# 2014 NCTS Summer School/Workshop on Strongly Correlated and Mesoscopic Physics

Time: 21 -26 June, 2014

International Conference Hall (B1), Science Building III, NCTU

# 國立交通大學基礎科學教學研究大樓 B1 次軒廳

Recently, there has been growing interest in novel quantum effects on in low-dimensional mesoscopic/condensed matter systems. In particular, layered materials with strong spin-orbit couplings show non-trivial topological surface (or edge)states with Dirac-dispersed excitations, known as topological insulators. Investigating and searching for new topological insulators as well as the exotic charge-neutral Majorana fermions predicted in topological superconductors has caught much attention lately.

Meanwhile, it is well known that low dimensional quantum systems show very peculiar properties. Due to huge quantum fluctuations, these quantum systems are strongly influenced by electron correlations, disorder and collective excitations.

In this summer school/workshop, we bring domestic and international experts on theory and experiments together to discuss recent progress in the above topics. The goals are to encourage collaborations among the experts, and to introduce this exciting new research field to students and young researchers.

## Tentative – Program: (Summer School 6/21-6/23, Workshop 6/24-6/26)

06/21, Saturday, Summer School	
09:30-10:50	Juhn-Jong Lin (林志忠), Nat'l Chiao Tung Univ., Taiwan
10:50-11:10	Coffee Break
11:10-12:30	Juhn-Jong Lin (林志忠), Nat'l Chiao Tung Univ., Taiwan
12:30-14:00	Lunch Break
14:00-15:20	Baruch Rosenstein (儒森斯坦), Nat'l Chiao Tung Univ., Taiwan
15:20-15:40	Coffee Break
15:40-17:00	Baruch Rosenstein (儒森斯坦), Nat'l Chiao Tung Univ., Taiwan

06/22, Sunday, Summer School	
09:30-10:50	Watson Kuo (郭華丞), Nat'l Chung Hsing Univ., Taiwan
10:50-11:10	Coffee Break
11:10-12:30	Watson Kuo (郭華丞), Nat'l Chung Hsing Univ., Taiwan
12:30-14:00	Lunch Break
14:00-15:20	Ian McCulloch, Univ. of Queensland, Australia
15:20-15:40	Coffee Break
15:40-17:00	Ian McCulloch, Univ. of Queensland, Australia

06/23, Monday, Summer School	
09:30-10:50	Frank Pollmann, Max-Planck-Institute for the Physics of ComplexSystems, Germany
10:50-11:10	Coffee Break
11:10-12:30	Frank Pollmann, Max-Planck-Institute for the Physics of ComplexSystems, Germany
12:30-14:00	Lunch Break
14:00-15:20	Frank Pollmann, Max-Planck-Institute for the Physics of ComplexSystems, Germany
15:20-15:40	Coffee Break
15:40-17:00	Frank Pollmann, Max-Planck-Institute for the Physics of ComplexSystems, Germany

06/24, Tuesday, Workshop	
10:00-11:00	Chi-Wei Luo (羅志偉), Nat'l Chiao Tung Univ., Taiwan
11:00-12:00	Eran Sela, Tel Aviv Univ., Israel
12:00-14:00	Lunch Break
14:00-15:00	Frank Pollmann, Max-Planck-Institute for the Physics of ComplexSystems, Germany
15:00-16:00	Fabio Cinti, Nat'l Ins. for Theoretical Physics (NITheP), South Africa
16:00-16:20	Coffee Break
16:20-17:20	Li Dai (戴笠), Nat'l Chung Hsing Univ., Taiwan

06/25, Wednesday, Workshop	
10:00-11:00	Ryuichi Shindou, Peking Univ., China (北京大學)
11:00-12:00	Chung-Pin Chou (周崇斌), Beijing Computational Science Research Center, China (北京計算科學研究中心)
12:00-14:00	Lunch Break
14:00-15:00	Szu-Cheng Cheng (程思誠), Chinese Culture Univ. (PCCU), Taiwan
15:00-16:00	Ching-Yu Huang(黃靜瑜), Jessie, Max-Planck-Institute for the Physics ofComplex Systems, Germany
16:00-16:20	Coffee Break
16:20-17:20	Chang-yu Hou, California Institute of Technology, USA

06/26, Thursday, Workshop	
Ian McCulloch, Univ. of Queensland, Australia	
Chushun Tian (田矗舜), Ins. for Advanced study, Tsing Hua Univ.,China (清華大學高等研究院)	
Lunch Break	
Watson Kuo (郭華丞), Nat'l Chung Hsing Univ., Taiwan	
Sung-Po Chao (趙松柏), Nat'l Center for Theoretical Sciences, Taiwana	
Coffee Break	
Shin-Ming Huang (黃信銘), Nat'l Tsing Hua Univ., Taiwan	



#### **Local Organizers**

Prof. Chung-Hou Chung 仲崇厚 (NCTU)
Prof. Ming-Chiang Chung 張明強 (NCHU)

Prof. Pochung Chen 陳柏中 (NTHU)

Prof. Hong-Yi Chen 陳鴻宜 (NTNU)

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