

Title:

Exotic one-relator groups

Abstract:

Groups admitting a presentation with only one relator enjoy various algebraic and topological properties, and the class includes examples such as surface groups, 2-bridge knot groups, and many free-by-cyclic groups. On the other hand, there are some well-known pathologies such as the Baumslag--Solitar groups and their variations.

In this talk I will introduce a family of one-relator groups that have exotic properties despite the absence of such Baumslag--Solitar subgroup pathologies. This family gives counterexamples to questions on when one-relator groups are CAT(0), automatic, cubulated, or residually finite. Joint work with Daniel Woodhouse (arXiv:1711.08755).