CENTER FOR NANOHYBRID FUNCTIONAL MATERIALS

MONDAY
MAY 19, 2014
2:30 – 4:00 PM
UNL - 237 SCOTT ENGINEERING CENTER

Dr. Alexander Portillo

Department of Pharmaceutical Sciences, College of Pharmacy,
University of Nebraska Medical Center

"Misfolding and Aggregation of Yeast Prion Protein Sup35p Using Atomic Force Microscopy and Complementary Biophysical Methods"

Protein misfolding and its subsequent aggregation is the cause of many diseases including Alzheimer's disease, Huntington's, Parkinson's, and prion diseases, which affect millions of people worldwide. The protein aggregation that results from these diseases is a complex process which proceeds via many intermediate states including oligomers, strings of oligomers and fibrils. Atomic Force Microscopy (AFM) and complimentary biophysical techniques were used here to follow misfolding, aggregation and peptide-peptide interactions of a short fragment of Sup35 (GNNQQNY), shown to be a key sequence in the aggregation of the entire protein.

AFM is capable of probing changes in protein folding that can lead to aggregation, and can open more possibilities for better understanding the molecular mechanisms of neurodegenerative diseases.

Seminar hosted by Dr. Tino Hofmann, UNL Department of Electrical Engineering

University of Nebraska Lincoln