

PROGRAMME (Tentative, Last updated: 6 Jan 2016)

Day 1 (January 10, Sunday)

- 08:30 - 08:50 Registration
 08:50 - 09:00 Opening and Welcome Speech, by Shizhong Zhang

Morning session 1: Two-Dimensional Material

Chaired by Robert Joynt (University of Wisconsin-Madison)

- 09:00 - 09:30 Interaction and Correlation Phenomena in Atomically Thin Quasi 2D Crystals
Steven G. Louie (University of California, Berkeley)
 09:30 - 10:00 Prof. Einstein Meets Spintronics
Sadamichi Maekawa (Advanced Science Research Center, Japan Atomic Energy Agency)
 10:00 - 10:30 Probing Electronic and Structural Properties of 2D Materials and their Heterostructures
Chih-Kang Shih (The University of Texas at Austin)
 10:30 - 11:00 Tea Break

Morning session 2: Quantum Hall Effects

Chaired by Michael Ma (University of Cincinnati)

- 11:00 - 11:30 Spin Hall Effect and Large Diamagnetism in Dirac Electrons in Solids
Masao Ogata (University of Tokyo)
 11:30 - 12:00 Orbital Magnetism and Landau Levels
Qian Niu (The University of Texas at Austin)
 12:00 - 14:00 Lunch and Poster Session

Afternoon session 3: Iron-based Superconductors

Chaired by Nan-Lin Wang (Peking University)

- 14:00 - 14:30 The Correlation of Fe-vacancy with Superconductivity in Potassium-Intercalated Iron Selenide
Maw-Kuen Wu (Institute of Physics, Academia Sinica, Taiwan)
 14:30 - 15:00 Novel Routes for Exploring High- T_c Superconductivity in FeSe-derived Compounds
Xianhui Chen (University of Science and Technology of China)
 15:00 - 15:30 Orbital Ordering as the Unifying Mechanism for Both the Structural and Magnetic Transitions in the Fe-Based Superconductors
Wei Bao (Renmin University of China)
 15:30 - 16:00 Exploration of Interfacial Superconductivity in FeSe and Electron Doped Sr₂IrO₄
Donglai Feng (Fudan University)
 16:00 - 16:30 Tea Break

Afternoon session 4: Strongly Correlated Electron System

Chaired by Yupeng Wang (Institute of Physics, Chinese Academy of Sciences)

- 16:30 - 17:00 Generating Unconventional Correlated Electron Systems through Spontaneous Charge Ordering off Half Filling
Claudius Gros (Goethe-University Frankfurt)
 17:00 - 17:30 Functional Renormalization Group for Materials - Trends and Parameters
Carsten Honerkamp (RWTH Aachen University)
 17:30 - 18:00 Development and Applications of Singular - Mode Functional Renormalization Group
Qiang-Hua Wang (Nanjing University)

Day 2 (January 11, Monday)**Morning session 5: Superconductivity in Novel Materials and Composite Fermions***Chaired by Tao Xiang (Institute of Physics, Chinese Academy of Sciences)*

- 09:10 - 09:40 Superconductivity in FeSe Superconductors
Zhi-Xun Shen (Stanford University)
- 09:40 - 10:10 Non-Fermi Liquid Nature of the Composite Fermions Fermi Liquid
Jainendra Jain (The Pennsylvania State University)
- 10:10 - 10:40 Spontaneous Modulation of Superconducting Phase in Kitaev Ladder
Naoto Nagaosa (RIKEN)
- 10:40 - 11:10 Tea Break

Morning session 6: High-Temperature Superconductor*Chaired by Lu Yu (Institute of Physics, Chinese Academy of Sciences)*

- 11:10 - 11:40 Enhanced Superconducting Fluctuations and Giant Phonon Anomalies in the Pseudogap Phase of Underdoped Cuprates
T. Maurice Rice (ETH Zurich / Brookhaven National Laboratory)
- 11:40 - 12:10 Spectra of Intertwined-Order States in Cuprates - A Theoretical Study
Ting-Kuo Lee (Institute of Physics, Academia Sinica, Taiwan)
- 12:10 - 14:00 Lunch and Poster Session

Daniel Tsui Fellowship Award Presentation, Centre of Theoretical and Computational Physics14:00 - 14:10 Chaired by **Steven G. Louie**, the award is presented by **T. Maurice Rice****Afternoon session 7: Weyl Semimetal***Chaired by Zhong Fang (Institute of Physics, Chinese Academy of Sciences)*

- 14:10 - 14:40 Novel Properties of 5d Materials
Xiangang Wan (Nanjing University)
- 14:40 - 15:10 Discovery of Weyl Fermion in Condensed Matter
Hong Ding (Institute of Physics, Chinese Academy of Sciences)
- 15:10 - 15:40 Multipolar Order and Non-linear Magnetic Susceptibility in $\text{Eu}_2\text{Ir}_2\text{O}_7$
Xi Dai (Institute of Physics, Chinese Academy of Sciences)
- 15:40 - 16:10 Tea Break

Afternoon session 8: Topological Materials and Superconductivity*Chaired by Yan Chen (Fudan University)*

- 16:10 - 16:40 Interaction Effects in InAs/GaSb Bilayers
Ruirui Du (Rice University / Peking University)
- 16:40 - 17:10 Dephasing and Disorder Effects in the Topological Systems
Xincheng Xie (Peking University)
- 17:10 - 17:40 Layer-By-Layer Mapping of the Electronic Structure of Bi_2Tl_2 and Bi_2Tl Superconductors
Qikun Xue (Tsinghua University, Beijing)
- 17:40 - 18:10 Josephson Junction Detection of Chiral Edge Currents in Sr_2RuO_4
Ying Liu (The Pennsylvania State University / Shanghai Jiao Tong University)
- 19:00 - 22:00 Banquet at Serenade

Day 3 (January 12, Tuesday)

Morning session 9: Quantum Liquids and Strong Correlations

Chaired by Jianxin Li (Nanjing University)

- 09:00 - 09:30 Wilson Ratios and Quantum Liquids
Hai-Qing Lin (Beijing Computational Science Research Center)
- 09:30 - 10:00 The SU(N) Heisenberg Model in Cold Atoms and Condensed Matter
Frederic Mila (Ecole Polytechnique Federale de Lausanne)
- 10:00 - 10:30 Fermionic Spinon and Holon Statistics in the Pyrochlore Quantum Spin Liquid
Bruce Normand (Renmin University of China)
- 10:30 - 10:50 Tea Break

Morning session 10: Magnetism and Novel Superconductivity

Chaired by Jian Zi (Fudan University)

- 10:50 - 11:20 Exotic Spin Orders and their Manipulation
Youquan Li (Zhejiang University)
- 11:20 - 11:50 Novel Superconductivity in Materials with Infinite Cr₃As₃ Linear Chains
Guanghan Cao (Zhejiang University)
- 11:50 - 12:20 Spin Texture of the Majorana Bound State
Xiao Hu (WPI National Institute for Materials Science)
- 12:20 - 12:30 Concluding remarks, by Fuchun Zhang
- 12:30 - 14:30 Lunch and Poster Session

Afternoon special session 11: Nobel Laureate Public Lecture by Professor Sir Anthony J. Leggett

Chaired by Fuchun Zhang (Zhejiang University / The University of Hong Kong)

- 15:00 - 16:00 What Can We Do with a Quantum Liquid?
Anthony J. Leggett (University of Illinois at Urbana-Champaign)