中国科学院心理健康重点实验室

心理健康前沿科学论坛

The role of Brain Orexinergic System on Reward, Pain and Decision making

Time：14:30-16:00

Date：Dec. 11 (Monday), 2017

Speaker：Abbas Haghparast（Shahid Bahonar University）

Venue：心理所南楼三层报告厅

Abstract :

Orexins are recently discovered neuropeptides synthetized mainly by neurons located in the lateral hypothalamus (LH). Orexins were originally thought to specifically mediate feeding and promote wakefulness, but it is now clear that they play a critical role in reward, pain and cognition. The brain orexinergic systemmodulates some types of high-motivated reward seeking, especially when this seeking is triggered by external stimuli.Now is clear that orexin interacts with the mesolimbic dopaminergic pathways to produce rewarding effects. Orexinergic system also has a parallel role in motivation for addictive drugs and it modulates this mesolimbic system during reinforcement. Our recent researches highlighted the role of LH orexinergic projections to the important target areas in the reward circuit such as the nucleus accumbens (NAc), ventral tegmental area (VTA) and hippocampus (HIP). On the other hand, the brain orexinergic systemalso affects the cognitive functions like nociceptive responses and decision making. Orexin neurons facilitate cognitive functions and memory performance via direct projections to medial prefrontal cortex. Additionally, orexin system plays an important role in pain modulation.Several studies showed that orexin has an important role in the induction of antinociception in tail-flick test as a model of acute pain. Also our findings showed that orexin receptors in the NAc, VTA and some regions of the HIP may be involved in modulation of nociceptive responses in formalin test as an animal model of inflammatory pain. For the first time, we showed that orexin has a crucial role in decision making. It seems that brain orexinergic system modulates cost and benefit decision making in the rats.

Pro. Abbas Haghparast is Unit leader works in Neuroscience Research Center, Shahid Beheshti University of Medical Sciences. Before joining the University of Shahid Beheshti University, where he presently teaches, Abbas Haghparast was Postdoctoral Fellow at University of Saskatchewan, institute of Physiology Saskatoon-Canada.

His research work focus on cognitive aspects especially the role of decision-making in drug addiction and related Electrophysiological, Molecular/Cellular and Behavioral mechanism.

Pro. Abbas Haghparast has published more than 100 articles and 436 abstracts have been presented in the National and International conferences. He is also Editorial Board Member of many research journals Journals, such as Amercian journal fo Neuroscience Research, Anesthesiology and Pain Medicine, Austin Journal of Drug Abuse and Addiction, Basic &Clinical Neuroscience Journal.

His research has been supported by grants from many national and international foundations. He has received numerous awards, Including: Recipient of Top Researcher Award (2013) in Basic Medical Sciences, 14th Research Festival, Shahid Beheshti University of Medical Sciences, Tehran, Iran Invited alumnus lecturer (2011) at the alumni special symposium, 8th IBRO World Congress of Neuroscience, Florence, Italy.