

**China/US Joint Winter School on Novel Superconductors**  
**21-23 January 2013, Hong Kong**

**Day 1, Monday, January 21, 2013**

09:00 - 09:30 Registration

09:30 - 09:40 Welcome & Introduction  
Dr. Harold Weinstock (Program Manager, Physics and Electronics, AFOSR/RSE)

09:40 - 10:30 **Lecture #1** – The New Superconductors  
**Zachary Fisk (University of California, Irvine)**

10:30 - 10:50 Refreshments Break

10:50 - 11:40 **Lecture #2** – ARPES on Novel Superconductors  
**Xingjiang Zhou (National Lab for Superconductivity, Institute of Physics Chinese Academy of Sciences, Beijing)**

11:40 - 12:00 Break

12:00 - 12:40 Q&A

12:40 - 15:00 Lunch & Free time

15:00 - 15:50 **Lecture #3** – Superconducting Materials: Conventional and Unconventional  
**Xianhui Chen (University of Science and Technology of China)**

15:50 - 16:10 Refreshments Break

16:10 - 17:00 **Lecture #4** – Quantum Criticality and Superconductivity  
**Meigan Aronson (Stony Brook University and Brookhaven National Laboratory)**

17:00 - 17:20 Break

17:20 - 18:00 Q&A

18:00 Free Activities

**Day 2, Tuesday, January 22, 2013**

09:00 - 09:50 **Lecture #5** – Search for New Superconductors from an Applications Perspective  
**Malcolm Roy Beasley (Stanford University)**

09:50 - 10:10 Refreshments Break

10:10 - 11:00 **Lecture #6** – Optical Spectroscopy of Correlated Electron Systems  
**Nanlin Wang (Institute of Physics, Chinese Academy of Sciences, Beijing)**

11:00 - 11:20 Break

11:20 - 12:00 Q&A

12:00 - 15:00 Lunch & Free time

15:00 - 15:50 **Lecture #7** – Nonequilibrium Superconductivity under Light Irradiation  
**Ivan K. Schuller (University of California, San Diego)**

15:50 - 16:10 Refreshments Break

16:10 - 17:00 **Lecture #8** – Basic Models for High-T<sub>c</sub> Superconductors  
**Tao Xiang (Institute of Physics, Chinese Academy of Sciences, Beijing)**

17:00 - 17:20 Break

17:20 - 18:00 Q&A

18:00 Free Activities

**Day 3, Wednesday, January 23, 2013**

09:00 - 09:50 **Lecture #9** – The Role of High Pressure in Probing Superconductivity  
**Liling Sun (Institute of Physics and Beijing National Laboratory for Condensed Matter Physics, Chinese Academy of Sciences, Beijing)**

09:50 - 10:10 Refreshments Break

10:10 - 11:00 **Lecture #10** – Quasiparticle Scattering Spectroscopy as a Probe of Electron Matter  
**Laura H. Greene (Department of Physics, Materials Research Laboratory, and Center for Emergent Superconductivity, University of Illinois at Urbana-Champaign)**

11:00 - 11:20 Break

11:20 - 12:00 Q&A

12:00 - 12:30 Discussion

12:30 Free Activities

# The 3<sup>rd</sup> China/US Workshop on Novel Superconductors

24 - 26 January 2013, Hong Kong

January 24, 2013 (Thu)

**Morning Session, Location: Wang Gungwu Lecture Theatre, Graduate House**

Chair: Prof. Fuchun Zhang (The University of Hong Kong)			
09:00 - 09:05	Zhongxian Zhao	Institute of Physics, CAS	Opening Speech
09:05 - 09:10	Harold Weinstock	Program Manager, AFRL/AFOSR	Opening Speech
09:10 - 09:35	Ching-Wu Chu	University of Houston	The Search and Study of HTS at TCSUH
09:35 - 10:00	Qikun Xue	Tsinghua University, Beijing	Interface Induced High Tc Superconductivity and its Implication on the Pairing Mechanism of Unconventional Superconductivity
10:00 - 11:00	Group Photo, Poster Session and Break		
Chair: Prof. Malcolm R. Beasley (Stanford University)			
11:00 - 11:25	Tao Xiang	Institute of Physics, CAS	Basic Models for High-Tc Superconductors
11:25 - 11:50	Guy Deutscher	Tel Aviv University	Experimental Evidence for an Unconventional Mechanism of Superconductivity Enhancement in Granular Aluminum Films
11:50 - 12:15	Ivan K. Schuller	University of California, San Diego	Enlightened Search for New Superconductors: Magnetic Field Modulated Microwave Spectroscopy + Combinatorial Preparation
12:15 - 14:00	Lunch Break		

**Afternoon Session, Location: Wang Gungwu Lecture Theatre, Graduate House**

Chair: Prof. Qikun Xue (Tsinghua University, Beijing)			
14:00 - 14:25	Richard L. Greene	University of Maryland	Overview of Recent Results from the MURI Search for New Superconductors
14:25 - 14:50	Nanlin Wang	Institute of Physics, CAS	Structural Instability and Superconductivity in (Ir,Pt)Te <sub>2</sub> : an Optical Spectroscopic Study
14:50 - 15:15	Johnpierre Paglione	University of Maryland	Superconductivity in Iron-Pnictides and Topological Insulators
15:15 - 16:15	Poster Session and Break		
Chair: Prof. Ching-Wu Chu (University of Houston)			
16:15 - 16:40	Meigan Aronson	Stony Brook University	Towards New Higher Temperature Superconductors: Fe Silicide Compounds
16:40 - 17:05	Jianqi Li	Institute of Physics, CAS	Phase Separation and Stripe Patterns in K <sub>0.8</sub> Fe <sub>1.6+x</sub> Se <sub>2</sub> Superconductors
17:05 - 17:30	Bernd Lorenz	University of Houston	Unusual Magnetic Interactions in LiFeP <sub>2</sub> O <sub>7</sub> and Possible Implications for Superconductivity
18:00	Banquet		

**January 25, 2013 (Fri)****Morning Session, Location: Wang Gungwu Lecture Theatre, Graduate House**

Chair: Prof. Maw Kuen Wu (National Dong-Hwa University)			
09:00 - 09:25	Xianhui Chen	University of Science and Technology of China	Structure and Physical Properties of (R,M) <sub>2</sub> Ti <sub>2</sub> Pn <sub>2</sub> O (R=Sr, Sm; M=F, O)and BaTi <sub>2</sub> As <sub>2</sub> O as Possible Parent Compounds
09:25 - 09:50	Emilia Morosan	Rice University	Search for Superconductivity at the Itinerant-to-Local Moment Crossover
09:50 - 10:15	Guanghan Cao	Zhejiang University	Fe-based Superconductivity by Internal Charge Transfer
10:15 - 11:15	Poster Session and Break		
Chair: Prof. Richard L. Greene (University of Maryland)			
11:15 - 11:40	Laura H. Greene	University of Illinois at Urbana-Champaign	Detecting Strong Electron Correlations with Quasiparticle Scattering Spectroscopy: Electron Matter in Fe-Pnictides, Fe-Chalcogenides, and Heavy Fermions
11:40 - 12:05	Zachary Fisk	University of California, Irvine	Kondo Superconductors: Any Route to High Tc
12:05 - 14:00	Lunch Break		

**Afternoon Session, Location: Wang Gungwu Lecture Theatre, Graduate House**

Chair: Prof. Laura H. Greene (University of Illinois at Urbana-Champaign)			
14:00 - 14:25	Malcolm Roy Beasley	Stanford University	New Insights into the Charge Disproportionated (Negative U) Bismuthate Superconductors and their Possible Extensions
14:25 - 14:50	Liling Sun	Institute of Physics, CAS	Pressure Probing of Special Features and Roles of 245 Phase in FeSe-based Superconductors
14:50 - 15:15	Philip King	Cornell University	A Spectroscopic Search for New High Temperature Superconductors
15:15 - 16:15	Poster Session and Break		
Chair: Prof. Xianhui Chen (University of Science and Technology of China)			
16:15 - 16:40	Xingjiang Zhou	Institute of Physics, CAS	ARPES on Distinct Electronic Structure and Superconducting Gap in Single-layer FeSe/SrTiO <sub>3</sub> Superconductors
16:40 - 17:05	Jose Rodriguez	California State University at Los Angeles	Cooper Pairing from Quantum Magnetism in Iron-Pnictide High-Tc Superconductors
17:05 - 17:30	Paul Grant	San Jose, California	A Density-Functional Study of the Electronic and Magnetic Properties of Tetragonal Copper Monoxide as a Proxy for High Temperature Superconductivity

**January 26, 2013 (Sat)****Morning Session, Location: Lecture Theatre T6, Meng Wah Complex****Chair: Prof. Meigen Aronson (Stony Brook University)**

09:00 - 09:25	Hai-Hu Wen	Nanjing University	Phase Separation and Superconductivity in $K_{1-x}Fe_{2-y}Se_2$ Single Crystals: Toward Discovering a New Ground State
09:25 - 09:50	Prasenjit Guptasarma	University of Wisconsin-Milwaukee	Superconductivity in the Fe-Se-Te Family of Systems
09:50 - 10:15	Maw Kuen Wu	National Dong-Hwa University and Academia Sinica	Fe-vacancy Ordering in FeSe – the Parent Compound of Superconducting Fe-Se
10:15 - 10:45	Break		

**Chair: Prof. Xingjiang Zhou (Institute of physics, CAS)**

10:45 - 11:10	Grover L. Larkins	Florida International University	Signs in Doped Multilayer Graphene Showing the Possibility of High $T_c$ Superconductivity
11:10 - 11:35	Huiqiu Yuan	Zhejiang University	Tunable Interplay between 3d- and 4f-electrons in Iron Pnictides
11:35 - 12:00	Myron B. Salamon	University of Texas at Dallas	Induced, Reversible Electrochromic Superconductivity
12:00 - 12:25	Anvar Zakhidov	University of Texas at Dallas	Low Field MW Absorption in Fe-based Superconductors: Features of Interfacial and Co-existing SC/FM Phases
12:25 - 12:30	Closing		
12:45 - 14:00	Lunch Break		

**January 26, 2013, Afternoon**

	Free Activities		
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