

**COLLOQUIUM
UNIVERSITY OF PITTSBURGH
FRIDAY, NOVEMBER 22, 2013**

704 THACKERAY HALL

3:30 P.M.

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MOVING SURFACES IN PHASE TRANSITIONS

ABSTRACT: Moving surfaces are ubiquitous in many areas of mathematics and the applied sciences. In this talk I will first introduce some well-known geometric evolution equations, and then proceed to a thermodynamically consistent Stefan problem with surface tension which models a system that can undergo phase transitions. The model is derived from fundamental principles in physics and thermodynamics. Existence of solutions and stability properties of equilibria will be investigated. It will be pointed out that all equilibria are located at the critical points of an entropy functional, and it will be shown that multiple-equilibria comprise unstable configurations.

**Refreshments served at 3:00 p.m.
in the Math Dept. COMMON ROOM, Thackeray 705**