

Recent developments on optimal designs for nonlinear and generalized linear models

John Stufken
University of Georgia, USA

Finding optimal designs for nonlinear and generalized linear models is a challenging problem. A new approach has facilitated significant progress during the last five years in the context of local optimality. Although locally optimal designs are not always the preferred choice for applications, they are useful as a benchmark for other designs. In this presentation we will cover some of the challenges related to identifying optimal designs for nonlinear and generalized linear models, discuss the new approach for identifying locally optimal designs that is based on finding small complete classes of designs, and illustrate the power of the approach through examples. We will look at some specific models, including for correlated data, and also highlight some remaining challenges. Parts of this work are joint with Min Yang (University of Illinois at Chicago) and with several former and current PhD students at the University of Georgia.