
NANCY REID, University of Toronto
Likelihood inference in complex models

The likelihood function underpins nearly all statistical inference and modelling, but with very complex models the likelihood function can be cumbersome or impossible to compute. Various simplifications have been suggested for particular settings, and recently the method of composite likelihood has been widely used. This method, which uses only lower dimensional distributions instead of the full joint distribution to construct the model, seems to have good efficiency as well as ease of calculation. I will discuss some models and applications where various versions of composite likelihood seem to perform well, with a view to understanding the reasons for this good performance, and also understanding when it may give misleading results.