

**Principal Investigator: Denis Paré**

**R01 grant from NIMH; 5-years; \$1,937,500; Start date: July 1, 2019**

**Title: Close-loop optogenetic control of gamma oscillations in emotional learning**

The ability to learn that some stimuli or situations are associated with dangerous or rewarding outcomes is generally useful. However, emotional learning can also lead to a self-reinforcing cycle of harmful behaviors, as seen in addiction or anxiety disorders. This grant will test new technologies that take control of the fast brain waves underlying emotional behaviors. In the long term, this research will lead to new tools for the treatment of addiction and anxiety.