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Van C. Nguyen*, Department of Mathematics, Hood College, Frederick, MD 21701, and
Gordana Todorov and **Shijie Zhu**. *Preprojective algebras of tree-type quivers*.

In this talk, we recollect several descriptions of preprojective algebras and show that these descriptions are indeed equivalent for any tree-type quiver Q . In particular, we construct irreducible morphisms, in the Auslander-Reiten quiver of the tranjective component of the bounded derived category of its path algebra kQ , that satisfy what we call the λ -relations, where λ is a nonzero element in the field k . When $\lambda = 1$, the relations are known as mesh relations. When $\lambda = -1$, they are known as commutativity relations. Using this technique together with the results given by Baer-Geigle-Lenzing, Crawley-Boevey, Ringel, and others, we show that for any tree-type quiver Q , several descriptions of its preprojective algebra are equivalent. (Received July 14, 2017)