1073-35-195 **J. Douglas Wright*** (jdoug@math.drexel.edu), **David Ambrose**, **Gideon Simpson** and **Dennis Guang Yang**. *Well-posedness issues for degenerate dispersive equations.*

Linear dispersion plays a fundamental role in the study of a large number of physical scenarios and has been the subject of intense theoretical development in recent years. Consequently there has been an explosion of results concerning nonlinear dispersive equations. Nevertheless there are situations in which the mechanism which creates dispersion is itself nonlinear and degenerate. Examples can be found in the study of sedimentation, magma dynamics, granular media, numerical analysis and elasticity. Little is understood about general well-posedness issues for such equations. In this talk we will discuss some recent results which show that degenerate dispersive effects can result in catastrophic instability akin to a backwards heat equation. (Received August 01, 2011)