

Neurology and Neuroscience

June 11-13, 2018 | London, UK

Mircocircuitry for short-term memory and its relationship with Alzheimer's disease

Hao Li


Capital Medical University, China

Short-Term Memory (STM) is the capacity to hold information in the brain in an active, readily accessible state for a brief period of time, typically from seconds to minutes. Its coding mechanisms at the microcircuitry level remain a mystery. Performing two-photon imaging on behaving mice to monitor the activity of neuronal microcircuitry, we discovered a neuronal subpopulation in the medial prefrontal cortex (mPFC) that exhibited emergent properties in a context-dependent manner underlying a STM-like behavior paradigm. These neuronal subpopulations exclusively comprise excitatory neurons and mainly represent a group of neurons with stronger functional connections. In addition, we found the microcircuitry plasticity was maintained for minutes and was absent in an animal model of Alzheimer's disease (AD). Considering the toxicity of A β -soluble oligomers is one of the major causes of AD, in the future, we aim to unveil whether and how A β -soluble oligomers will influence the microcircuitry plasticity for STM in AD animal models.

Speaker Biography

Hao Li graduated from Capital Medical University and got the M.D and Ph.D in 2017. Currently, he is working as a neurosurgeon in the Department of Neurosurgery, Beijing Tiantan Hospital, Capital Medical University. In the past five years, he have mainly engaged in clinical and basic researches related to cerebral vascular diseases and Alzheimer's disease.

e: handanlihao-1@163.com

 Notes: