

Impromptu

Colloquia in Cellular Signaling

Venue: Medical University Vienna, Center for Physiology and Pharmacology,
Institute of Pharmacology, WaehringerstraÙe 13a, 1090 Vienna, "**Gr. HS Pharmakologie**"
(Helmut Kubista, Tel.: (01) 40160-31240, E-mail: helmut.kubista@meduniwien.ac.at)

Friday, 24.03.2023

11am

Host: Daniela Pollak

"Spatial Memory Dysfunction due to Amyloid beta and Tau Pathologies"



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Abstract:

Some of the earliest symptoms of Alzheimer's disease (AD) are loss of orientation, wandering and misplacing items. One of the first regions vulnerable to AD pathology is the entorhinal cortex (EC), and together with hippocampus (HPC), the EC-HPC circuit is intimately involved in several memory functions, including spatial memory. Using mouse models of Alzheimer's disease, I will show how amyloid beta and tau pathologies affect neuronal and network function in the EC-HPC circuit. More specifically, I will show how the neural correlates of spatial memory—place cells and grid cells—are impacted by AD pathologies. Further, I will demonstrate how neuronal activity influences pathology and if modulating the neuronal activity can rescue neurodegeneration. More recently, another region in the brain—locus coeruleus—has been known to be affected by AD pathology, and we are starting to unravel how this might impact neuronal dysfunction in downstream regions of the brain.