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Amanda Lohss*, alohss@messiah.edu. *Regular Permutation Graphs.*

This talk will introduce permutation graphs, graphs whose edges correspond to inversions in permutations. One question of interest is how many permutation graphs are r -regular? There are numerous examples of r -regular permutation graphs, but certainly not all permutation graphs are regular. This talk will present an answer to this question. In fact, our research has shown that there are infinitely many connected r -regular permutation graphs for $r > 4$. (Received September 21, 2018)