1159-13-148 **Jennifer Biermann**, **Selvi Kara**, **Kuei-Nuan Lin** and **Augustine O'Keefe*** (aokeefe@conncoll.edu). *Algebraic invariants of weighted oriented graphs.*

Let $\mathcal{D}$ be a weighted oriented graph with vertex set $V(\mathcal{D}) = \{x_1, \ldots, x_n\}$ such that the vertex x_i has positive integer weight ω_i. We define the edge ideal of $\mathcal{D}$, denoted $I(\mathcal{D})$, to be the monomial ideal in $R = k[x_1, \ldots, x_n]$ generated by all monomials $x_i x_j^{\omega_j}$ such that $\mathcal{D}$ has a directed edge from x_i to x_j. In this paper we calculate the Castelnuovo-Mumford regularity and projective dimension of $R/I(\mathcal{D})$ for certain classes of weighted oriented graphs. (Received August 03, 2020)