lavaan: an **R** package for structural equation modeling and more

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In the social sciences, latent variables are ubiquitous, and many software packages have been developed that implement multivariate latent variable techniques such as confirmatory factor analysis (CFA), structural equation modeling (SEM) and growth curve modeling. However, perhaps the best state-of-the-art software packages in this field are still closed-source and/or commerical.

The **lavaan** package is developed to provide useRs, researchers and teachers a free, open-source, but commercial-quality package for latent variable modeling. The long-term goal of **lavaan** is to implement all the state-of-the-art capabilities that are currently available in commercial packages, including support for various data types, discrete latent variables (aka mixture models) and multilevel datasets.

During the presentation, I will discuss the design of **lavaan**, its current features, and our plans for the near future. Using several examples, I will illustrate perhaps the most prominent feature of **lavaan**: the formula-based 'model syntax', which is designed to be as compact, elegant, and natural to R users as possible. Finally, a comparison with other related R packages will be made, and I will briefly touch on various ways to interface with other software packages.