

Summer Research Openings

Opportunity with Dr. H. Craig Heller's laboratory

Lab Mentor: Dr. Elsa Pittaras

Project Title: The role of Usp16 gene in Down Syndrome and Alzheimer disease

Project Description:

Down Syndrome (DS) is a genetic disorder caused by the presence of all or part of a third copy of chromosome 21. Alzheimer disease (AD) is a chronic neurodegenerative disease due to an accumulation of a peptide from the abnormal cleavage of the Amyloid Precursor Protein (APP) for which the gene is located on the chromosome 21. Therefore, AD and DS are two pathologies tied together and most people with DS develop AD at relatively young ages. The project aims at studying a new potential target for DS and AD: The Usp16 gene which is linked to aging as its action depletes stem cell pools.

*Interested students and/or those who would like to learn more information can contact Dr. Elsa Pittaras at pittaras@stanford.edu.

Opportunity with Dr. Paul Nuyujukian's laboratory

Lab Mentor: Dr. Nuyujukian and Dr. Grecius

Project Title: Exploring Infralow Oscillations

Project Description:

Systems neuroscientists tend to focus on high-frequency brain activity (1ms duration action potentials sampled at 30kHz) when decoding and recoding behavior. Lurking beneath the buzz of high-frequency brain activity is an undercurrent of very slow (0.01 - 0.1Hz) electrical activity. These very low-frequency activity, termed infralow oscillations, appear fairly ubiquitous both across brain regions in humans but also across brains in different species (down, at least, to fruit flies).

*Interested students and/or those who would like to learn more information can contact Dr. Paul Nuyujukian at biox@pn.stanford.edu.