



Physical Review Workshop on



New Frontiers of Superconductivity

November 10-13, Hefei, China

Venue: International Meeting Room (West), 3F, HFNL building, USTC

Day 1 -- November 11	
8:30~8:50	Welcome & Opening Remarks Chair: Prof. Zhenyu Zhang (USTC) Prof. Xinhe Bao (President, USTC) Dr. Mu Wang (American Physical Society)
Session I	Cu-based Superconductivity I Chair: Prof. Fuchun Zhang (University of Chinese Academy of Sciences)
8:50~9:25	Strange Metals and Dense Entanglement: Lessons of Holography Jan Zaanen (Leiden University, Netherlands)
9:25~10:00	Electronic Structure Evolution in Doping a Parent Compound of High- T_c Cuprate Superconductors Xingjiang Zhou (Institute of Physics, CAS, China)
10:00~10:35	Electronic Structure of Multilayered Cuprates Revealed by Laser-ARPES Takeshi Kondo (University of Tokyo, Japan)
10:35~11:00	Photo Time & Coffee Break
Session II	Topological Superconductivity: Proximity Effects Chair: Prof. Xincheng Xie (Peking University)
11:00~11:35	Topological Superconductors by Proximity Effects Jinfeng Jia (Shanghai Jiao Tong University, China)
11:35~12:10	Majorana Nanowires and Topological Quantum Computation Hao Zhang (Tsinghua University, China)
Session III	Cu-based Superconductivity II Chair: Prof. Jianxin Li (Nanjing University)
14:00~14:35	Starfish-shaped Cooper Pairs with Ultrashort Antinodal Length Scales in Cuprate Superconductors Daniel S. Dessau (University of Colorado Boulder, USA)
14:35~15:10	The Complexity in the Cuprate and the Underlying Organization Principle Zhengyu Weng (Tsinghua University, China)
15:10~15:45	Low-energy Electrodynamics of Missing Superconducting Electrons in Overdoped Cuprates $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$ Fahad Mahmood (University of Illinois at Urbana-Champaign, USA)

15:45~16:05	Coffee Break
Session IV	Mechanisms & Interactions Chair: Dr. Sarma Kancharla (PRB, APS)
16:05~16:40	The Mechanism of Superconducting Pairing in Doped Strontium Titanate Dirk van der Marel (University of Geneva, Switzerland)
16:40~17:15	High Temperature Superconductivity in Diamond-type Transition Metal Compounds Jiangping Hu (Institute of Physics, CAS, China)
17:15~17:50	Recent Progress in Computational Studies of Fundamental Models Shiwei Zhang (Flatiron Institute, Simons Foundation, USA)

Day 2 -- November 12

Session V	Fe-based Superconductivity: From Bulk to Interface Chair: Prof. Zhenyu Zhang (USTC)
8:30~9:05	Fe-based Superconductivity and Beyond Hideo Hosono (Tokyo Institute of Technology, Japan)
9:05~9:40	Atomic Layer-based Tunneling Experiment Study of the Pairing Symmetry of Cuprates and Fe-based Superconductors Qikun Xue (Tsinghua University, China)
9:40~10:15	Orbital Selective Superconductivity in Iron-based Superconductors Pengcheng Dai (Rice University, USA)
10:15~10:35	Coffee Break
Session VI	Superconductivity under High Pressure Chair: Dr. Yiming Xu (PRX, APS)
10:35~11:10	High-Pressure Synthesis and Measurements of Superconductive Hydrides Katsuya Shimizu (Osaka University, Japan)
11:10~11:45	High Pressure Approach to Unconventional Superconductivity via Fine Tuning the Competing Electronic Orders Jinguang Cheng (Institute of Physics, CAS, China)
13:00~14:00	Poster Setup
Session VII	New Approaches & Materials Chair: Prof. Zhu-An Xu (Zhejiang University)
14:00~14:35	Enhanced Cooper Pairing in the Layered FeSe-based Superconductors Xianhui Chen (USTC, China)
14:35~15:10	High-throughput Experiments on High- T_c Superconducting Thin Films Kui Jin (Institute of Physics, CAS, China)
15:10~15:45	Topological Superconductivity and Majorana Zero Mode in Fe-based Superconductors Hong Ding (Institute of Physics, CAS, China)

Parallel Sessions VIII (with refreshments) 15:45~18:10	(a) Editorial Needs & Reception, Physical Reviews Editors: Dr. Michael Thoennessen, Editor in Chief, APS Dr. Mu Wang, Associate Editor, PRL & Editor, PRM Dr. Sarma Kancharla, Associate Editor, PRB Dr. Yiming Xu, Associate Editor, PRX & 5+ current/recent Divisional Associate Editors, PRL (b) Poster Presentations (with selection of best posters)
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Day 3 -- November 13	
Session IX	Nematicity & Competing Orders Chair: Prof. Yanming Ma (Jilin University)
8:30~9:05	Exotic Pairing State and Nematic Critical Point of Fe(Se _{1-x} S _x) Yuji Matsuda (Kyoto University, Japan)
9:05~9:40	Evidence for Singular-phonon-induced Nematic Superconductivity in a Topological Superconductor Candidate Sr _{0.1} Bi ₂ Se ₃ Jinsheng Wen (Nanjing University, China)
9:40~10:00	Coffee Break
Session X	Topological Superconductivity: Intrinsic Systems Chair: Prof. Bing Wang (USTC)
10:00~10:35	Vortex States in the Topological Trivial and Nontrivial Iron-based Superconductors Donglai Feng (Fudan University, China)
10:35~11:10	Unconventional and Topological Superconductivity in Transition Metal Dichalcogenides Kam Tuen Law (Hong Kong University of Science and Technology, Hong Kong SAR)
11:10~11:45	Tunable Correlated and Topological Phenomenon in ABC Trilayer Graphene Moiré Superlattices Guorui Chen (University of California at Berkeley, USA)
11:45~12:20	Best Poster Awards & Conclusions Chair: Prof. Xianhui Chen (a) Best Poster Awards Presented by: Prof. Hideo Hosono (Tokyo Institute of Technology) Prof. Zhongxian Zhao (Institute of Physics, CAS) (b) Summary & Concluding Remarks: Prof. Tao Xiang (Institute of Physics, CAS) Dr. Michael Thoennessen (Editor in Chief, APS)