Abstract:

Pattern containment is a concept for how a permutation can be contained in a larger permutation, and arises naturally in many contexts. Let $S_k$ be the set of permutations of length $k$. We say that a permutation $p$ is a $k$-superpattern if it contains every element of $S_k$ as a pattern. Then, a natural question to ask is, ”What is the shortest length that a $k$-superpattern can be?” In this talk, we will discuss the general superpattern problem and some of its variations.