**YCCSA Seminar Series
Spring 2017**

An interdisciplinary seminar series hosted by the York Centre for Complex System Analysis aimed at researchers from all disciplines

Modelling selection into medical education and training: some mathematical challenges

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Computer Science, CSE/082&083 at 13:30

Abstract:
The most efficacious treatments will not translate into better health outcomes unless delivered by a conscientious and competent medical workforce. Over the last century or so there has been much effort put into selecting our future doctors and competition for medical school places has generally been fierce. We are now in a position where there are relatively large amounts of routinely arising data relating to the selection of medical students, and increasingly on their educational (if not clinical) performance following graduation. Some of these have been linked and form part of the newly established UK medical education database (UKMED https://www.ukmed.ac.uk/).

The mathematical modelling of selection poses particular challenges. These include the fact that you generally cannot observe outcomes in unsuccessful candidates (i.e. restriction of range) as well as the non-nested hierarchical data structures involved in candidates applying to, and being selected by medical schools. Academic performance measures are not currently standardised across the 34 medical schools in the UK. Moreover, the measurement of latent constructs, such as abilities, can pose particular challenges. Recently the use of situational judgement tests have been widely implemented in different stages of selection into medical training. These evaluate a candidate's knowledge of professional behaviours. The multidimensional nature of situation judgement test responses pose some particular psychometric challenges, especially when trying to equate different forms of the test.

In this talk recent relevant research findings will be described along with the ongoing key modelling challenges that this field of study presents. This will hopefully stimulate discussion about possible approaches to addressing these issues

The seminar includes a refreshment break
*Ron Cooke Hub is on Heslington East Campus – accessible by free bus services
Nos. 66 and 44 running at frequent intervals from Heslington West.
The YCCSA Seminar room is on the second floor*