A brief history of quantile mixed models and recent developments

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Abstract

In this talk, I will retrace the steps that led me to develop linear quantile mixed models (LQMMs). My models and software have found application in public health, preventive medicine, virology, genetics, anesthesiology, immunology, ophthalmology, orthodontics, cardiology, pharmacology, biochemistry, biology, marine biology, environmental, climate and marine sciences, psychology, criminology, gerontology, economics and finance, education, linguistic and lexicography. Supported by a grant from the US National Institute of Child Health and Human Development, I extended LQMMs to nonlinear and additive regression. In collaboration with one of my doctoral supervisees, I investigated a 3-level extension of LQMM and a marginally interpretable LQMM. I will present models, estimation algorithms and software, along with a few applications.