## REGULARIZATION METHODS IN ANALYSIS OF LARGE DATASETS

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Large data sets are currently ubiquitous in many areas of science and industry. In this talk we will concentrate on data sets which are high-dimensional, i.e. they contain more variables than the records. These data sets are often used to identify factors influencing some important characteristics (like e.g. the patient's cholesterol levels) as well as to predict values of these characteristics based on available data. Statistical analysis of such large data requires specialized techniques, which can tackle the "curse of dimensionality". In this talk we will discuss the class of convex optimization regularization techniques, which allow to improve the precision of statistical estimators and can reduce the model dimension by identifying the low dimensional structures behind the data generating process.