Meeting: 1004, Bowling Green, Kentucky, SS 3A, Special Session on Dynamic Equations on Time Scales and Applications

1004-37-39 **James A Walsh*** (jim.a.walsh@oberlin.edu), Department of Mathematics, Oberlin College, 10 North Professor Street, Oberlin, OH 44074. *Forward and reverse bifurcations in a unimodal queueing model.* Preliminary report.

We present a two-parameter family of bimodal maps taking an interval to itself. For large regions of parameter space, there exists an invariant interval on which the restriction of these functions yields unimodal maps. We discuss the bifurcation structure for this unimodal family as a parameter is varied, which includes both forward and reverse period-doubling and tangent bifurcations. This family arises from a simple queueing model, which will also be presented. (Received January 07, 2005)