1103-13-14 **Adam Van Tuyl*** (avantuyl@lakeheadu.ca), Department of Mathematical Sciences, Lakehead University, Thunder Bay, Ontario P7B 5E1, Canada. *Edge ideals of circulant graphs.*

Fix a positive integer n and subset $S \subseteq \{1, 2, \ldots, \lfloor \frac{n}{2} \rfloor\}$. The circulant graph $C_n(S)$ is the graph on the n vertices $\{0, 1, \ldots, n-1\}$ with edge set consisting of all $\{i, j\}$ with $|i - j| \pmod n \in S$. Graph theorists have recently been interesed in identifying which circulant graphs are well-covered, that is, all the maximum vertex covers have the same size. If we consider the edge ideal of a graph, a well-covered graph implies that the edge ideal is an unmixed ideal. In this talk, we use the recent results on well-covered circulant graphs to identify circulant graphs that are either Cohen-Macaulay or Buchsbaum. This talk is based upon the NSERC Undergradue Student Research Awards projects of C. Watt (2012) and J. Earl (2014); these projects were co-supervised by myself and K. Vander Meulen (Redeemer). (Received July 04, 2014)