1125-VU-2776   **Qayum Khan** and **Gerrit Smith*** (`gsmith35@slu.edu`), 220 N. Grand Blvd., St. Louis, MO 63103. *Realizing Incompressible 3-Manifolds in Stable 4-Manifolds.* Preliminary report.

Consider a separating 3-dimensional submanifold of a smooth 4-dimensional manifold whose fundamental group is mapped injectively into the fundamental group of the 4-manifold. The Seifert–van Kampen theorem implies that the fundamental group of the 4-manifold has an injective amalgamated product structure. This work attempts to characterize when the converse holds, allowing for stabilization of the 4-manifold by forming the connected sum with $S^2 \times S^2$ factors.

In the case that the universal cover of the 4-manifold is not spin, there is a single algebraic obstruction in the 3rd homology group of the fundamental group of the 3-manifold. In the case that the 4-manifold is spin, there are potentially two additional obstructions. (Received September 20, 2016)