

1125-VM-1447      **Kevin Winseck\*** ([kevin.winseck@asu.edu](mailto:kevin.winseck@asu.edu)), School of Mathematical & Statistical Sciences, Box 871804, Arizona State University, Tempe, AZ 85287, and **Edward Martinez** and **Scott Mahan**.  
*Obstacles and Boundaries in Flocking Behavior*. Preliminary report.

Flocking behavior observed in birds, fish and insects can be modeled by a system of differential equations. This talk will focus on a model in which agents' behaviors are determined by equations describing alignment, attraction, and repulsion. Of particular interest is the inclusion of parameters describing boundary conditions. We will explore the effects of obstacles within the domain, specifically if these obstacles prevent emergence of a flock. The existence of flocking is quantified by examining the variance in velocity of all the agents, with a flock forming as variance in velocity approaches zero. (Received September 16, 2016)