1116-16-1365 **Richard Gene Chandler*** (richard.chandler@mavs.uta.edu) and **Michaela Vancliff** (vancliff@uta.edu). *Associating Geometry to the Hopf Algebra* $\mathcal{U}_q(\mathfrak{sl}_2)$. Preliminary report.

The Hopf algebra $\mathcal{U}_q(\mathfrak{sl}_2)$ is considered a quantum analog of the universal enveloping algebra of $\mathfrak{sl}_2$. In this talk, we will consider a certain graded algebra, $\mathcal{H}_q(\mathfrak{sl}_2)$, associated to $\mathcal{U}_q(\mathfrak{sl}_2)$ and study $\mathcal{H}_q(\mathfrak{sl}_2)$ via geometric techniques in the spirit of Artin, Tate and Van den Bergh. In particular, we will discuss the point and line schemes of $\mathcal{H}_q(\mathfrak{sl}_2)$ and relate them back to $\mathcal{U}_q(\mathfrak{sl}_2)$, including recognizing the quantum Casimir element as a distinguished element of $\mathcal{U}_q(\mathfrak{sl}_2)$. (Received September 18, 2015)