



## 中心系列讲座 ICQM Weekly Seminar Series

### Novel phenomena in strong correlated materials: an angle-resolved photoemission spectroscopy perspective

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**Time: 4:00pm, Mar. 14, 2011 (Wednesday)**

**时间: 2012年3月14日 (周三) 下午4:00**

**Venue: Room 607, Conference Room A, Science Building 5**

**地点: 理科五号楼607会议室**

#### Abstract

The novel phenomena in condensed matter physics, such as high- $T_c$  superconductivity, colossal magnetoresistance effect (CMR), etc., originate from a delicate balance between different types of many-body interactions in materials. Such materials are called the strong correlated materials, which not only provide a chance for us to search for new functional materials, but also raise a big challenge to our understanding of physics. Using angle-resolved photoemission spectroscopy (ARPES) technique, we can directly probe the electronic structure of materials. In this talk, I would like to show you our recent progress on the newly discovered iron-based superconductors. From an electronic structure perspective, we try to understand many unconventional and interesting properties of iron-based superconductors, including the mechanism of spin-density-wave, the pairing symmetry of superconductivity, etc. The comparison with other strong correlated

#### Research Interest

His research interest is to study the novel phenomenon of condensed matter systems, including High- $T_c$  superconductors, charge-density wave materials, complex transition metal oxides, low dimensional materials, etc. I am interested in utilizing the angle-resolved photoemission spectroscopy (ARPES), and ultra-thin film and single crystal growth technique to study the exotic electronic structure in these materials. The results would unveil the unconventional many-body interactions in these materials, and provide solid experimental foundations for searching new functional materials.