$\mathbf{T}_{\text{EMPLE}} \; \mathbf{U}_{\text{NIVERSITY}} \; \mathbf{M}_{\text{ATHEMATICS}} \; \mathbf{C}_{\text{OLLOQUIUM}}$ 

## **Richard Schwartz**

Brown University

will speak on

## Polygonal outer billiards

ABSTRACT: Outer billiards is a geometrically inspired dynamical system, based on a convex shape in the plane. When the shape is a polygon, the system produces complicated dynamics and intricate tilings of the plane, neither of which is well understood. In my talk, I will explain some features of polygonal outer billiards and show off my video-game like computer program that explores outer billiards. I will also discuss some of my theoretical work in the subject, including the resolution of one the main open problems, the existence of unbounded orbits.

Monday, 29 March 2010 Lecture at 4:00 pm Coffee, tea, and refreshments from 3-5 pm Room 617, Wachman Building Department of Mathematics