Time course gene expression data analysis

Ana Rotter

National Institute of Biology

What distinguishes gene expression data analysis from other large datasets is that we are dealing with a large number of variables (counted in thousands) but a relatively limited number of units (counted in tens or even less). For example, when performing time course gene expression experiments with the aim of monitoring changes in gene expression some time after infection of the organism, a few time points only are selected.

This represents a challenge for a data analyt and in the last few a number of approaches for time course gene expression data analysis have been developed.

We have chosen an inhouse made experiment in plant physiology, where potato plants, resistant to a viral infection have been monitored at 4 selected time points after the infection.

We have revised the literature where various data analysis approaches have been presented and chosen a few, which in theory would be applicable for datasets we are usually dealing with. These approaches, as well as the results obtained, will be presented.