

PROGRAMME (Revised on 10 Dec 2012)**Wednesday, December 12, 2012 (Day 1)**

08:30 - 09:05 Registration
 09:05 - 09:10 Opening and Welcome Speech, by Wang Yao

Morning session 1: Quantum Control in Two Dimensional Systems*Chaired by Xincheng Xie (Peking University)*

09:10 - 09:40 Electronic Excitations in Graphene: Excitons, Plasmarons, and Atomic Collapse State
Steven G. Louie (University of California, Berkeley)
 09:40 - 10:10 Optical Signature of Inversion Symmetry and Spin-Valley Coupling in Atomically Thin Dichalcogenides
Xiaodong Cui (The University of Hong Kong)
 10:10 - 10:40 Electrical Tuning of Valley Magnetic Moment via Symmetry Control
Xiaodong Xu (University of Washington)
 10:40 - 11:10 Tea Break

Morning session 2: Topological Quantum Computing*Chaired by Yan Chen (Fudan University)*

11:10 - 11:40 A Generalization of Kitaev's Toric Code for Topological Quantum Computation
Yong-Shi Wu (Fudan University and University of Utah)
 11:40 - 12:10 Manipulation of Majorana Fermions in Topological Superconductor
Xiao Hu (WPI-MANA, NIMS)
 12:10 - 14:00 Lunch and Poster Session

Daniel Tsui Fellowship Award Presentation, Centre of Theoretical and Computational Physics

14:00 - 14:10 Chaired by T. Maurice Rice, the award is presented by Steven G. Louie

Afternoon session 1: Cold Atoms*Chaired by Jason Ho (Ohio State University and Tsinghua University)*

14:10 - 14:40 Effects of Spin-Orbit Coupling on Superfluidity in Cold Atom Systems
Hui Zhai (Tsinghua University, Beijing)
 14:40 - 15:10 Effective Interactions between Cold Atoms with Synthesized Spin Orbit Coupling
Li You (Tsinghua University, Beijing)
 15:10 - 15:40 Experimental Realization of Spin-Orbit Coupling in Degenerate Fermi Gas
Jing Zhang (Shanxi University)
 15:40 - 16:10 Tea Break

Afternoon session 2: Quantum Manipulation and Quantum Memory*Chaired by Hailin Wang (University of Oregon)*

16:10 - 16:40 Quantum Manipulation of Solid Single Spins based on Nitrogen-Vacancy Centers in Diamond
Jiangfeng Du (University of Science and Technology of China)
 16:40 - 17:10 Room-Temperature Quantum Bit Memory Exceeding One Second
Liang Jiang (Yale University)
 17:10 - 17:40 Efficient Quantum Light-Matter Interface based on Electromagnetically Induced Transparency in Cold Atoms
Shengwang Du (Hong Kong University of Science and Technology)
 17:40 - 18:10 High-Efficiency Quantum Memory
Ite A. Yu (National Tsing Hua University)
 19:00 - 22:00 Banquet at the Victoria Harbour Restaurant

Thursday, December 13, 2012 (Day 2)**Morning session 3: Quantum Effects of Spin-orbit Coupling***Chaired by Li You (Tsinghua University)*

09:00 - 09:30 Dramatic Effects of Spin-Orbit Coupling on Strongly Spin-Charge Separated Systems
Jason Ho (Ohio State University and Tsinghua University, Beijing)

09:30 - 10:00 Quantum Phases in Bose-Hubbard Models with Spin-Orbit Interactions
Shizhong Zhang (The University of Hong Kong)

10:00 - 10:30 Tea Break

Morning session 4: Quantum Control and Related Topics*Chaired by Wang Yao (The University of Hong Kong)*

10:30 - 11:00 Optical State Transfer via an Optomechanical Dark Mode
Hailin Wang (University of Oregon)

11:00 - 11:30 Probing the Quantum Behavior of a Nanomechanical Resonator Coupled to a Double Quantum Dot
Jian-Qiang You (Fudan University)

11:30 - 12:00 Time as a Dimension for Phase Transitions
Renbao Liu (Chinese University of Hong Kong)

12:00 - 14:00 Lunch and Poster Session

Afternoon session 3: Quantum Information and Related Topics*Chaired by Hoi Fung Chau (The University of Hong Kong)*

14:00 - 14:30 How to Use Your Enemy (in Quantum Cryptography)?
Hoi Kwong Lo (University of Toronto)

14:30 - 15:00 Non-Markovian Fermionic Stochastic Schrödinger Equation for Open System Dynamics
Ting Yu (Stevens Institute of Technology)

15:00 - 15:30 Protecting Entanglement from Decoherence via Weak Measurement and Quantum Measurement Reversal
Yoon-Ho Kim (Pohang University of Science and Technology)

15:30 - 16:00 Tea Break

Afternoon session 4: Quantum Computing*Chaired by Yu-Xi Liu (Tsinghua University, Beijing)*

16:00 - 16:30 Entanglement Dynamics of Interacting Bipartite Systems
Siyuan Han (University of Kansas)

16:30 - 17:00 Processing Quantum Information with Hybrid Topological Qubit and Superconducting Flux Qubit System
Yang Yu (Nanjing University)

17:00 - 17:30 Frequency-Tunable Microwave Photons in Superconducting Circuits
Haohua Wang (Zhejiang University)

17:30 - 17:35 Closing Remark, by Zidan Wang