

# Bayesian model specification: What price model uncertainty?

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In this talk

- (1) I will argue that, in problems of realistic complexity, for Bayesians to achieve the twin goals of coherence and calibration it's necessary to pay a price for model uncertainty;
- (2) I will suggest two ways of paying this price:
  - (a) Bayesian nonparametric modeling, in which the price is built in automatically, by (in effect) adopting weaker prior assumptions on the space  $S$  of all possible models than those implicit in parametric modeling, or
  - (b) a Bayesian version of cross-validation, in which a portion of the data is set aside solely for assessing the calibration of the overall modeling process (which will typically involve a data-driven search through  $S$ ); and
- (3) I will present results on how much of the data needs to be set aside in strategy (b) to make it equivalent to strategy (a), and argue that this is a good way to quantify the price of model uncertainty.