PACE - Lundbeck Foundation Parkinson's Disease Research Center, Aarhus University Hospital

PACE Exchange Seminar Series (PACEx)

Date: Thursday, 19th February 2026, 14:30–15:30 CET | **Venue:** Online

Mechanisms of a-synuclein aggregation and neurodegeneration in Parkinson's disease.

Speaker
Joseph R. Mazulli, PhD

Dimitri Krainc Professor of Neurology, Northwestern University Feinberg School of Medicine

Abstract

Synucleinopathies such as Parkinson's disease (PD) and dementia with Lewy bodies (DLB) are characterized by protein accumulation and aggregation. Genetic variants in lysosomal and trafficking pathways have recently emerged as important risk factors for PD and DLB pathogenesis. Our lab studies the mechanistic connection between lysosomal dysfunction, a-synuclein aggregation, and neurodegeneration using a combination of iPSC-neurons, mouse models, and human post-mortem tissue. Our work indicates that a-synuclein perturbs multiple branches of the proteostasis pathway ranging from protein synthesis (mRNA stability / protein translation), protein folding in the endoplasmic reticulum, and degradation in lysosomes. Our mechanistic work in patient-derived iPSC models has helped to identify new therapeutic targets that are druggable by small molecules and capable of enhancing protein trafficking and lysosomal degradation, currently in pre-clinical development. Our future goals are to identify new disease mechanisms in iPSC models using unbiased -omics, as well as pre-clinical development of our existing targets to enhance the lysosomal system and restore neuronal health in synucleinopathies.

Online access: https://aarhusuniversity.zoom.us/j/64178774189

Meeting ID: 641 7877 4189

Host: Prof. Poul Henning Jensen (phj@biomed.au.dk)

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