

# PHYSICAL CHEMISTRY SEMINAR



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Monday, Dec. 7, 2020  
4:00 PM  
via Zoom

## “Optical Properties of Novel Functional Organic Materials”



Organic conjugated molecules for optical and electronic applications have received great attention due to their versatility and relatively low manufacturing costs. While there has been great improvement of light conversion efficiency in certain photovoltaic materials, there still remain questions concerning the structural and inhomogeneity of the electron and energy transport processes. In this regard, understanding the fast processes (fs) at a local level (nm) in these systems is crucial in the design criteria for better performance in optical and electronic applications. In this presentation, the results of photo-physical dynamics of organic light harvesting materials will be described. These materials have been analyzed using time-resolved absorption and fluorescence spectroscopy and microscopy as well as a nonlinear and quantum optical spectroscopy. Ultra-fast interferometric microscopic measurements were carried out to investigate the role of coherent energy transport in these organic photovoltaic materials. The use of these methods provide insights in to the dynamics and degree of heterogeneity in novel organic materials for optical and electronic applications.