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*Ehrhart Theory of Numerical Semigroup Structures.*

In this talk we will present enumerative results for the collection  $S(n, k)$  of numerical semigroups with Frobenius number at most  $n$  and genus  $n - k$ . We introduce a discrete structure associated with numerical semigroups which allows the construction of a rational cone whose integer lattice points correspond with elements of  $S(n, k)$ . Using Ehrhart theory, we conclude that for fixed  $k$ , the number of elements  $|S(n, k)|$  is a quasi-polynomial of degree  $k$ . If time permits, we will discuss a generalization of the construction to the higher dimensional context of affine semigroups. (Received March 02, 2020)