

COLLOQUIUM  
UNIVERSITY OF PITTSBURGH  
TUESDAY, JANUARY 23, 2007  
704 THACKERAY HALL  
3:00 P.M.

**SPEAKER: PROFESSOR LUKE ROGERS\***

**DEPARTMENT OF MATHEMATICS  
CORNELL UNIVERSITY**

**TITLE: ANALYSIS ON FRACTALS**

**ABSTRACT:** A great many objects in the physical world are so “rough” that they are not well approximated by familiar integer dimensional objects like Euclidean spaces or smooth manifolds. One possible way to model dynamic processes on these kinds of objects is through the theory of analysis on fractals, which makes sense of concepts like derivatives, smooth functions and differential equations on certain types of fractal sets. I will talk about how these notions are defined, how analysis in the fractal setting differs from the familiar Euclidean case, and some recent results. The techniques used come from both harmonic and functional analysis, and from probability theory.

**Refreshments served at 2:30 p.m.  
in the Math Dept. COMMON ROOM, Thackeray 705**

\*The speaker is a candidate for a position in the Department.