

# Condensed Matter Theory Center 2012 Fall Symposium

October 10-12, 2012  
2205 Physics Building  
<http://www.physics.umd.edu/cmtdc/seminars.html>



## Wednesday, October 10

1:00 PM – 5:30 PM (talks 30 minutes followed by 15 minutes of discussion)

- Lev Bishop, “Composite pulses for robust universal control of singlet-triplet qubits: Part I”  
Sunny Wang, “Composite pulses for robust universal control of singlet-triplet qubits: Part II”  
Sriram Ganeshan, “FQHE interferometers in strong tunneling regime. The role of compactness of edge fields”  
Vladimir Zyuzin, “Fractional Quantum Hall Effect from Phenomenological Bosonization”  
Chenjie Wang, “Rectification in Y-junctions of Luttinger liquid wires”  
Michael Levin, “Protected edge modes and topological phases”

## Thursday, October 11

1:30 PM – 5:30 PM (talks 25 minutes followed by 5 minutes of discussion)

- Meng Cheng, “Non-Abelian zero modes on the edge of fractional topological insulators”  
Hoi Yin Hui, “Instabilities of bosonic spin currents in optical lattices”  
Joseph Mitchell, “Link duality and extension to fermions”  
Juraj Radic, “Exotic quantum spin models in spin-orbit-coupled Mott insulators”  
Sergey Pershoguba, “Thin film of a topological insulator in a parallel or tilted magnetic field”  
Justin Wilson, “Quantum geometry and entanglement in the spin-boson model”  
Qiuzi Li, “Electronic transport on the surface of 3D topological insulator”  
Chien-Hung Lin, “Zero bias conductance peak in Majorana wires made of semiconductor-superconductor hybrid structures”

## Friday, October 12

10:00 AM – 12:15 PM (talks 30 minutes followed by 15 minutes of discussion)

- Victor Galitski, “Stimulation of quantum phases by time-dependent perturbations”  
Ed Barnes, “Electron spin decoherence in a polarized nuclear spin bath”  
So Takei, “Microscopic theory for a ferromagnet-superconductor heterostructure: Transport, fluctuations and topological superconductivity”

12:15 PM – 1:15 PM **Break for lunch**

1:15 PM – 5:00 PM (talks 30 minutes followed by 15 minutes of discussion)

- Alejandro Lobos, “Manipulating Majorana Fermions in Quantum Nanowires with Broken Inversion Symmetry”  
Benjamin Fregoso, “Effects of magnetic and potential disorder in topological wires with Majorana fermions”  
Andrea Di Ciolo, “Spin models on frustrated honeycomb lattices: a Variational Monte Carlo study”  
Kostya Kechedzhi, “Gate tunable quantum transport in double layer graphene”  
David Abergel, “Inhomogeneity and nonlinear screening in gapped bilayer graphene”