

Title: Integrative Approaches to Neurodegeneration: Insights from Multiomics, Inflammation, and Cellular Pathways

August 25th (Monday), 10:35-12:30

Rm.113-115, Songdo CONVENIA, Incheon, Korea

Registration KSBNS2025.org

Organizer



Alexa Woo

Case Western Reserve University, Dept of Pathology, United States

This symposium highlights cutting-edge research that integrates multiomics data with insights into neuroinflammatory and cellular pathways to uncover novel mechanisms driving neurodegenerative diseases. By combining diverse biological approaches, the sessions aim to foster a deeper understanding of disease progression and identify new therapeutic targets.

Speakers



Yoon-Seong Kim

Institute for Neurological Therapeutics, RWJMS at Rutgers, United States

"Oligodendrocytes, a major contributor to aging and Parkinson's disease: Single-nuclei multiomic approach of human midbrain"

He is a leading neuroscientist recognized for his groundbreaking research on oxidative stress and α -synuclein pathology in Parkinson's disease. His pioneering work has introduced the concept of transcriptional mutagenesis of the SNCA gene, shedding new light on the molecular mechanisms underlying neurodegeneration. At the symposium, he will present his latest findings on the role of oligodendrocytes in aging and Parkinson's disease using a single-nuclei multiomic analysis of the human midbrain.



Jae-Kyung Jamise Lee

University of Georgia, Dept of Physiology and Pharmacology, United States

"Targeting the Resolution of Neuroinflammatory Signaling in Synucleinopathies."

She is a neuroimmunologist with expertise in age-related immune dysfunction and neurodegeneration in synucleinopathies. Utilizing both in vitro and preclinical in vivo models of synucleinopathy, her work has advanced understanding of the interplay between peripheral immune cells—particularly natural killer cells—and synuclein pathology, aiming to develop novel immunotherapeutic strategies.



David Kang

Case Western Reserve University, Dept of Pathology, United States

"Mitophagy and mitochondrial proteostasis: Role of CHCHD10 in ALS and FTD"

He is a distinguished neuroscientist recognized for his pioneering work on the molecular mechanisms driving proteinopathies and mitochondrial dysfunction in Alzheimer's disease and related dementias. His research has uncovered key roles for autophagy, deubiquitinases, and the mitochondrial protein CHCHD10 in neurodegeneration, offering novel insights into disease mechanisms and therapeutic strategies.



Alexa Woo

Case Western Reserve University, Dept of Pathology, United States

"From mitochondria to lysosomes: Unraveling the role of CHCHD2 in Lewy body disorders"

She is a rising neuroscientist whose research centers on mitochondrial dysfunction and intracellular signaling in neurodegenerative diseases. Her recent work focuses on the mitochondrial protein CHCHD2, investigating its pathological role in Parkinson's disease and related Lewy body disorders.