

8<sup>th</sup> ANNUAL

# RESEARCH, SCHOLARSHIP & CREATIVE ACTIVITIES CONFERENCE



**Project Title: Measuring Neural Correlates of Long-Term Memory Recollection Through EEG**

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**Abstract:** In the present study, we plan to examine the neural correlates of the conscious recollection of long-term memories (LTM). This process is defined as the retrieval of qualitative or associative information during recognition, and a wealth of studies have shown it is dissociable from “familiarity”, which is a strength-based type of recognition. However, fewer studies have focused on whether the cognitive and/or neural basis of recollection differs as a function of the type of association that is retrieved. We will address this question and hypothesize that the electroencephalographic (EEG) activity and event-related potentials (ERPs) associated with item recollection following item-feature vs. item-item associative encoding differs. Following the performance of two mental imagery encoding tasks (separation imagery and interactive imagery), designed to promote dissociable levels of recollection of item-feature vs. item-item, respectively, yet comparable levels of item recollection, we will record EEG while participants perform a recognition memory task sensitive to the contribution of recollection or familiarity. This will permit us to investigate whether the specific ERP associated with recollection, the “P600 old/new effect”, differs as a function of encoded association. We will examine whether overall oscillatory activity during recollection differs as well. Overall, we believe that our results will help inform neurocognitive models of recognition LTM.



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