Contribution ID: **46** Type: **Talk**

Partially specified models and nuisance parameters

Thursday 1 August 2019 11:30 (30 minutes)

I will speak about two aspects of partially specified models. The first of these arise from modelling explicitly only aspects of direct concern, retaining a degree of agnosticism over other aspects of the data generating process. I will illustrate with examples how this leads to a large number of nuisance parameters, and how these can be evaded in some situations. The second type of partially specified model comes from an explicit assumption of sparsity. For instance in regression problems with a large number of potential explanatory variables, it is sometimes natural to assume that relatively few of these have a real effect. It is not known which ones, which makes the model itself as well as the parameters of that model the object of inference. If scientific understanding is the goal rather than prediction, then one should aim for a confidence set of models: all effective simple scientific explanations that are compatible with the data at a given level.

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