



U N I V E R S I T Y O F
SOUTH CAROLINA

**DEPARTMENT OF
PHYSICS AND ASTRONOMY**

COLLOQUIUM

Speaker:

**Leonid P. Pryadko
College of Natural and Agricultural Sciences
Department of Physics and Astronomy
University of California, Riverside**

Title:

Soft-Pulse Refocusing and Decoherence for Solid-State Quantum Computation

Abstract:

I will discuss theory of quantum dynamics of an open quantum system in the presence of periodic fields designed to suppress the internal evolution and shield the system from a low-frequency environment. Such a suppression occurs as refocusing, or “dynamical decoupling” in nuclear magnetic resonance and quantum computing applications; it also appeared as “coherent destruction of tunneling” in atomic physics. Results of the systematic study of this effect will be presented at the intuitive language of average dynamics formulated in terms of transitions and phase diffusion in the rotating frame.

**Jones Physical Science Center
Rogers Room
PSC 409**

**Thursday, April 24, 2008
3:30 pm**

Refreshments at 3:15 pm

Everyone invited

Hosted by:

Yaroslav Bazaliy