

# Colloquium Notice

## Valery Milner

Agere Systems

### *Optical billiard: controlling the dynamics of atoms and photons*

Until recently, the field of nonlinear, and generally chaotic, dynamics of billiards (i.e. particles or waves bouncing between sharp reflecting walls) developed separately from the area of atomic physics. Recent achievements in laser cooling and manipulating of atoms made it possible to "play pool" with neutral atoms, creating a new testing ground for classical and quantum chaos. Understanding the dynamics of chaotic billiards with novel properties, such as inter-billiard collisions or moving billiard walls, may prove useful in exploring new ways of controlling atoms and photons. In this talk, I will discuss the "proof of principle" experiments, and possible future directions of research in this new and exciting field.

*Notes: Starts at 11:00 AM*

Monday  
**September 23, 2002**  
Starts at **11:00 am**  
Physics Conference Room, SB B326