1057-35-274 **Erin Haller Martin*** (erin.martin@westminster-mo.edu), 501 Westminster Ave., Fulton, MO 65251. *Evolution of Graphs in Carnot Groups by Horizontal Gauss Curvature.*

In the Euclidean setting, there has been extensive study of the flow of surfaces by their Gauss curvature. In this talk, we will investigate the extension of the Gauss curvature flow to the sub-Riemannian setting of Carnot groups. By considering the surfaces as level sets of a function, the problem is reduced to showing the existence, uniqueness, and regularity of viscosity solutions to a degenerate parabolic differential equation. By extending the work of C.-Y Wang to the case of sub- and supersolutions defined on unbounded domains, we are able to establish a comparison principle and thus show the existence and uniqueness of the flow. (Received January 25, 2010)