

1096-65-2411      **Padmanabhan Seshaiyer\*** (pseshai@gmu.edu), 4400 University Drive, MS 3F2, Exploratory Hall, Mathematical Sciences, George Mason University, Fairfax, VA 22030. *Quantitative modeling of biological and engineering systems through STEM problem solving activities*. Preliminary report.

In this talk, we will present the importance of quantitative modeling as a essential component of education reform across the curriculum in STEM. We will outline effective pedagogical approaches that can help to meaningfully include quantitative modeling, reasoning and analysis in understanding the mathematical relationships, the analysis of big data sets as well as the knowledge of useful computer simulations that provide useful insight into the data. Such important multi-disciplinary components will equip STEM majors with computational expertise sophisticated enough to generate quantitative predictions from models as well as improve their understanding of experimental techniques that can help them to understand important real-world questions. (Received September 17, 2013)