1123-35-140 **Ariel E Barton*** (aeb019@uark.edu). *The Neumann problem for symmetric higher order elliptic differential equations.*

Second-order equations of the form $\nabla \cdot A\nabla u = 0$, with A a uniformly elliptic matrix, have many applications and have been studied extensively. A well-known foundational result of the theory is that, if the coefficients A are real-valued, symmetric, and constant along the vertical coordinate (and merely bounded measurable in the horizontal coordinates), then the Dirichlet problem with boundary data in L^2 or $\dot{W}_1^2$ and the Neumann problem with boundary data in L^2 are well-posed in the upper half-space.

The theory of higher-order elliptic equations of the form $\nabla^m \cdot A\nabla^m u = 0$ is far less well understood. In this talk we will generalize well-posedness of the L^2 Neumann problem in the half-space to the case of higher-order equations with real symmetric vertically constant coefficients. (Received August 23, 2016)