

# PHYSICAL CHEMISTRY SEMINAR



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Monday, Oct. 5, 2020  
4:00 PM  
via Zoom

## “On circumventing the limits of organic chromophore photophysics”



As chemists, we understand conjugated bonds allow us to extend the absorption and emission of organic molecules into the visible and near infrared. But what sets the limits on infrared absorption and emission for a single chromophore? And how might we circumvent these limits by modulating the environment in which the chromophore is embedded? In this talk I describe our group's effort to use fundamental insights from chemical physics to probe and develop near and shortwave infrared chromophores and chromophore networks. I describe how we leverage supramolecular aggregation to drive long-range dipole coupling, which we believe is a key to unlocking new photophysical modalities. I will also discuss how we are pushing new spectroscopic and theoretical methods, amenable to probing highly redshifted emission and long-range coherence. Taken together, we can link chromophore design to new physics and applications, particularly as bright shortwave infrared absorbers and emitters.