

Algebra/Topology Seminar

DANIEL STUDENMUND
Binghamton University, SUNY

COUNTABLE UNIONS OF FINITE GROUPS AS HIDDEN SYMMETRIES OF THE FREE GROUP

Thursday, August 31, 2023
3:00 p.m. in BB-B012

ABSTRACT. Symmetries of a group G are encoded in the automorphism group $\text{Aut}(G)$. “Hidden symmetries” are encoded in the abstract commensurator $\text{Comm}(G)$. Abstract commensurator groups may reflect the structure of G in an interesting way. For example, $\text{Comm}(G)$ is typically a group of matrices with rational entries when G is arithmetic, and the abstract commensurators of many self-similar groups such as the Grigorchuk group contain Thompson’s group V . However, the abstract commensurator of a free group $\text{Comm}(F_2)$ is still not well understood. I will explain how Edgar A. Bering IV and I showed that every countable locally finite group is a subgroup of $\text{Comm}(F_2)$, providing a generally useful topological perspective along the way.