## SEMINAR: Alpha-synuclein and neurodegeneration

Thursday 14th December 10:00-11:30 Bldg. 1170, Aud. 347 Ole Worms Allé 3 Aarhus University

## "Molecular views of a-synuclein"



## Prof. Markus Zweckstetter

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Parkinson's disease, multiple system atrophy, and dementia with Lewy bodies are neurodegenerative disorders with a-synuclein aggregation pathology. Different strains of a-synuclein with unique properties are suggested to cause distinct clinical and pathological manifestations resulting in PD, MSA, or DLB. Here I will present my labs efforts to gain molecular level insights into the mechanisms of a-synuclein strain formation.

"Astrocyte calcium signaling can protect against neuroinflammation induced by a-synuclein Oligomers"



Assoc. Prof. Evangelia Emmanouilidou Department of Chemistry, School of Science National & Kapodistrian University of Athens, Greece

Neuroinflammation is receiving increasing attention in Parkinson's Disease (PD) pathophysiology but we still lack critical information about how structural a-synuclein conformers may activate microglia and/or astrocytes and contribute to the process. We have used primary microglia and quiescent astrocytes, post-mortem brain tissue from PD patients and A53T a-synuclein transgenic mice to study the relation between a-synuclein aggregation, autoantibodies, cellular morphological, RNA and secretomic changes. Our results indicate that astrocyte via T-type Ca2+ channels mediate the secretion of IGFBPL1, an IGF-1 binding protein of neuroprotective potential.



