

Condensed Matter Theory Center Seminar
Wednesday, November 5 at 10:00 AM
2205 Physics Building

Speaker: Steve Kivelson (Stanford)

Title: Theory of Intertwined Orders in High Temperature Superconductors

Abstract: The electronic phase diagrams of many highly correlated systems, and in particular the cuprate high temperature superconductors, are complex, with many different phases appearing with similar - sometimes identical - ordering temperatures even as material properties, such as a dopant concentration, are varied over wide ranges. This complexity is sometimes referred to as "competing orders." However, since the relation is intimate, and can even lead to the existence of new phases of matter such as the putative "pair-density-wave," the general relation is better thought of in terms of "intertwined orders." We selectively analyze some of the experiments in the cuprates which suggest that essential aspects of the physics are reflected in the intertwining of multiple orders-not just in the nature of each order by itself. We also summarize and critique several theoretical ideas concerning the origin and implications of this complexity.

Host: Jay D. Sau

<http://www.physics.umd.edu/cmtc/seminars.html>
