1154-05-2197 **Cathy Erbes**, **Michael Ferrara**, **Nathan Graber*** (nathan.graber@ucdenver.edu) and **Paul Wenger**. *Realization Problems for Hypergraphic Sequences.* Preliminary report.

A nonnegative integer sequence is *graphic* if it is the degree sequence of some graph. Given a graph H a graphic sequence π is *potentially H-graphic* if there is some realization of π that contains H as a subgraph. Let $\sigma(\pi)$ denote the sum of a graphic sequence π. The *potential number*, $\sigma(H, n)$, is the minimum even integer such that every n-term graphic sequence π with $\sigma(\pi) \geq \sigma(H, n)$ is potentially H-graphic.

For $r \geq 2$, a sequence is r-graphic if it is the degree sequence of an r-uniform hypergraph. While several efficient characterizations exist for determining if a given sequence is graphic, determining if a given sequence is r-graphic for any $r \geq 3$ was recently shown to be NP-complete by Deza, Levin, Meesum, and Onn [Optimization Over Degree Sequences. *SIAM Journal on Discrete Mathematics,* 32(3), 2067-2079.].

In this talk, we consider an extension of the potential problem to the setting of r-graphic sequences. In particular, we determine the potential number for complete hypergraphs. We additionally present some results on the stability of the potential function for r-graphs that highlight an important distinction between the $r = 2$ and $r \geq 3$ cases. (Received September 17, 2019)