

SPECIAL
PHYSICAL MATHEMATICS SEMINAR

**Dam-break flows, sediment transport, and
WENO methods**

MATTHEW EMMETT
University of Alberta

ABSTRACT:

A dam-break flow occurs when a semi-infinite reservoir of water is suddenly released by the removal of a dam. These flows are catastrophic events that are of particular importance in hazard management. In this talk we will explore a very simple model of dam-break flow and then consider dam-break flows over erodible beds. When a dam-break flow flows over an erodible bed the bottom topography changes with time and some very interesting dynamics are observed. Finally, we will see how modern Weighted Essentially Non-oscillatory numerical methods are applied to hyperbolic PDEs.

TUESDAY, FEBRUARY 16, 2010
2:30 PM
Building 4, Room 163

*Refreshments at 3:30 PM in Building 2, Room 290
(Math Department - Common Room)*



Massachusetts Institute of Technology

Department of Mathematics
Cambridge, MA 02139