1147-08-810 **Roberto C Pelayo*** (robertop@hawaii.edu), University of Hawaii at Hilo, Mathematics Department, 200 W. Kawili St, Hilo, HI 96720, and **Christopher O'Neill** and **Brian Wissman**.
*Leamer Monoids and the Huneke-Wiegand Conjecture.*

Numerical monoids have proven useful in the study of the Huneke-Wiegand Conjecture. More specifically, when $\Gamma$ is a numerical monoid and $\mathbb{K}$ is a field, the monoid algebra $\mathbb{K}[\Gamma]$ satisfies the Huneke-Wiegand conjecture for 2-generated monomial ideals if a certain irreducible arithmetic sequence of length 2 can be found. Searching for these irreducible arithmetic sequences is facilitated by placing a monoid structure on the set of arithmetic sequences in $\Gamma$ with step-size $s \in \mathbb{N} \setminus \Gamma$. Understanding these so-called Leamer monoids has provided much traction in verifying the Huneke-Wiegand conjecture in these special cases. In this talk, we provide a summary of known results, as well as describe a graphical method for finding these arithmetic sequences. (Received January 29, 2019)