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**Dan Zacharia\*** (zacharia@syr.edu), Department of Mathematics, Syracuse University, Syracuse, 13244. *Auslander-Reiten theory for modules of finite complexity over self-injective algebras.*

I will talk about recent work with Otto Kerner. Let  $R$  be a finite dimensional self-injective algebra over an algebraically closed field. Roughly speaking, the complexity of a module measures the growth of a minimal projective resolution of the module. Let  $M$  be an indecomposable non projective finitely generated  $R$ -module having finite complexity, and let  $\mathcal{C}_s$  be the stable component of the Auslander-Reiten quiver containing it. We describe the possible shapes of  $\mathcal{C}_s$ . (Received September 08, 2009)