

# *Colloquium*

Department of Physics, Temple University

## **Spectroscopic-imaging scanning tunneling spectroscopy on unconventional superconductors**

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Spectroscopic-imaging scanning tunneling microscopy (SI-STM) is a powerful technique because it can visualize real-space spectroscopic images with high spatial and energy resolutions. By analyzing the spectroscopic images using Fourier transformation, we can also obtain momentum-resolved information. We have been using SI-STM to investigate the characteristics of electronic states, especially superconducting gaps, of unconventional superconductors such as cuprates and iron-based materials. We discuss general scheme to investigate the momentum-space and phase structures of the superconducting gap by SI-STM. We also explain our recent SI-STM experiments on the iron-based superconductor FeSe where unique superconducting state is realized because of the multi-orbital nature and the extremely small Fermi surface.

**Monday, March 20, 2017 at 3:00pm**

**SERC, Room 116**

**Refreshments served at 2:45pm**