RESEARCH SEMINAR
Risk and Opportunity for Alzheimer’s Disease and Related Aging Disorders

Our molecular understanding of Alzheimer’s disease (AD) and related disorders comes almost exclusively from the studies of rare gene mutations that cause hereditary or early-onset cases (<5%). Studying the genetic risk factors linked to the majority of patient population would greatly benefit our intervention, but has been challenging due to the inherent complexity in the brain. Dr. Huang has developed a stem cell-based technology of unprecedented sensitivity to monitor responses of human neurons to apolipoprotein E (ApoE), the leading AD risk gene (40-60%), and uncovered a signaling pathway that may account for the essential function of synapse formation and also the AD pathogenesis. He will present his recent research on this ApoE signaling as well as its in vitro and in vivo interactions with other known AD risk factors, highlighting previously unappreciated opportunities for much needed therapeutics.

ABOUT SPEAKER
As a physician scientist from a combined background of molecular biology and clinical neurology, Dr. Y. Alvin Huang has studied the broad aspects of biology of cognition, with recent emphasis on Alzheimer’s disease aging-related disorders. His present research interfaces with neuroscience and stem cell biology, aiming to inform underpinnings of memory loss in the brain and to inspire translational approaches for cognitive impairment.