

Seminar

Understanding performance measures in simulation studies

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Many statisticians use simulation studies to evaluate the performance of statistical methods. The 'performance' of a method can be quantified in many different ways. For example, bias and coverage are frequently evaluated. In this talk, I will focus attention on simulation studies where the method/s output a point estimate, standard error and (possibly) confidence interval. I will describe several popular performance measures – and some less-popular – by outlining what they aim to quantify, how they are computed and how Monte Carlo standard errors are estimated. Performance measures may be relevant to the (repeated) point estimates, standard errors, confidence intervals some combination of these. Understanding performance measures and how they link together can help us to better critique simulation studies and better plan our own. A key message is that it is rarely appropriate to evaluate only one performance measure.

Tim Morris has worked at the MRC Clinical Trials Unit at UCL for nearly 15 years – his whole career. After initially working as an applied statistician, he then moved to work on statistical methods in topics like missing data, sensitivity analysis, covariate adjustment in RCTs, estimands and individual participant data meta-analysis. Most of these areas rely to some extent on simulation studies, and this got Tim interested in how to make simulation studies trustworthy.

Thursday 28th July
4:30-5:30pm AEST

This event will be streamed via Zoom.

Please **[click here](#)** to join

Or, go to monash.zoom.us/join and enter meeting ID: 812 0611 5852 and passcode: 341052

