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"NOVEL ELECTROCHEMICAL METHODS FOR HUMAN NEUROCHEMISTRY"

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PRESENTATIONS

Eltahir, A., White, J., Lohrenz, T., Kishida, K., Montague, P., 2018. Modeling Multiple Analytes Using Fast Scan Cyclic Voltammetry. Computational Psychiatry Meeting, San Diego, CA. (poster)

PUBLICATIONS

Eltahir, A., White, J., Lohrenz, T., Kishida, K., Montague, P., 2020. Low Amplitude Random Burst Sensing of Neuromodulators. Organization for Human Brain Mapping, Montreal, Canada. (abstract)

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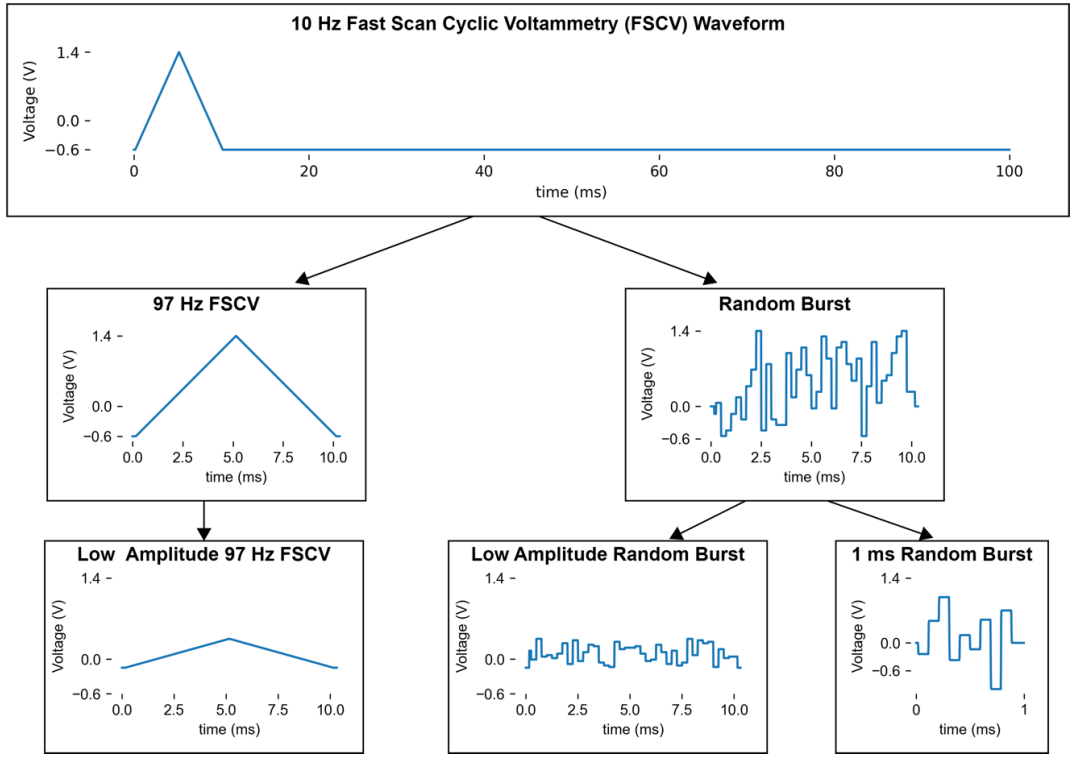
ABSTRACT



Neuroscience characterizes nervous system functions from the cellular to the systems level. A gap in available technologies has prevented neuroscientist from studying how changes in the molecular dynamics in the brain relate to psychiatric conditions. Recent efforts by the Montague Laboratory have adapted neurochemistry techniques for use in human patients. Consequently, a new “random burst sensing” approach was developed that challenged existing assumptions about electrochemistry. In this study, in-vivo experiments were conducted to push the limits of electrochemical sensing by reducing the voltage amplitude range and increasing sensing temporal resolution of electrochemical sensing beyond previously established limits. The results of this study offer novel neurochemistry approaches and act as a jumping off point for future technological developments.