

PROGRAMME (TENTATIVE) Updated 4 Dec 2013**Thursday, 12 December 2013 (Day 1)**

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

Morning session 1: Two Dimensional Materials: Graphene and Beyond*Chaired by Yan Chen (Fudan University)*

09:10 - 09:40 Novel Quantum Behaviors in Atomically Thin Two-dimensional Materials: Two Theoretical Predictions
Steven G. Louie (University of California, Berkeley)
 09:40 - 10:10 Electronic Transport in Graphene and Other Two-dimensional Materials
Yuanbo Zhang (Fudan University)
 10:10 - 10:40 Quantum Spin Hall Effect in Strained Two-dimensional Crystals of Transition Metal Dichalcogenides
Miguel A. Cazalilla (National Tsing Hua University, Taiwan)
 10:40 - 11:10 Tea Break

Morning session 2: Cold atom: Spin dynamics in Cold Atoms*Chaired by Xiao-Ling Cui (Institute of Physics, CAS)*

11:10 - 11:40 Transverse Demagnetization Dynamics of a Unitary Fermi Gas
Joseph Thywissen (University of Toronto)
 11:40 - 12:10 Heteronuclear Spinor Dynamics in an Ultracold Spin-1 Mixture
Dajun Wang (The Chinese University of Hong Kong)
 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 Prof. F.C. Zhang, the award is presented by Prof. Steven G. Louie

Afternoon session 1: Cold Atoms: Spin-orbital Coupling in Cold Atoms*Chaired by Hui Zhai (Tsinghua University, Beijing)*

14:10 - 14:40 Spin-orbit Coupled Degenerate Fermi Gas
Jing Zhang (Shanxi University)
 14:40 - 15:10 Generation and Exploration of Spin-Orbit Coupled Bose Gas
Shuai Chen (University of Science and Technology of China)
 15:10 - 15:40 Scattering between Ultracold Atoms with Spin-orbit Coupling
Peng Zhang (Renmin University)
 15:40 - 16:10 Tea Break

Afternoon session 2: Valleytronics*Chaired by Yi Zhou (Zhejiang University)*

16:10 - 16:40 Magnetic Control of the Valley Degree of Freedom
Qian Niu (UT-Austin/Peking University)
 16:40 - 17:10 Many Body Effects in Valleytronics: Direct Measurement of Valley Lifetimes in Single Layer Transition Metal Dichalcogenides
Kenan Gundogdu (North Carolina State University)
 17:10 - 17:40 Electrons in Two-dimensional Materials Beyond Graphene
Kin Fai Mak (Cornell University)
 17:40 - 18:10 Two-dimensional Dirac Fermions: from Valleytronics to Designer Topological Phases
Ji Feng (Peking University)

Friday, 13 December 2013 (Day 2)**Morning session 3: Cold Atoms: Exact and Numerical Investigations***Chaired by Robert Joynt (University of Wisconsin-Madison)*

- 09:00 - 09:30 TBA
Matthias Troyer (ETH Zurich)
- 09:30 - 10:00 Quantum Critical Phenomena: from Bethe Ansatz Perspective
Xiwen Guan (Institute of Physics and Mathematics, CAS & Australian National University)
- 10:00 - 10:30 Tea Break

Morning session 4: Topological States and Topological Phases*Chaired by Daoxin Yao (Sun Yat-sen University)*

- 10:30 - 11:00 Dephasing Effect on Backscattering of Helical Surface States in 3D Topological Insulators
Xincheng Xie (Peking University)
- 11:00 - 11:30 Topological Phase in Commonly Used Semiconductors
Kai Chang (Institute of Semiconductors, CAS)
- 11:30 - 12:00 The Topological Properties of Silicene
Yugui Yao (Beijing Institute of Technology)
- 12:00 - 14:00 Lunch and Poster Session

Afternoon session 3: Optical and Electronic Properties of 2D Materials*Chaired by Guoping Guo (University of Science and Technology of China)*

- 14:00 - 14:30 Ultrafast Optical Studies of Two-dimensional Crystals Beyond Graphene
Hui Zhao (University of Kansas)
- 14:30 - 15:00 Unique Characterization of Two-dimensional Layered Materials and Electronic Properties of Silicene Derivatives
Mingsheng Xu (Zhejiang University)
- 15:00 - 15:30 Spin-polarized Polariton Lasers and Condensates
Chih-Wei Lai (Michigan State University)
- 15:30 - 16:00 Ultra-low-frequency Raman Spectroscopy and Its Application in Two-dimensional Layered Materials
Ping-Heng Tan (Institute of Semiconductors, CAS)
- 16:00 - 16:30 Tea Break

Afternoon session 4: Degenerate Fermi Gases*Chaired by Yang Yu (Nanjing University)*

- 16:30 - 17:00 Density and Particle-hole Fluctuation Effects on the Position of Feshbach Resonances in Atomic Fermi Gases
Qijin Chen (Zhejiang University)
- 17:00 - 17:30 Ultracold Fermi Gases with Resonant Dipole-Dipole Interaction
Su Yi (Institute of Theoretical physics, CAS)
- 17:30 - 18:00 Superradiance of Degenerate Fermi Gases in a Cavity
Zhenhua Yu (Tsinghua University, Beijing)
- 18:30 - 21:30 Banquet at the Victoria Harbour Restaurant

Saturday, 14 December 2013 (Day 3)**Morning session 5: Topological Insulators***Chaired by Dong Qian (Shanghai Jiao Tong University)*

- 09:00 - 09:30 TBA
Shoucheng Zhang (Stanford University)
- 09:30 - 10:00 Fully Gapped Topological Surface States in Bi_2Se_3 Films Induced by a d-wave High-temperature Superconductor
Xi Chen (Tsinghua University, Beijing)
- 10:00 - 10:30 Finite-temperature Conductivity and Magnetoconductivity of Topological Insulators
Haizhou Lu (The University of Hong Kong)
- 10:30 - 10:50 Tea Break

Morning session 6: Topological States in Cold Atoms*Chaired by Biao Wu (Peking University)*

- 10:50 - 11:20 Ultracold Atoms in a Tunable Optical Kagome Lattice
Gyu-Boong Jo (Hong Kong University of Science and Technology)
- 11:20 - 11:50 Topological Phases in 1D Optical Superlattices
Shu Chen (Institute of Physics, CAS)
- 11:50 - 12:20 Topological Bose-Mott Insulators in a One-Dimensional Optical Superlattice
Shi-liang Zhu (Nanjing University)
- 12:20 – 12:25 Closing Remarks, by Shizhong Zhang
- 12:30 - 14:00 Lunch and Poster Session