1135-VN-2274 **Megan K Franke*** (mkfranke@umail.ucsb.edu) and **Samuel Muthiah** (smuthiah@westmont.edu). *A Convex Realization for an Arbitrary Binary Code.*

Much work has been done to identify which binary codes can be represented by collections of convex open or convex closed sets. While not all binary codes are realizable by collections of either convex open or convex closed sets, in this talk we show that every binary code can be realized by convex sets when there is no restriction on whether the sets are all open or closed. We achieve this by constructing a convex realization for an arbitrary code with d nonempty codewords in $\mathbb{R}^{d-1}$. This result justifies the restriction of the definition of convex neural codes to include only those that can be realized by receptive fields that are all either convex open or convex closed. (Received September 25, 2017)