

UMD CONDENSED MATTER THEORY CENTER (CMTC) SYMPOSIUM ON “QUANTUM PHENOMENA”

www.physics.umd.edu/cmtc
SEPTEMBER 27-28, 2007; 8:30am – 5:30pm
Room 2202, Physics Building

September 27, 2007

SESSION I: GRAPHENE

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|---------|----------------|--|
| 9:00am | Shaffique Adam | “Transport in Graphene” |
| 10:00am | Wang-Kong Tse | “Electron-Phonon and Electron-Electron Interactions in Graphene” |
| 11:30am | Euyheon Hwang | “Many-Body Exchange-Correlation Effects in Graphene” |

SESSION II: QUBIT COHERENCE & QUANTUM COMPUTATION

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| 1:00pm | Wayne Witzel | “Mitigating Nuclear Induced Spectral Diffusion Using Concatenated Dynamical Decoupling” |
| 2:00pm | Roman Lutchyn | “Kinetics of Superconducting Quantum Circuits” |

SESSION III: NONABELIAN ANYONS & TOPOLOGICAL QUANTUM COMPUTATION

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| 3:30pm | Sumanta Tewari | “Testable Signatures of Quantum Non-Locality in a Majorana Fermion System” |
| 4:30pm | Adrian Feiguin | “Density Matrix Renormalization Group Study of Incompressible Fractional Quantum Hall States” |

September 28, 2007

SESSION IV: SPINTRONICS

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| 9:00am | Lukasz Cywinski | “Ultrafast Light-Induced Demagnetization in Ferromagnetic Semiconductors and Transition Metals” |
| 10:00am | Chuanwei Zhang | “A Phenomenological Theory of Spiral Magnets in Multiferroics” |

SESSION V: SPIN LIQUIDS & NON-FERMI LIQUIDS

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| 11:30am | Mike Peterson | “Thermoelectric Effects in a Strongly Correlated Model for Sodium Cobalt Oxide (Na_xCoO_2)” |
| 1:00pm | Cody Nave | “Thermal Conductivity of a U(1) Spin Liquid” |

SESSION VI: CUPRATES & SUPERCONDUCTIVITY

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| 2:00pm | Enrico Rossi | “Impurity-Induced States in 2DEG and d-Wave Superconductors” |
| 3:30pm | Tudor Stanescu | “Pseudogaps and Fermi Arcs in Cuprates: a DMFT Perspective” |
| 4:30pm | Victor Galitski | “Mesoscopic Disorder Fluctuations in Superconductors” |