

# Department of Applied and Computational Mathematics and Statistics Colloquium

**Kody J. H. Law**


Warwick Mathematics Institute  
University of Warwick

will give a lecture entitled:

*Accurate Filtering with 3DVAR for Dissipative Systems*

## Abstract

Data assimilation refers to the combination of noisy measurements of a physical system with a model of the system in order to infer the state and/or parameters. In the context of numerical weather prediction the underlying model is typically an unstable dynamical system. Unstable dynamical systems can be stabilized, and hence an estimate of the solution recovered from noisy data, provided two conditions hold. First, observe enough of the system: in particular, the unstable modes. Second, weight the observed data sufficiently over the model. In this talk I will illustrate this for the 3DVAR filter applied to three dissipative dynamical systems of increasing dimension: the Lorenz 1963 model, the Lorenz 1996 model, and the 2D Navier-Stokes equation.



**Monday, February 25, 2013  
4:00 p.m. to 5:00 p.m.  
127 Hayes-Healy Center**

Colloquium Tea

3:30 p.m. to 4:00 p.m. 154 Hurley Hall