Project proposal STK-MAT2011-sp19

This project is about analyzing the number of occurrences in a period such as number of deaths or births. Usual explanatory factors are the period, t, and the age, a, of the individuals. Often also the factor

$$c = t - a$$

which represent an age group, a so-called cohort is of interest. Ideally one would like to include all three factors, a,t and c in a model. Because of the identity above this is not possible, and will imply co-linearity in the linear or generalized linear models, GLM.

The easiest way to handle the problem is just to consider only two of the factors and thus obtain identifiability. There are three possible combinations.

The first part of the project is to analyze mortality (or fertility) using GLM and these three identification schemes. But there are also other suggestions how to obtain identified models, and a second part of the project will consist of exploring some of these.