

COLLOQUIUM  
UNIVERSITY OF PITTSBURGH  
TUESDAY, JANUARY 30, 2007  
704 THACKERAY HALL  
( NOTE THE UNUSUAL TIME: 4:30 P.M.)

**SPEAKER: PROFESSOR TRUYEN VAN NGUYEN\***

**SCHOOL OF MATHEMATICS  
GEORGIA INSTITUTE OF TECHNOLOGY**

**TITLE: REGULARITY OF MAPS FOR THE  
OPTIMAL TRANSPORTATION PROBLEM**

**ABSTRACT:** The optimal transportation problem is formulated as follows: given two distributions with equal masses, find a transport map which carries the first distribution into the second and minimizes the transport cost. Existence of such a map for a strictly convex cost is well known, but there are many open questions on its regularity. We shall begin by discussing some aspects of the Monge-Ampère type equation satisfied by the potential of the optimal map. In the last part of the talk we will describe interior Hölder estimates for the second derivative of the potential in a special case. This is a joint work with L. Caffarelli and M. González.

**Refreshments served at 4:00 p.m.  
in the Math Dept. COMMON ROOM, Thackeray 705**

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