

Title: Roles of glycosylation in brain function and disorders : from pathophysiology to therapeutic potential

September 8th (Tuesday), 12:40-14:35

Room 107-108, Daejeon Convention Center, Daejeon, Korea

Registration KSBNS2026.org

Organizer



C. Justin Lee

Director, Center for Memory and Glioscience, Institute for Basic Science, Korea

He is a prominent neuroscientist renowned for pioneering the field of **glioscience**, which emphasizes the active roles of glial cells—particularly astrocytes—in brain function and neurological disorders. His work has fundamentally shifted our understanding of astrocytes from passive support cells to active participants in neural communication and pathology, offering novel insights into the treatment of neurological disorders.

Speakers



Tadashi Suzuki

Senior Scientist, RIKEN Cluster for Pioneering Research / Glycometabolic Biochemistry Laboratory, Japan
"Decoding Free N-Glycans and Cytosolic PNGase Pathways in Health and Disease"

He is internationally recognized for pioneering research on peptide:N-glycanase (PNGase/NGLY1) and free N-glycan metabolism, uncovering how deglycosylation pathways regulate protein quality control, cellular homeostasis, and developmental disorders. His work has advanced the understanding of glycan-mediated mechanisms linking intracellular metabolism to human disease.



Hyun Joo An

Professor, Chungnam National University, South Korea
"Advancing Glycomics and Glycoproteomics for Precision Biomarker Discovery"

She is internationally recognized for pioneering research in glycomics and glycoproteomics, developing advanced mass spectrometry-based platforms to characterize complex glycans and glycoproteins. Her work has contributed significantly to biomarker discovery, disease mechanism studies, and the translation of glioscience into clinical and biomedical applications.



Jeong Ho Lee

KEPCO Endowed Chair Professor, Korea Advanced Institute of Science and Technology (KAIST)
"Brain Somatic Mosaicism Disrupting N-Glycosylation in Intractable Epilepsy"

He is recognized for pioneering research on brain somatic mutations (mosaicisms), investigating genetic mutations arising in neural stem cells and their progenitors that contribute to neurological disorders such as epilepsy and brain tumors.



Boyoung Lee

Senior Research Fellow, Center for Memory and Glioscience, IBS, South Korea
"Glycosylation as a Regulatory Layer of Neural Circuits in Stress-Related Brain Disorders"

She is recognized for pioneering research in neuroglycobiology, investigating how glycosylation pathways shape synaptic function, circuit stability, and behavior in psychiatric and neurological disorders. Her work integrates multi-omics, neurophysiology, and animal models to uncover therapeutic targets for various neurological disorders.

Brief Session Overview

Glycosylation, one of the most complex post-translational modifications, has remained underexplored in the neuroscience field due to longstanding technical challenges. Recent advances have revealed its critical roles in normal brain function and disorders such as epilepsy, stroke, and depression, and our speakers are leading these breakthroughs in neuroglycobiology in what will be the first dedicated session on this topic in KSBNS history.