

September 21, 2012
9:30 a.m. - 5:30 p.m.
Bissinger Room
4th floor, Howe Center
Stevens Institute of Technology
Hoboken, NJ

September 22, 2012
9:00 a.m. - 5:45 p.m.
Room C002
Hunter North Building
Hunter College (CUNY)
New York, NY

Url: <http://www.stevens.edu/algebraic/GTH/>

Group Theory on the Hudson

Ben Fine
(*Fairfield University*)

“Classes of Groups Generalizing a Theorem of Benjamin Baumslag”

Abstract:

Benjamin Baumslag in 1967 proved that being fully residually free is equivalent to being residually free and commutative transitive (CT). Gaglione and Spellman, and independently Remeslennikov showed that this is also equivalent to being universally free, that is, having the same universal theory as the class of non-abelian free groups. This result is one of the cornerstones of the proof of the Tarski problems. In this talk we extend the class of groups for which Benjamin Baumslag's theorem is true, that is, we consider classes of groups X for which being fully residually X is equivalent to being residually X and commutative transitive. We show that the classes of groups for which this is true is quite extensive and includes free products of cyclics not containing the infinite dihedral group, torsion-free hyperbolic groups (done also by Kharlampovich and Myasnikov), and one-relator groups with only odd torsion. Further the class of groups having this property is closed under certain amalgam constructions, including free products and free products with malnormal amalgamated subgroups. We also consider extensions of these classes to classes where the equivalence with universally X groups is also maintained.

This is a joint work with Laura Ciabanu and Gerhard Rosenberger.

