

COLLOQUIUM
UNIVERSITY OF PITTSBURGH
MARCH 2, 2007
704 THACKERAY HALL
4:00 P.M.

SPEAKER: **PROFESSOR PHILIPPE LEFLOCH**

UNIVERSITY OF PARIS VI

TITLE: **AN INTRODUCTION TO KINETIC RELATIONS FOR
UNDERCOMPRESSIVE SHOCKS**

ABSTRACT: This lecture will be an elementary introduction to undercompressive shock waves. I will explain the importance of small scale effects in solutions to systems of conservation laws arising in continuum physics. Undercompressive waves are fundamental in phase transition dynamics (van der Waals fluids, martensitic materials), especially when both viscosity and capillarity effects come into play. The proper selection of physically meaningful and discontinuous "entropy solutions" requires the concept of a kinetic relation.