence in MCH neurons is highest during REM sleep and exploratory behavior. Credit: Blanco-Centurion *et al.*, *JNeurosci* (2019)

Researchers have mapped the activity of individual neurons deep in the brain during sleep and exploration of novel objects in male and female mice. The study, published in *JNeurosci*, suggests these cells may facilitate memory formation.

Melanin-concentrating hormone (MCH) [neurons](#) are active during rapid-eye movement (REM) sleep, when dreaming—and perhaps memory consolidation—occurs. Carlos Blanco, Priyattam Shiromani, and colleagues at the Medical University of South Carolina and Yale University School of Medicine report 70 percent of MCH neurons that were strongly activated during REM sleep were also active when mice explored interesting objects like a binder clip or a bottle cap.

By recording the activity of pairs of MCH neurons, the researchers revealed a pattern of single-cell activity that could be used to compare the function of this network across different states of health and disease. Additionally, because all [vertebrates](#) have these cells, future studies of MCH neurons in animals beyond mammals and birds may identify REM sleep in diverse species.

APA citation: Same brain cells active during sleep and exploration in mice (2019, April 29) retrieved 28 May 2022 from <https://medicalxpress.com/news/2019-04-brain-cells-exploration-mice.html>

*This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.*