1083-35-146   **Nicholas M. Ercolani*** (`ercolani@math.arizona.edu`). *A Burgers Model for Striped Pattern Formation in the Strong Bending Regime.*

We will present a model for the formation of defects in patterns that arise in 2D, spatially extended physical systems whose principal bifurcation is from spatial homogeneity to semi-discrete ("striped") patterns. Our model stems from a variational extension of the Cross-Newell phase diffusion equation and incorporates perspectives from experiment (Rayleigh-Benard convection), simulation and analysis. While past work on this model has emphasized negative results, this talk will explore methods aimed at ascertaining the actual structure of minimizers. The analysis takes advantage of a Cole-Hopf linearization for the variational equations and invites comparison to the known validity of the Burgers phase equation in 1D. (Received August 26, 2012)