



# The 3rd Tsinghua-RIKEN Joint Workshop on Emergent Matter Science

May 19-21, 2014

Department of Physics, Tsinghua University



Venue: Conference Room, 3<sup>rd</sup> floor, New Science Building

## Day 1: Monday, May 19

*Chair: Yayu Wang*

08:30 – 08:35	Opening remarks	<b>Qi-Kun Xue</b>
08:35 – 08:50	Overview for RIKEN	<b>Yoshinori Tokura</b>
08:50 – 09:00	Overview for department of Physics	<b>Xi Chen</b>
09:00 – 10:00	<b>Yoshinori Tokura</b> Emergent phenomena from topological spin textures	
10:00 – 10:30	Coffee Break and photos	
10:30 – 11:10	<b>Xiuzhen Yu</b> Real-space observation of magnetic skyrmion and their dynamics	
11:10 – 11:50	<b>Shinichiro Seki</b> Skyrmions in Multiferroics	
<i>Chair: Y. Taguchi</i>		
14:00 – 15:00	<b>Xucun Ma</b> Superconductivity on one-unit-cell scale	
15:00 – 15:40	<b>Yayu Wang</b> STM studies of insulating cuprates and iron pnictides	
15:40 – 16:00	Coffee Break	
16:00 – 16:40	<b>Yusuke Tokunaga</b> Electric-field control of ferromagnetic moment in multiferroic orthoferrites	
16:40 – 17:20	<b>Pu Yu</b> Oxide interface: a chance for novel phenomena	
17:20 – 17:50	Free discussions	

**Day 2: Tuesday, May 20***Chair: Shuaihua Ji*

08:30 – 09:30	<b>Naoto Nagaosa</b> Topological aspects of magnetic and electronic states in solids
09:30 – 10:10	<b>Hong Yao</b> Topological Superconductivity in 2D Systems near Van Hove Singularity
10:10 – 10:30	<b>Coffee Break</b>
10:30 – 11:10	<b>Akira Furusaki</b> Z <sub>2</sub> semimetals
11:10 – 11:50	<b>Junwei Liu</b> 3D and 2D topological crystalline insulators in SnTe-class IV-VI semiconductor
<i>Chair: Shinichiro Seki</i>	
14:00 – 15:00	<b>Masashi Kawasaki</b> Interface Engineering and Quantum Transport in Oxide Heterostructures
15:00 – 15:40	<b>Ke He</b> Magnetism of magnetically doped Bi <sub>2</sub> Se <sub>3</sub> family topological insulators
15:40 – 16:00	<b>Coffee Break</b>
16:00 – 16:40	<b>Yasujiro Taguchi</b> Gigantic magnetocaloric effects in correlated electron materials
16:40 – 17:20	<b>Shuyun Zhou</b> Proximity-induced gap on the topological surface states of Bi <sub>2</sub> Se <sub>3</sub> film by a high temperature superconductor
17:20 – 18:00	<b>Shuaihua Ji</b> Ferroelectricity and Topological Phase in SnTe Thin Film

**Day 3: Wednesday, May 21***Chair: Pu Yu*

08:30 – 09:30	<b>Yoshihiro Iwasa</b> 2D electron systems by ionic gating
09:30 – 10:10	<b>Yonggang Zhao</b> Electric-field control of magnetism in multiferroic heterostructures
10:10 – 10:30	<b>Coffee break</b>
10:30 – 11:10	<b>Kaili Jiang</b> Carbon Nanotube -- from Growth Mechanism, Structural Assignment to Real Applications
11:10 – 11:50	<b>Yingshuang Fu</b> Spectroscopic imaging scanning tunneling microscopy to Dirac Landau levels of topological insulators
11:50 – 12:00	Closing remarks: <b>Qikun Xue and Naoto Nagaosa</b>