

217th WPI-IIIS Seminar

The role of neurogenesis in regulating behavioral sex differences due to aging

Adult hippocampal neurogenesis (AHN) is a powerful form of plasticity that regulates cognition and emotion. AHN declines with aging and the loss of AHN function may drive memory impairments in the elderly. However, our studies show that AHN continues to have a persistent role in old mice. In females, AHN is required for simple ‘fear learning’ but not more cognitively demanding ‘fear discrimination’. In contrast, AHN in males is important for fear discrimination and not fear learning. Using electrophysiology and a high-throughput Western Blot system, we find that AHN reorganizes specific glutamate receptor subunits that may give rise to these sex differences. We are optimizing wireless photopharmacology to test this and determine if targeting these subunits could mitigate sex-specific behaviors associated with anxiety and dementia.



Dr. Victor Luna

Alzheimer's Center at Temple University
Lewis Katz School of Medicine

Date: **Thursday, December 12, 2024**

Time: **11:30 – 12:30**

Venue: **1F Auditorium, IIIS Building**

*** On-site participation only**



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