1124-35-386 **H.T. Banks** and **Kidist Bekele-Maxwell*** (ktzeleke@ncsu.edu), Center for Research in Scientific Computation, NC state university, Raleigh, NC 27695, and **Lorena Bociu**, **Giovanna Guidoboni** and **Marcella Noorman**. *Sensitivity analysis for poro-visco-elastic equations.* Preliminary report.

Poro-elastic and poro-visco-elastic models find many applications in bioengineering and medicine. Inspired from applications in geophysics and petroleum engineering, they are more and more frequently being applied to biological tissues, such as for modeling a thin membrane found at the base of the optic nerve head called lamina-cribrosa. For many of these biological applications, the boundary data plays a crucial role.

In a recent theoretical and numerical analysis of poro-elastic and poro-visco-elastic models, the time regularity of the imposed boundary traction was identified as a crucial factor in guaranteeing boundedness of the solutions. Here, in an effort to further extend the analysis, we study the sensitivity of the model solutions to imposed boundary data. Since, nonlinear coupling causes difficulty when implementing traditional methods, we will be using the less known complex-step method for sensitivity analysis. (Received September 13, 2016)