GRADUATE SEMINAR

Yanzhao Cheng

Asymptotic Confidence Ellipses for Beta-Poisson Dose Response Model

MSc Student supervised by Andrei Volodin

Monday, April 6th

9:00 AM

Math Lounge (CW307.20)

Abstract: My research consists of two parts, the theoretical part and the computational part. The main focus of the theoretical part is to argue that two classical estimation methods (the method of moments and the method of maximum likelihood) do not work to construct an asymptotic confidence ellipse for the Beta-Poisson dose-response model directly and for this purpose we need to find a suitable approximation for the Beta-Poisson dose-response model. For the approximate Beta-Poisson dose-response model, we derive maximum likelihood equations for parameters and we find Fisher information matrix for construction of a normal approximation that gives confidence regions (that will be ellipses) for parameters of approximating the Beta-Poisson dose-response model.

University of Regina

Mathematics and Statistics