

1124-92-204

Hien T Tran* (tran@math.ncsu.edu), Department of Mathematics, Campus Box 8205, North Carolina State University, Raleigh, NC 27518. *A Stochastic Approach to Nonlinear Mixed Effects Modeling: Applications to Pharmacokinetics Modeling of Metformin.*

Nonlinear mixed effects modeling (NLME) is a statistical framework involving both fixed-effects and random effects for population parameters incorporating uncertainty associated with intra- and inter-subject variability. Using stochastic differential equations (SDE) within the NLME framework allows the decoupling of the measurement error from the model misspecification. In this talk, we will compare the model development results using an SDE approach to common practice of using ordinary differential equations for the Metformin clinical pharmacokinetic data. (Received September 08, 2016)