1176-65-313   **Joe Kileel*** (`jkileel@math.utexas.edu`), University of Texas at Austin, Austin, TX 78712.
Decomposing Low-Rank Symmetric Tensors.

In this talk, I will discuss low-rank decompositions of symmetric tensors (a.k.a. higher-order symmetric matrices). I will highlight how certain results in algebraic geometry imply uniqueness guarantees for tensor decompositions, and also lead to fast and numerically stable algorithms for calculating the decompositions. I will quantify the associated non-convex optimization landscapes. Applications include Gaussian mixture models in data science, and rigid motion segmentation in computer vision. Based on joint works with J. Pereira, T. Klock and T. Kolda. (Received January 25, 2022)