**Toplogy Seminar**

*Abstract:* In 2016, D. Gay and R. Kirby proved that every closed 4-manifold can be decomposed as the union of three 4-dimensional simple pieces with triple intersection a closed orientable surface of genus $g$. This decomposition is called a trisection of genus $g$ for $M$. In 2018, M. Chu and S. Tillmann gave a lower bound for the trisection genus of a closed 4-manifold in terms of the rank of its fundamental group. In this talk, we show that given a group $G$, there exists a 4-manifold $M$ with fundamental group $G$ with trisection genus achieving Chu-Tillmann’s lower bound. The proof uses techniques of knot theory in simple 3-manifolds.

*Contact Neil Hoffman or Henry Segerman for the meeting link.*