Abstract: A hyperbolic 3-manifold is the quotient of $H^3$ by $\Gamma$ a discrete subgroup of $PSL(2, \mathbb{C})$. In fact, this subgroup $\Gamma$ carries a substantial amount of arithmetic information. I will discuss some of the background for defining a hyperbolic 3-manifold this way, and show how this leads to upper bounds on the degrees of fields used define this data. Finally, I will describe how this perspective fits into joint work with K. Petersen.

Contact Neil Hoffman for the link.