1145-13-639 **Christopher ONeill***, 5500 Campanile Dr, San Diego, CA 92182. *Numerical semigroup invariants and eventually quasipolynomial behavior.*

A numerical semigroup S is a subset of the natural numbers that is closed under addition, and a factorization of $n \in S$ is an expression of n as a sum of generators of S. In this talk, we examine several factorization invariants, which are arithmetic quantities assigned to each semigroup element n, such as the maximum factorization length of n or number of distinct factorization lengths of n. A surprisingly large collection of factorization invariants coincide with a quasipolynomial (that is, a polynomial with periodic coefficients) for sufficiently large semigroup elements; we survey several such results (spanning numerous undergraduate research projects), and explore structural reasons for this phenomenon. (Received September 12, 2018)