Title: Survey of system identification from a numerical linear algebraic perspective

Abstract: System identification is a fast growing research area that encompasses a broad range of problems and solution methods. The expansion of methods and applications makes it difficult to maintain a common theoretical framework. This talk shows the potential of the structured low-rank approximation setting to unify problems of data modeling from diverse application areas. An example treated in more details in the presentation is identification of a linear time-invariant system from observed trajectories of the system. We present a generic method for structured low-rank approximation based on the variable projection principle. Links of the variable projection method to Cadzow and Prony's methods are discussed.