

Abstract:

A century ago, randomisation was an unknown concept. Then, Sir Ronald Fisher introduced replication and randomisation as the two cornerstones of linear model theory and experimentation. These ideas were rapidly adopted by applied researchers, and replication and randomisation became well-entrenched tools of the trade. Recently, however, I have observed a trend towards poor or non-existent design in the fields of work with which I am associated, both locally and in publications submitted to a UK-based international applied science journal for which I am an editor. The result is data-sets whose statistical interpretation is virtually impossible due to the confounding of treatments with order of operations, operators, sampling method, or some other extraneous factor. In this talk I present several heavily disguised examples of this phenomenon, discuss reasons for the trend, and discuss whether replication and randomisation are still needed when the method of analysis is more sophisticated than a linear model analysis.