



## SEMINARIO PRESENCIAL

Lunes, 18 de Diciembre de 2023

12:30 h. Instituto Cajal (CSIC) Madrid

**Dr. CHRISTOS LISGARAS**

The Nathan S. Kline Institute for Psychiatric Research

# HIGH FREQUENCY OSCILLATIONS: FROM EPILEPSY TO ALZHEIMER'S DISEASE

## Abstract

High-frequency oscillations (HFOs) are characteristics of epileptogenesis and associated to memory impairments. Here, we will describe recent advances in the detection and analysis of HFOs applied to the study of epilepsy and Alzheimer's disease. We will discuss recent data using large-scale in vivo electrophysiology in different animal models of AD to search for early EEG biomarkers.

## Affiliation and short bio

Dr. Christos Lisgaras received his Integrated Master's Degree in Applied Biology and Technology from the University of Ioannina in Greece and his Ph.D. in Neurophysiology and Neuropharmacology from the same institution. He was subsequently trained at the Albert Einstein College of Medicine to investigate post-traumatic electrophysiological (EEG) abnormalities and antiepileptogenic treatments as a part of a preclinical consortium, the Epilepsy Bioinformatics Study for Antiepileptogenic Therapy (EpiBioS4Rx). Christos has served on committees at the International League against Epilepsy (ILAE) and he is a founding member of the Young Epilepsy Section. He has been awarded the Herbert H. Jasper Junior Investigator Travel Award and supported by the ILAE, AES, the Alexander S. Onassis Public Benefit Foundation, the Greek National Scholarships Foundation, the Bodossaki Foundation, and the World Hellenic Biomedical Association. His work is also supported by NYU's Comprehensive Epilepsy Center FACES Pilot Research Grant to advance brain stimulation strategies in temporal lobe epilepsy.

## Related publications with the topic:

Lisgaras CP\*, Scharfman HE. Interictal spikes in Alzheimer's disease: Preclinical evidence for dominance of the dentate gyrus and cholinergic control by the medial septum. *Neurobiol Dis.* 2023 Sep 14;187:106294. doi: 10.1016/j.nbd.2023.106294.

Lisgaras CP, Scharfman HE. High Frequency Oscillations (250-500Hz) in Animal Models of Alzheimer's Disease and Two Animal Models of Epilepsy. *Epilepsia.* 2022 Nov 8. doi: 10.1111/epi.17462.

Lisgaras CP, Scharfman HE. Robust Chronic Convulsive Seizures, High Frequency Oscillations, and Human Seizure Onset Patterns in an Intrahippocampal Kainic Acid Model in Mice. *Neurobiol Dis.* 2022 May;166:105637. doi: 10.1016/j.nbd.2022.105637