

Geometry, Groups and Dynamics/GEAR Seminar  
(held at the Illinois hub of GEAR )

**Tuesday, January 27, 2015, 1:00 pm in 243 Altgeld Hall**

Funda Gultepe (Illinois)

Fully irreducible Automorphisms of the Free Group via Dehn twisting in  $\sharp_k(S^2 \times S^1)$

Abstract: By using a notion of a geometric Dehn twist in  $\sharp_k(S^2 \times S^1)$ , we prove that when projections of two  $Z$ -splittings to the free factor complex are far enough from each other in the free factor complex, Dehn twist automorphisms corresponding to the  $Z$  splittings generate a free group of rank  $2k$ . Moreover, every element from this free group is either conjugate to a power of one of the Dehn twists or it is a fully irreducible outer automorphism of the free group.

[Video](#)