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**EMILY HEATH**, Cal Poly Pomona

*Proper Rainbow Saturation for Cliques*

Given a graph  $H$ , we say that a graph  $G$  is properly rainbow  $H$ -saturated if there is a proper edge-coloring of  $G$  which contains no rainbow copy of  $H$ , but adding any edge to  $G$  makes such an edge-coloring impossible. The proper rainbow saturation number is the minimum number of edges in an  $n$ -vertex properly rainbow  $H$ -saturated graph. There are few graphs for which the proper rainbow saturation number is known asymptotically, including  $P_4$  and  $C_4$ . In this talk, we will discuss new results for cliques, including determining the proper rainbow saturation number of  $K_4$  asymptotically.

This is joint work with Dustin Baker, Enrique Gomez-Leos, Anastasia Halfpap, Ryan Martin, Joe Miller, Alex Parker, Hope Pungello, Coy Schwieder, and Nicholas Veldt.