

Tuesday, April 1, 2014

- 8:50-9:00 Opening**
- 9:00-11:00 T1 Session**
- 9:00 Shou-Cheng Zhang
Recent Progress of Topological Insulators and Superconductors
- 9:30 F. Duncan M. Haldane
Topological Metals and Surface Fermi Arcs
- 10:00 Qi-Kun Xue
Atomic Level Control of Quantum Material Growth: From Quantized Anomalous Hall Effect to Interface Enhanced High Temperature Superconductivity
- 10:30 Takashi Takahashi
Topological Insulators Studied by Spin-Resolved ARPES
- 11:00-11:10 Break**
- 11:10-13:00 T2 Session**
- 11:10 Naoto Nagaosa
Towards Skyrmionics
- 11:40 Xi Dai
Quantum Anomalous Hall Effect : Material Design for Chern Insulators
- 12:10 Qi-Feng Liang
Antiferromagnetic Topological Insulator
- 12:35 Kazunari Yamaura
New 5d Materials in Solid-State Osmium Oxides
- 13:00-14:00 Lunch**
- 14:00-15:55 T3 Session**
- 14:00 Sankar DasSarma
“Has (the) Majorana Really Returned?”
- 14:30 Carlo Beenakker
Majorana Fermions in a Quantum Spin Hall Insulator
- 15:00 Jin-Feng Jia
Topological Superconductor and Majorana Fermion
- 15:30 Takashi Uchihashi
Monatomic Surface Superconductor: Challenge for Creating New Two-dimensional Materials
- 15:55-16:05 Break**
- 16:05-18:00 T4 Session**
- 16:05 Hideo Aoki
Photo-Induced Floquet Topological Insulator
- 16:35 Kazuaki Sakoda
Photonic Dirac Cone in the Brillouin-Zone Center and Zero-Index Material
- 17:00 Fu-Chun Zhang
Localized States and Quantum Spin Hall Effect in Si-Doped InAs/GaSb Quantum Wells
- 17:30 Ying Ran
Quantum Phases of Correlated Electronic Systems on the Honeycomb Lattice at Commensurate Filling
- 19:00- Banquet**

Program of Workshop “**TOPOLOGY** in the New Frontiers of Materials Science”

Wednesday, April 2, 2014

8:30-11:00 W1 Session

8:30 Yoshinori Tokura
Electromagnetic Responses of Dirac Electrons in Bulk Rashba Semiconductors and Topological Insulator

9:00 Qian Niu
Field Correction to non-Canonical Geometry of Bloch Electrons

9:30 Daniel Loss
Exotic Quantum States at the Edge: From Majorana- to Para-Fermion

10:00 Zhong Fang
Topological Semimetals in Realistic Compounds

10:30 Yasuhiro Hatsugai
Bulk-Edge Correspondence: Variety and Universality

11:00-11:10 Break

11:10-13:00 W2 Session

11:10 Yukio Tanaka
Topological Andreev Bound States in Spin-Triplet Superconductor Sr_2RuO_4

11:40 Takuto Kawakami
Vortex Bound State in Symmetry Protected Topological Superconductors and Superfluids

12:05 Jay Deep Sau
Non-Local and Dynamical Signatures of Majorana Modes at Semiconductor/superconductor Interfaces

12:35 Xiao Hu
Single Electron Pumping via Majorana Bound States

13:00-14:00 Lunch

14:00-15:55 W3 Session

14:00 Zhi-Xun Shen
Domain Walls and Edge Structures in Quantum System: Views from Scanning Microwave Impedance Microscope

14:30 Seigo Tarucha
Topological Effect in Hybrid Superconductor-Quantum Dot/Nanowire Devices

15:00 Li Lu
Proximity-Effect-Induced Superconductivity and Cooper Pair Interference on the Surfaces of Bi_2Se_3 and Bi_2Te_3

15:30 Zhi Wang
Rabi Oscillations in a Majorana Device

15:55-16:05 Break

16:05-17:30 W4 Session

16:05 Junji Tominaga,
Topological Switching Random Access Memory (TRAM) using $GeTe/Sb_2Te_3$ Superlattice

16:35 Shuichi Murakami
Weyl semimetals, Fermi arcs, and Topological Phase Transitions

17:00 Takao Mori
Recent Developments and Novel Mechanisms for Enhancement of Thermoelectrics

17:30-17:40 Closing