1155-55-495 **Maru Sarazola*** (mesarazola@gmail.com). *Cotorsion pairs and a K-theory localization theorem.*

Cotorsion pairs were introduced in the '70s as a generalization of projective and injective objects in an abelian category, and were mainly used in the context of representation theory. In 2002, Hovey showed a remarkable correspondence between compatible cotorsion pairs on an abelian category $\mathcal{A}$ and abelian model structures one can define on $\mathcal{A}$.

In this talk, we turn our attention to Waldhausen categories, and explain how cotorsion pairs can be used to construct different Waldhausen structures on an exact category, with the usual class of admissible monomorphisms as cofibrations, and some freedom to choose the class of desired trivial objects. This allows us to prove a new version of Quillen's Localization Theorem, relating the K-theory of exact categories $\mathcal{A} \subseteq \mathcal{B}$ to that of a cofiber, constructed through a cotorsion pair. Notably, we do not require $\mathcal{A}$ to be a Serre subcategory, which produces new examples. (Received January 20, 2020)