# PIMS / AMI  Seminar

**Friday, October 14, 2011**
**3:00 p.m.**
**CAB 657**

## "Improved accuracy in regularization models of incompressible flow via adaptive nonlinear filtering"

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### Abstract

We study adaptive nonlinear filtering in the Leray regularization model for incompressible, viscous Newtonian flow.  The filtering radius is locally adjusted so that resolved flow regions and coherent flow structures are not `filtered-out', which is a common problem with these types of models.  A numerical method is proposed that is unconditionally stable with respect to timestep, and decouples the problem so that the filtering becomes linear at each timestep and is decoupled from the system.  Several numerical examples are given that demonstrate the effectiveness of the method.  Extension to a related method utilizing blackbox NSE solvers, `solve->filter->relax', will also be discussed.

Refreshments will be served in CAB 649 at 2:30 p.m.