

Topic title: “Using neuroimaging to test biophysical theories of the brain”

Time: Wed. 26 June, pm 14:30

Place: Comprehensive Building Meeting Room 131 (综合楼 131 会议室)

Speaker: Dr. Pedro A Valdes-Hernandez:



Dr. Pedro A Valdes-Hernandez

Main research interests:

I would consider myself an expert in Neuroimaging with an understanding of the underlying mechanisms and physics of brain image formation. My main interest is the analysis of databases of MRI and EEG images and their comparison in both normal and pathological populations, to improve the health and quality of life of the society.

Currently, I am doing research on oxytocin effects on aging and pain cohorts using MRI functional connectivity. I also did neuroimaging research in epilepsy. Using EEG-fMRI data from humans and rat models, one of my main goals is to provide model-based methods to discriminate the clinically relevant mechanisms of BOLD responses during interictal spikes. Another main goal is to understand how and where the interictal spikes affect Resting State Networks, as characterized by Brain Connectivity. I am also working in theoretical modeling of EEG/MEG signals in the brain. I have extensive experimental skills and expertise in MRI experimentation, i.e. protocol design, acquisition, preprocessing and processing. I also have experience in EEG acquisition and processing, simultaneous EEG-fMRI, and some practice in LFP, Doppler and optical imaging in animal models. I also have advanced theoretical skills in fMRI processing, GLM, structural and functional connectivity, morphometry (computational neuroanatomy), statistical estimation, statistical analysis of large amount of neuroimages and neurophysical modeling (computational neuroscience and the biophysics of EEG/MEG and MRI).

Education:

2018 Postdoctoral fellow at the Pain Research & Intervention Center of Excellence (PRICE) Institute on Aging (IOA), University of Florida, Gainesville USA

2016 Postdoctoral fellow at Florida International University at the Neural Modelling Lab of Jorge Riera

2016 PhD in Physical Sciences obtained at the Cuban Neuroscience Center in 2016 with the thesis “the Computational Neuroanatomy to evaluate and improve the biophysical models of the brain electrical tomography”

2014 Head of MRI Center at the Cuban Neuroscience Center, La Habana Cuba

2012 Fellow at the Tohoku university, Sendai Japan

Bachelor in Nuclear Physics at the Faculty of University of Havana Cuba

Web pages:

https://scholar.google.com/citations?view_op=list_works&hl=en&user=UblgLucAAA_AJ

https://www.researchgate.net/profile/Pedro_Valdes-Hernandez