## Seminário
### Grupo de Probabilidades e Estatística

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# APPROXIMATE BAYESIAN FORECASTING

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## Abstract

Approximate Bayesian Computation (ABC) has become increasingly prominent as a method for conducting parameter inference in a range of challenging statistical problems, most notably those characterized by an intractable likelihood function. In this paper, we focus on the use of ABC not as a tool for parametric inference, but as a means of generating probabilistic forecasts; or for conducting what we refer to as "approximate Bayesian forecasting". The four key issues explored are: i) the link between the theoretical behaviour of the ABC posterior and that of the ABC-based predictive; ii) the use of proper scoring rules to measure the (potential) loss of forecast accuracy when using an approximate rather than an exact predictive; iii) the performance of approximate Bayesian forecasting in state space models; and iv) the use of forecasting criteria to inform the selection of ABC summaries in empirical settings. The primary finding of the paper is that ABC can provide a computationally efficient means of generating probabilistic forecasts that are nearly identical to those produced by the exact predictive, and in a fraction of the time required to produce predictions via an exact method.