

Chez Pierre

Presents ...

Tuesday, April 26, 2022

2:00 pm

Duboc Room - 4-331



Special Chez Pierre Seminar

David Hsieh—California Institute of Technology

“Strongly Driven Quantum Materials”.

Driving strongly correlated electron systems far from equilibrium can lead to fundamentally new many-body phenomena that are thermally inaccessible. In this talk, I will describe a series of recent experiments that leverage ultrafast stroboscopic techniques to interrogate intense light-driven correlated insulating materials.

By tailoring the characteristics of the drive and tuning their frequency into transparency windows, I will show how different out-of-equilibrium phenomena can be selectively realized. In particular, I will highlight the nonlinear production of electron-hole pairs, coherent “Floquet” engineering of electronic band structures and optical properties, and control of magnetic long-range ordering.