

**BI-CO MATHEMATICS
COLLOQUIUM**

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**"Quantitative Mostow Rigidity: Relating Volume
to Topology for Hyperbolic 3-manifolds"**

Monday, April 16, 2018

Talk at 4:00 – H109

Tea at 3:30 – Foyer outside of H109

Abstract:

A celebrated result of Mostow states that if M, N are two closed, connected, orientable, hyperbolic n -manifolds which are homotopy equivalent in dimension $n \geq 3$, then M, N are equivalent up to isometry. This unique geometric-topological relationship has been the framework for many important results in the field, including notable results providing lower bounds on the volume of M , and results relating volume to homology (Culler-Shalen). After providing background, we will look at the case where the fundamental group of M has a property, "k-free," for $k \geq 5$, and discuss current work toward an improvement on the volume bound from the current known bound of 3.44 which holds for $k \geq 4$.

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