



University of Connecticut
Materials Research Society Student Chapter

Invites you to a seminar by:

Barrett Wells

Professor of Physics
University of Connecticut

The Lowdown on High Temperature Superconductivity

For twenty years the leading problem in materials (condensed matter) physics has been to understand the curious behaviour of high temperature superconductors. Such superconductivity had been observed exclusively in materials containing copper-oxygen layers. While many important advances have been made, the ultimate issue of how high temperature superconductivity can occur has remained frustratingly unsolved. Over the past three years, the field has been reinvigorated by the discovery of a second class of high temperature superconductors; materials containing iron-arsenic layers. I will discuss why this is an important, and difficult, topic for materials physics and some recent advances in our own laboratory.

WEDNESDAY, MARCH 21, 2012

INSTITUTE OF MATERIAL SCIENCE BUILDING, Room 20

1:00 P.M.

Refreshments will be served at 12:45 p.m.

Speaker's Bio:



Barry Wells is a Professor of Physics at the University of Connecticut and a member of the Institute of Materials Science. His research focuses on understanding the fundamental processes that determine the properties of materials with strong interactions among the valence electrons – most notably in transition metal oxides. Prominent among the materials are high temperature superconductors, novel magnetic materials, and ferroelectrics. His particular interest is to understand conditions under which the valence electrons themselves phase separate even when the host crystal structure remains uniform. His group's projects span synthesis, basic characterization, and the most advanced techniques at international user facilities (for x-rays, neutrons, and muons). Prior to joining the University of Connecticut, Dr. Wells was part of the Phantom Works division of Boeing, was a postdoctoral scholar at the Massachusetts Institute of Technology, and received a Ph.D. in Applied Physics from Stanford University.