

"Superconductors and Strongly Correlated Materials"
21 April 2012 • Greenwalt Building

FRIDAY, APRIL 20, 2012

6:00 – 7:30 p.m. Reception (dinner)

SATURDAY, APRIL 21, 2012

8:30 - 8:40 a.m. Welcome (Ho-kwang Mao)

SUPERCONDUCTIVITY

8:40 - 9:10 a.m. Superconductivity in Metallic-Hydrogen and -Hydride (N. Ashcroft, Cornell, EFree)

9:10 - 9:40 a.m. From Insulator to Superconductor: A Combined MBE and STM Approach (Xi Chen, Tsinghua University, China)

9:40 - 10:10 a.m. Hund's Metal-Insulator Transition and its Implication on Iron-Based Superconductivity (Wei-Guo Yin, Brookhaven National Laboratory)

10:10 - 10:30 a.m. Compressing Matter for Quantum Control of Superconductivity (Xiao-Jia Chen, EFree)

10:30 - 10:50 p.m. coffee break

10:50 - 11:10 a.m. Properties of Iron-based Compounds in Extreme Environments (Jung-Fu Lin, Univ. of Texas, EFree)

11:10 - 11:30 a.m. Magnetic, Electronic, and Structural Transitions of "122" Iron Pnictides at High Pressures and Low Temperatures (Junjie Wu, Univ. of Texas, EFree)

11:30 - 11:50 a.m. Superconductivity in Hydrides under Pressure (Duck Young Kim, EFree)

11:50 - 12:10 p.m. Raman Probes of Superconductivity (Alexander Goncharov, EFree)

12:10 - 1:00 p.m. lunch

STRONGLY CORRELATED MATERIALS

- 1:00 - 1:30 p.m Spin Glasses and Multiglasses in Strongly Correlated Oxides (Roland Mathieu, STINT, the Uppsala University, Sweden)
- 1:30 - 1:50 p.m Magnetic and electrical properties of the new multiferroic Co_3TeO_6 (Matthias Hudl, STINT, the Uppsala University, Sweden)
- 1:50 - 2:20 p.m Spin-Ordering Mediated Orbital Hybridization in CoO at High Pressure (Yang Ding, APS, EFree)
- 2:20 - 2:40 p.m High-Pressure Behavior of Mixed Valence Compound CsAuI_3 (Shibing Wang, Stanford University, EFree)
- 2:40 - 3:00 p.m Synthesis and Characterizations of Novel Electronic Materials at High Pressures and High Temperatures (Jingquang Cheng, Univ. of Texas)
- 3:00 - 3:20 p.m Exploring the High-Pressure Phase Diagram of LaMnO_3 (Maria Baldini, HPSynC, EFree)
- 3:20 - 3:40 p.m Peter Lazor, STINT, the Uppsala University, Sweden "Vibrational and magnetic properties of mineral and synthetic $\text{Mn}_2\text{FeSbO}_6$ ilmenite"
- 3:40 - 4:00 p.m. *coffee break*
- 4:00 - 4:20 p.m Strongly Correlated Materials: Understanding Pressure Effects (Viktor Struzhkin, EFree)

EFree TECHNIQUES

- 4:20 - 4:40 p.m Synchrotron Radiation Techniques for High Pressure Research - Case Studies (Wenge Yang, EFree)
- 4:40 - 5:00 p.m New Diamond Anvil Cells (Reini Boehler, EFree)
- 5:00 - 5:20 p.m Neutrons: Latest Developments at the SNS and Outlook (Malcolm Guthrie, EFree)
- 5:20 - 5:40 p.m Transport Measurements in a DAC (Viktor Struzhkin, EFree)
- 5:40 pm *meeting adjourned*