



Warwick Centre for Predictive Modelling Seminar Series

Consistency, Robustness, and Brittleness of Bayesian Inference

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Thursday, 15th January, 4 p.m.

LIB1, Lower Level, Main Library

Abstract: The flexibility of the Bayesian approach to uncertainty, and its notable practical successes, have made it an increasingly popular tool for uncertainty quantification. The scope of application has widened from the finite sample spaces considered by Bayes and Laplace to very high-dimensional systems, or even infinite-dimensional ones such as PDEs. It is natural to ask about the accuracy of Bayesian procedures from several perspectives: e.g., the frequentist questions of well-specification and consistency, or the numerical analysis questions of stability and well-posedness with respect to perturbations of the prior, the likelihood, or the data. This talk will outline positive and negative results (both classical ones from the literature and new ones due to the authors and others) on the accuracy of Bayesian inference. There will be a particular emphasis on the consequences for high- and infinite-dimensional complex systems. In particular, for such systems, subtle details of geometry and topology play a critical role in determining the accuracy or instability of Bayesian procedures. Joint work with Houman Owhadi and Clint Scovel (Caltech).

More info: <http://www2.warwick.ac.uk/fac/sci/wcpm/seminars>