

1173-13-231

**Hugh R Geller\*** (hrgeller@sewanee.edu). *Minimal DG Algebras for Families of Edge Ideals*. Preliminary report.

Within the study of squarefree monomial ideals of standard graded polynomial rings, there is particular interest in studying edge ideals of finite graphs. In this talk we consider a finite graph  $G$  and its edge ideal  $I(G) \subseteq R$ . Using a minimal free resolution of  $R/I(G)$  over  $R$ , we give an algorithm for minimally resolving the edge ideal of the join of  $G$  and the complete graph  $K_n$  for any  $n$ . Moreover, we give sufficient conditions on  $G$  such that the resulting minimal resolution yields the structure of differential graded  $R$ -algebra for any choice of  $n$ . (Received September 20, 2021)