

Speaker: **John Holmes**
University of Notre Dame

Tuesday, November 15, 2011
11:00 am
258 Hurley Hall

Title: Well-posedness and regularity for the generalized Burgers equation

Abstract:

For $k = 1, 2, 3, \dots$, we shall consider the initial value problem for the generalized Burgers' equation (gB) $u_t - u_{xx} + u^k u_x = 0$, and discuss its well-posedness in Sobolev and Gevrey-analytic spaces. In particular, we shall show that for analytic initial data, the solution is analytic in the space variable and Gevrey-2 in the time variable. Furthermore, we will prove that this is optimal by constructing explicit solutions which fail to be analytic in time.