Injective modules over Leavitt path algebras

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Leavitt path algebras have a well-studied, extremely tight relationship with their projective modules. On the other hand, very little is heretofore known about the structure of their injective modules. In a ongoing joint project with Gene Abrams and Alberto Tonolo, we aim to describe the injective modules over an arbitrary Leavitt path algebra $L_K(E)$. In this talk we present some techniques to construct indecomposable injective modules over $L_K(E)$, based on the graph properties of E. As an application, we completely characterize the injective modules over the class of Leavitt path algebras where any vertex is basis of at most one cycle, as for instance the Jacobson algebra.