

ISU ALGEBRA SEMINAR



SPRING 2017 SCHEDULE

Wednesdays, 11:00 AM-11:50 AM at STV 216

March 29, 2017

Speaker: Ben Wyser, Department of Mathematics, UIUC

Talk title: Singularities of K -orbit closures and interval pattern avoidance

Abstract: The local structure of symmetric subgroup orbit closures on the flag variety is of importance in the theory of Harish-Chandra modules for real Lie groups. Thanks largely to work of McGovern and McGovern-Trapa, certain local properties of such orbit closures, such as smoothness, are known to be characterized by pattern avoidance in many cases. However, there are more refined local properties which cannot be characterized in the same way. I will describe a generalization of pattern avoidance, which we call interval pattern avoidance, which governs all reasonable local properties of K -orbit closures in the case where $G=GL_{\{p+q\}}$ and $K=GL_p \times GL_q$. Although combinatorial in nature, this result follows from underlying geometry: An interval pattern embedding implies an isomorphism of two "slices" of the corresponding orbit closures. This work is joint with Alexander Woo and Alexander Yong.

