

Meeting: 1005, Newark, Delaware, SS 8A, Special Session on Mathematical Biology

1005-37-159 **Kathleen A Hoffman*** (khoffman@math.umbc.edu), Department of Mathematics, 1000 Hilltop Circle, Baltimore, MD 20759. *Bifurcations of Relaxation Oscillations near Folded Saddles.*

Motivated by the forced van der Pol equation, which is the basis of many neurological models, I will discuss global bifurcations of periodic orbits that occur in the presence of a folded saddle. A folded saddle is a particular degeneracy that occurs in generic one-parameter families of relaxation oscillations, periodic orbits of singularly perturbed systems that contain both slow and fast segments.

This is joint work with J. Guckenheimer and W. Weckesser. (Received February 07, 2005)