2025 KSBNS
Symposium 30
The precise dissection of structural and functional features in the visual system
August 26th (Tuesday), 10:35-12:30
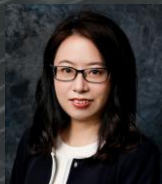**Premier Ballroom B, Songdo CONVENSIA, Incheon, Korea**

Registration KSBNS2025.org

한국뇌신경과학회
The Korean Society for Brain and Neural Sciences

Organizer & Moderator

Hailan Hu
School of Medicine
Zhejiang University, China

Organizer

Jiayi Zhang
Institutes of Brain Science
Fudan University, China

Organizer, Moderator

Wei Li
School of Medicine
Shanghai Jiaotong University, China

Moderator

The visual system, responsible for our sense of sight, is a complex and intricate network of structures and functions. Precise dissection of this system involves a meticulous examination of its components, from the eye itself to the neural pathways that connect it to the brain. In this symposium, speakers will present recent progress in the analysis of functional features such as phototransduction, neural signal transmission, and image processing. Advanced techniques like neuroimaging, patch-seq and electrophysiology play a crucial role in this dissection, allowing researchers to map neural activity and visualize the dynamic processes underlying vision.

Speakers

Keisuke Yonehara
National Institute of Genetics, Japan
"Retinal computation and information processing"

Yonehara is an outstanding researcher in the field of visual neuroscience, renowned for his pioneering work on the genetic labeling and functional analysis of directionally selective ganglion cells in the retina, which has deepened the understanding of visual information processing.

Sheng Liu
Zhongshan Ophthalmic Center, Sun Yat-Sen University, China
"Single-cell transcriptomics and electrophysiology in primate visual system"

Liu is a renowned scientist for his research on retinal electrophysiology and mechanisms of vision formation. Through optimized staining and in vitro culture of neural precursor cells, his study mapped neurogenesis in adult primates and confirmed active neurogenesis in the hippocampus of adult monkeys. These findings have significant medical implications for promoting adult neurogenesis and repairing the nervous system.

Jin Woo Kim
Korea Advanced Institute of Science and Technology, Korea
"Restoration of regenerative potential in the mammalian retina"

Kim is a pioneering researcher in the field of retinal development. He is renowned for his contributions to the field, particularly his work on transcription factors and signaling pathways. His contributions have significantly advanced the understanding of visual system function and related diseases, offering valuable insights for the development of future therapeutic strategies.

Chieko Koike
Department of Pharmaceutical Sciences, Ritsumeikan University, Japan
"A mechanism for pathological oscillations in the mouse retinal ganglion cells"

Koike is a renowned researcher whose work concentrates on cross-hierarchical analysis of an early vision system. This analysis involves the generation, functions and visual perception mechanism of the central nervous system and retina from a molecular, systematic, functional and behavioral perspective.

Kexin Yuan
School of Biomedical Engineering, Tsinghua University, China
"An integrative decoding of the visual-auditory bimodal system: circuit mapping, computational modeling, and neurotechnology innovation"

Yuan is a distinguished neuroscientist, his works have revealed that the higher auditory thalamus as a critical brain hub that integrates auditory and visual stimuli with danger perceptions, influencing emotions and defensive behaviors through connections to the temporal association cortex and limbic system.