1147-05-666 **Louis DeBiasio**, **Allan Lo**, **Theodore Molla*** (molla@usf.edu) and **Andrew Treglown**.
Transitive tournament tilings in oriented graphs with large total degree. Preliminary report.

An orientation of the complete graph is called a *transitive tournament* if it does not contain a directed cycle. In this talk, we will investigate the minimum degree threshold for every orientation of every graph on $n = mk$ vertices to contain a collection of m vertex-disjoint copies of the transitive tournament on k vertices.

As observed by Yuster, for $k = 3$, the Hajnal-Szemerédi Theorem implies that $5n/6$ is the correct minimum degree threshold. For $k = 4$, we will show that the correct asymptotic minimum degree threshold is $11n/12$. That is, we will show that for every $\varepsilon > 0$ there exists n_0 such that for every $n \geq n_0$ that is divisible by 4 the following holds. If G is an n-vertex graph with minimum degree at least $(11/12 + \varepsilon)\, n$, then every orientation of G contains a collection of $n/4$ vertex-disjoint copies of the transitive tournament on 4 vertices. This minimum degree condition is asymptotically sharp. We will also discuss a number of related conjectures and results. (Received January 28, 2019)