



# WEEKLY CALENDAR

Physics & Astronomy

202 Nicholson Hall



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September 30, 2004

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## GENERAL SEMINAR

**"Disorder and High Temperature Superconductivity"**

**Dr. Peter Hirschfeld**

University of Florida

*Thursday, September 30, 2004, 3:40 PM in Room 109 Nicholson Hall*

*Host: Dr. Ilya Vekhter*

*(Refreshments served at 3:15p.m. in Room 229 Nicholson)*

### ABSTRACT

Impurities are a well known probe of the nature of the superconducting ground state. Until recently, however, our understanding was limited to studying average properties of the materials with varying amounts of disorder. Since 2000, scanning tunneling microscopy studies of surfaces of high temperature and other superconductors have provided (nearly) direct images of resonant quantum mechanical states formed around impurity atoms. Imaging such disordered systems in Fourier space may also allow, remarkably enough, a determination of the electronic structure of the pure system. I will discuss recent theoretical attempts to understand these experiments and uncover the origin of superconductivity in the cuprates.

### *Welcome To:*

Dr. Ignacio Olabarrieta, a Postdoctoral Researcher with the General Relativity Theory Group. He is located in Room 241 D, Extension 8-7636.

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