Andres Barria PhD
Associate Professor
Department of Physiology & Biophysics
University of Washington

"Regulation of Glutamatergic Synaptic Transmission by Wnt Signaling"

Wnt signaling is a highly conserved signal transduction mechanism that regulates embryonic development of metazoans; however the sustained expression of Wnt signaling components in the mature central nervous system (CNS) suggest that Wnt signaling cascades might also play a part in regulating brain function beyond embryonic development. Studies from our laboratory have shown that Wnt signaling regulates synaptic transmission, the fundamental process in the CNS underlying memory formation, cognition, and behavior. Changes in the strength of synaptic transmission at glutamatergic synapses, known as synaptic plasticity, is a widely accepted cellular model of learning and memory and is necessary for behaviors from spatial navigation to face recognition. Synaptic plasticity requires activation of NMDA-type glutamate receptors (NMDARs) and our laboratory has shown that synaptic currents mediated by NMDARs can be upregulated by Wnt5a, a non-canonical Wnt ligand, facilitating synaptic plasticity.

Wednesday
March 16, 2016
12:00p.m. – 1:00p.m.

Herklotz Seminar Room/ ZNI 112
USC Health Sciences Campus
1501 San Pablo Street, Los Angeles, CA 90033
Tel. 323.442.2144
www.usc.edu/zni

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