1158-92-286   **Blerta Shtylla***, Berta Shtylla, CA. *Methods for model calibration with data: blood and solid tumor model case studies.*

In this talk, we discuss a framework by which two mathematical models are calibrated with synthetic data. We consider first an example of a model for multiple myeloma, where multiple global parameter sensitivity analysis methods are applied to reduce parameter space. Next, we develop a framework for assessing model fitting and model prediction uncertainity for solid tumor growth under various radiotherapy treatment protocols. In both cases, structural and practical identifiability analysis is used to assess what portion of parameter space can be reliably fitted to data. (Received March 03, 2020)