

# Condensed Matter Theory Center FALL SYMPOSIUM



Date: October 12-16, 2015

Time: 10:00-1:00

Place: 2205 Toll Physics Building

## October 12 (Monday) Dirac and Related Materials

- 10:00 AM Jedediah Pixley "The effects of disorder on Dirac and Weyl semi-metals"  
10:45 AM Mehdi Kargarian "Surface states of Dirac semimetals"  
11:30 AM Robert Throckmorton "Many-Body Effects and Ultraviolet Renormalization in 3D Dirac Materials"  
12:15 PM Hilary Hurst "Charged Skyrmions on the Surface of a Topological Insulator"

## October 13 (Tuesday) Majorana and Topological Systems

- 10:00 AM Ching-Kai Chiu "Topological nodal lines"  
10:45 AM David Clarke "Bell violations in Majorana wires"  
11:30 AM William Cole "Effects of strong proximity coupling on semiconductor Majorana nanowires"  
12:15 PM Setiawan "Conductance spectroscopy of topological superconductor wire junctions"

## October 14 (Wednesday) MBL, Interactions, and Correlations

- 10:00 AM Dong-Ling Deng "Exponential Orthogonality Catastrophe in Single-particle and Many-body Localized Systems"  
10:45 AM Xiaopeng Li "Many-body Localization, Mobility Edge and a Non-Ergodic Metal Phase in a One Dimensional Incommensurate Lattice"  
11:30 AM Bitan Roy "Phases and phase transitions in three dimensional parabolic semimetals: Application to 227 pyrochlore iridates"  
12:15 PM Juraj Radic "Strong correlation effects in a two-dimensional Bose gas with quartic dispersion"

## October 15 (Thursday) Exotic Quantum Phases

- 10:00 AM Yang-Le Wu "Z<sub>4</sub> parafermions in fractional quantum Hall bilayers"  
10:45 AM Xiao Li "Quantum Hall effects in certain topological states of matter"  
11:30 AM Pallab Goswami "HP<sup>1</sup> gauge theory of deconfined quantum criticality in (2+1) dimensions"  
12:15 PM Andrew Allocca "Quantum interference phenomena in the Casimir effect"

## October 16 (Friday) Bosons, Fermions, Cuprates, and Silicon

- 10:00 AM Stefan Natu "Spin-1 spin orbit coupled bosons in an optical lattice"  
10:45 AM Yang Song "New tunneling magnetoresistance and Silicon spin relaxation"  
11:30 AM Dmitry Efimkin "Moving solitons in a one-dimensional fermionic superfluid"  
12:15 PM Zach Raines "Enhancement of superconductivity via periodic modulation in a three-dimensional model of cuprates"