

BI-CO MATHEMATICS COLLOQUIUM

Liz McMahon
Lafayette College

"Affine Geometry Inspired by the Game of SET®"

Monday, October 28, 2013

Talk at 4:00 - H109

Tea at 3:30 - KINSC Math Lounge, H208

Abstract:

The cards in the game of SET® are an excellent model for the finite affine geometry $AG(4,3)$. We will explore how to use the game to visualize the structure of the geometry and to explore that structure. We will focus on complete caps, which correspond to largest possible collections of cards with no sets. There is an interesting structure to these caps, and even more, the geometry can be partitioned into four disjoint complete caps together with a single point closely related to the caps. Recent results make the structure of these partitions even clearer.