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**Teresa Bates, David Pask and Paulette N. Willis\*** (pnwillis@math.uiowa.edu), 70 Cherry Ct., Apt 2, North Liberty, IA 52317. *Labeled Graph  $C^*$ -algebras with Group Actions.*

In this presentation, I will discuss joint work with Teresa Bates and David Pask concerning (discrete) group actions on labeled graphs and the resulting crossed product  $C^*$ -algebras. In particular, I will discuss a version of the Gross-Tucker Theorem for labeled graphs. I will also discuss analogues of some of our results in the context of Leavitt path algebras.

A *labeled graph*  $(E, \mathcal{L})$  over an alphabet  $\mathcal{A}$  consists of a directed graph  $E$  together with a labeling map  $\mathcal{L} : E^1 \rightarrow \mathcal{A}$ . One can associate a  $C^*$ -algebra to a labeled graph  $(E, \mathcal{L})$  in such a way that if the labeling  $\mathcal{L}$  is trivial then the resulting  $C^*$ -algebra is the  $C^*$ -algebra of the graph  $E$ . Further, just as there is a canonical correspondence between graph  $C^*$ -algebras and shifts of finite type, there is a similar correspondence between the  $C^*$ -algebras of labeled and sofic shifts. (Received September 20, 2009)