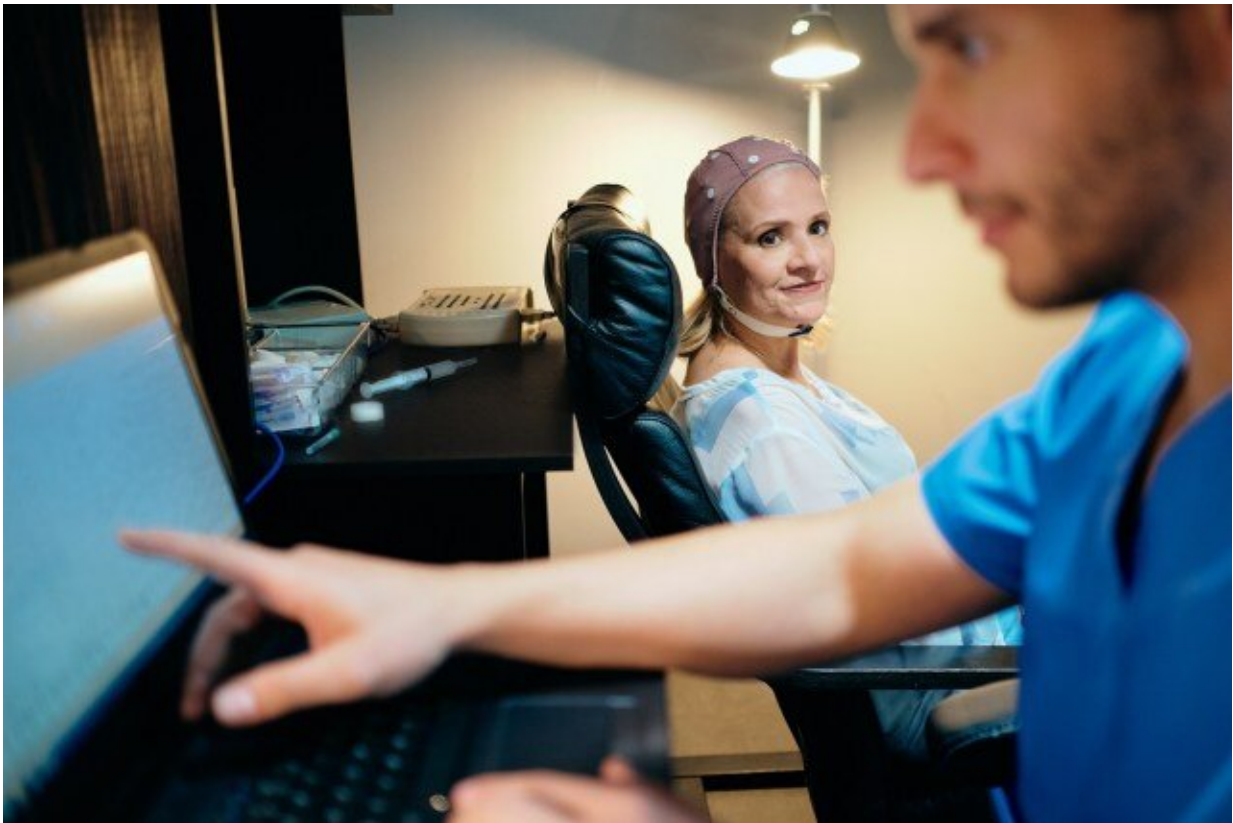


Researchers develop open source EEG visualization tool

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Credit: University of Tennessee at Knoxville

Researchers at UT have developed a [free open source computer program](#) that can be used to create visual and quantitative representations of brain electrical activity in laboratory animals in hopes of developing

countermeasures for opioid use disorder.

The program is described in a paper published in JoVE. Lead author Christopher O'Brien is a UT graduate who manages the research laboratory of Helen Baghdoyan and Ralph Lydic, both co-authors on the paper and professors in UT's Department of Psychology and the Graduate School of Medicine's Department of Anesthesiology.

In the paper, the researchers describe the steps they took to create a multitapered spectrogram for electroencephalogram (EEG) analyses with an accessible and user-friendly code. They validated the program through analyses of EEG spectrograms of mice that had received different [opioid](#) treatments.

"There is a misconception that opioids promote sleep, but in quantitative studies of states of sleep and wakefulness using electroencephalographic recordings of brain waves, opiates are shown to disrupt sleep," Lydic said. "Additionally, drug addiction studies show that abnormal sleep is associated with increased likelihood of addiction relapse."

More information: Christopher B. O'Brien et al, Computer-based Multitaper Spectrogram Program for Electroencephalographic Data, *Journal of Visualized Experiments* (2019). [DOI: 10.3791/60333](https://doi.org/10.3791/60333)

Provided by University of Tennessee at Knoxville

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