NYU SHANGHAI | NYU-ECNU Institute of Brain and Cognitive Science at NYU Shanghai

NEUROSCIENCE SEMINAR SERIES

TOPIC: Reward learning modulate selective processing of visual information

SPEAKER: Sheng Li, Peking University

TIME: 12:00-13:00, 15 September, 2017

VENUE: Room 385, Geography Building, 3663 Zhongshan Road North, Shanghai (华东师范大学中山北路校区，地理楼 385 室)

ABSTRACT OF THE TALK

Visual attentional selection is influenced by the value of objects. Previous studies have demonstrated that reward-associated items lead to rapid distraction and associated behavioral costs, which are difficult to override with top-down control. These behavioral phenomena agree with the classical predictiveness principle in learning theory, which suggests that the stimulus with high predictability of reward receives priority in attentional selection. With a set of behavioral and neuroimaging experiments, we have shown that the learned reward salience had enhanced representation in visual working memory and this learning-related internal mental representation can facilitate top-down attentional control of stimulus suppression. Particularly, the top-down initiated suppression of reward salience was associated with the increased frontal theta oscillation and reduced channel responses in primary visual cortex. Our findings suggest that the learned reward salience plays a flexible role to enabling the neural system to adaptively modulate the perceptual representation for behavioral optimization.

BIOGRAPHY

Sheng Li is an associate professor with tenure at the School of Psychological and Cognitive Sciences, Peking University. He received his B.Eng degree from Beijing University of Posts and Telecommunications, China, in 1998 and D.Phil degree from the University of Sussex, UK, in 2006. From 2006 to 2009, he was a postdoctoral research fellow at the School of Psychology, University of Birmingham, UK. He joined the Peking University as a faculty member in 2009 and was selected as a principle investigator in the IDG/McGovern Institute for Brain Research in 2013. His research focuses on the cognitive and neural mechanisms of human visual perception, attention, learning, and memory, with behavioral and functional brain imaging approaches (fMRI, EEG, TMS). His research results appeared in different prestigious journals, including Neuron, Journal of Neuroscience, Cerebral Cortex, and Journal of Experimental Psychology: Human Perception and Performance. In 2016, he was selected as a Young Fellow of Chang Jiang Scholars Program, Ministry of Education.