# Algebra/Topology Seminar

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## The Geometry of Twisted Conjugacy Classes in Diestel-Leader Groups

Thursday, November 15, 2012
1:15 p.m. in ES-143

Abstract. The problem of computing the Reidemsieter number $R(f)$ of a group automorphism $f$, that is, the number of $f$-twisted conjugacy classes, is related to questions in Lefschetz-Nielsen fixed point theory. We say a group has property $R$-infinity if every group automorphism has infinitely many twisted conjugacy classes. This property has been studied by Fel'shtyn, Gonzalves, Wong, Lustig, Levitt, and others, and has applications outside of topology.

Twisted conjugacy classes in lamplighter groups are well understood both geometrically and algebraically. In particular the lamplighter group $L_n$ does not have property $R$-infinity iff $(n, 6) = 1$. In this talk I will extend these results to Diestel-Leader groups with a surprisingly different conclusion. The family of Diestel-Leader groups provides a natural geometric generalization of the lamplighter groups. I will define these groups, as well as Diestel-Leader graphs, and describe how these results include a computation of the automorphism group of this family.

This is joint work with Melanie Stein and Peter Wong.