Waltraud Lederle: Research interests

I am a first year PhD student at ETH Zürich under the supervision of Prof. Marc Burger. Mostly I have been interested in automorphism groups of trees and, lately, abstract commensurators of groups.

For a group G, a *virtual automorphism* is an isomorphism between two finite index subgroups. The *abstract commensurator of G* is the group consisting of equivalence classes of virtual automorphisms under the equivalence relation that identifies two virtual automorphisms if they coincide on a finite index subgroup. It comes up for example in the study of rigidity of groups.

My attention to abstract commensurators of groups comes from from studying the work of Lubotzky, Mozes and Zimmer [LMZ94] about the commensurability group of a uniform lattice of the automorphism group of a k-regular tree and the work of Caprace and de Medts [CM11] about germs of automorphisms of trees (that is the abstract commensurator of a compact open subgroup of the automorphism group of the tree). Then, my interest for them was then mainly spurred by the article of Barnea, Ershov and Weigel [BEW11] where they study them for profinite groups, also considering them as topological groups and applying their theory to the absolute Galois group of a field.

References

[BEW11] Yiftach Barnea, Mikhail Ershov, and Thomas Weigel. Abstract commensurators of profinite groups. *Transactions of the American Mathematical Society*, 363(10), 2011.

[CM11] Pierre-Emmanuel Caprace and Tom De Medts. Simple locally compact groups acting on trees and their germs of automorphisms. *Transformation Groups*, 16:375–411, 2011.

[LMZ94] A. Lubotzky, S. Mozes, and R. J. Zimmer. Superrigidity for the commensurability group of tree lattices. *Commentarii Mathematici Helvetici*, 69:523–548, 1994.