1145-13-653 **Matthew C. Enlow*** (mce87290@ucmo.edu). *Multiplicative factorization in numerical semigroups.* Preliminary report.

Numerical semigroups are complement-finite additive subsemigroups of $\mathbb{N}_0$; that is, they are the sets of sums of whole-number multiples of its whole-number generators. While their additive factorization theory has been widely studied, their multiplicative structure has not. The elasticity $\rho(S) = \sup\{m/n\colon a_1 \cdots a_m = b_1 \cdots b_n\colon a_i, b_j \text{ irreducible elements}\}$ of a multiplicative semigroup S provides a measure of how nonunique its factorization can be. The multiplicative elasticity of a numerical semigroup is always finite, and is larger than 1 unless $S = \mathbb{N}$. By relating numerical semigroups to an easier-to-understand additive structure we can characterize the irreducible elements and provide tighter bounds for $\rho(S)$. (Received September 12, 2018)