Speakers: Neza Dvorsak and Christian Rohrbeck (University of Bath)

Date: 23/04/2024 at 13:15 in 1 West 2.02

Talk 1: Effect of Missing Data on Conditional Power

Abstract:
In our setting of an adaptive confirmatory Phase 3 trial, we have the option to stop the trial early for futility. To do so we consider the calculation of conditional power for continuous endpoints. One of the challenges when making the decision is the problem of not having all the data available, whether that be due to the recruitment process, timing of the analyses, or patient behaviour. This can cause additional uncertainty in the estimated probabilities that guide the decision about the continuation of the trial. Considering different amounts of missing data at different time points in the trial we explore the issues that missing data poses for conditional power calculation and present the reasons behind them. This understanding is crucial for moving forward with this project.

Talk 2: Joint estimation of monotonic regression functions in health applications

Abstract:
Regression analysis under the assumption of monotonicity is a well-studied statistical problem which has several medical applications. However, the joint estimation of multiple monotonic regression functions is rarely consider. In this talk we will introduce methodology to (1) test for equivalence at a design point and (2) jointly estimate monotonic functions. Our joint estimation framework penalizes pairwise differences in the values of the monotonic function estimates, with the weight of penalty being determined based on our statistical test. We illustrate our methodology by applying it to neonatal mortality data from Porto Alegre, Brazil.