1135-I5-2372 **Emelie Jeanine Curl*** (ecurl@iastate.edu), 205 South 5th Street, APT # 705, Ames, IA 50010. *Generalized Petersen Graphs with Maximum Nullity Equal to Zero Forcing Number.*

The maximum nullity of a simple graph G, denoted $\mathrm{M}(G)$, is defined to be the largest possible nullity over all symmetric real matrices whose ijth entry is nonzero exactly when $\{i,j\}$ is an edge in G for $i \neq j$, and the iith entry is any real number. The zero forcing number of a simple graph G, denoted $\mathrm{Z}(G)$, is the minimum number of blue vertices needed to force all vertices of the graph blue by applying the color change rule. The motivation for this research is the longstanding question of characterizing graphs G for which $\mathrm{M}(G) = \mathrm{Z}(G)$. The following conjecture was proposed at the 2017 AIM workshop *Zero forcing and its applications:* If G is a bipartite 3-semiregular graph, then $\mathrm{M}(G) = \mathrm{Z}(G)$. A counterexample was found, but questions remained as to which bipartite 3-semiregular graphs have $\mathrm{M}(G) = \mathrm{Z}(G)$. This talk concentrates on one family of graphs known as the Generalized Petersen graphs. These graphs are 3-regular and are only bipartite in specific cases. We were able to establish $\mathrm{M}(G) = \mathrm{Z}(G)$ for certain Generalized Petersen graphs. (Received September 26, 2017)