



## Glenn T. Seaborg Center Seminar

### ***Thermodynamic Studies of Uranium Ceramics, Minerals and Clusters***

***Professor Alexandra Navrotsky***

**Peter A. Rock Thermochemistry Laboratory and NEAT ORU, UC Davis**

**Wednesday, Feb 27, 2013**

**4:00 - 5:00 pm**

**Building 70A, Room 3377**

Participating in the DOE EFRC “Materials Science of Actinides” we have been measuring thermodynamic properties of a variety of uranium and thorium compounds in order to relate structure, bonding, and stability and to provide needed data for the nuclear fuel cycle. This seminar will focus on two topics. The first is energetics of solid solutions in the fluorite structure - namely urania, thoria, and ceria doped with rare earths, where both theory and calorimetry are used to elucidate mixing energetics and order-disorder. The second is uranyl minerals and uranium polyatomic clusters; the latter possibly being important in the transport of hexavalent uranium in aqueous environments.