

NEURODEGENERATION LECTURE SERIE

Wednesday 14 June - 11:00

RIKEN room, BT2 building, Campus Belval

Tubes, Channels and Iron: Intercellular Connectivity, Glymphatic Clearance and Iron Accumulation in Parkinson's Disease

Parkinson's disease, Multiple System Atrophy (MSA), and Dementia with Lewy Bodies (DLB) comprise a group of neurodegenerative diseases characterized by the abnormal aggregation of α -synuclein protein in the CNS. We are investigating multiple α -synuclein pathogenic mechanisms towards novel therapeutic targets, including intercellular connectivity, glymphatic clearance and iron accumulation. We found that: (1) α -synuclein aggregates can move from cell to cell via tunneling nanotubes (TNTs) bound to mitochondria and α -synuclein aggregates can promote TNT formation, which could increase spread of α -synuclein pathology within the brain; (2) the glymphatic system, a perivascular network that promotes CNS waste clearance, is affected in MSA/DLB tissue and observed similar changes in cell culture, suggesting a direct link between α -synuclein aggregates and glymphatic dysfunction; (3) mirroring brain iron accumulation, inducing α -synuclein aggregation in cell culture resulted in accumulation of the ferritin iron store and demonstrated that inhibition of the post-translational modifier, SUMO, could promote ferritin clearance.

This talk will be preceded by a **lecture serie on Next-Generation of Multi-Omics Research** with Prof Mark H. Ellisman, Ph.D.; Distinguished Professor of Neurosciences.



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**More
information**



We highly encourage PhD candidates and postdocs to join the 'meet the speaker' session after the talk. Please register by email to cathia.rausch@uni.lu