



SEMINAR

An Introduction to Bayesian Statistics

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This short course will summarise the basic concepts of Bayesian statistics with a special focus on modelling. Central to the Bayesian philosophy is the recognition that not only the data possess a distribution, but also the unknown parameters by assumption. Prior distributions are subjective descriptions of the personal beliefs in the occurrence of events, based on the researchers' past experience and/or experts' opinion and intuition, whereas posterior distributions are these prior distributions modified by conditioning on the new observed data. Some examples of Bayesian modelling will be presented. In modern Bayesian inference and model choice, the posterior density is approximated by computer-intensive methods based on numerical integration, performed mainly by Markov chain Monte Carlo algorithms, which will be presented as well.