

## Description of Additional Supplementary Files

File Name: Supplementary Movie 1

Description: Representative behavior of *Orexin-Cre+AAV-ChR2* mice with 150 s laser stimulation in LC. The first 30 s shows behavior with no light, and the subsequent 150 s period shows behavior with laser stimulation. This movie is played at x4 normal speed. Freezing response markedly increases during the period of photostimulation.

File Name: Supplementary Movie 2

Description: Representative behavior of *NAT-Cre+AAV-ChR2* mice with 150 s laser stimulation. The first 30 s shows behavior with no light, and the subsequent 150 s period shows behavior with laser stimulation. This movie is played at x4 normal speed. Freezing response also increases during the period of photostimulation.

File Name: Supplementary Movie 3

Description: Control mouse (WT+AAV-ChR2) with 150 s laser stimulation of NA<sup>LC</sup>→LA pathway. The first 30 s of the movie shows rest period with no light, and the subsequent 150 s period with shows laser stimulation. This movie is played at x4 normal speed. The control mouse doesn't show any behavioral change with photostimulation.