						3	6	
5				8				
							2	
			4		6			
8								1
			3					
				7		1		5
		3	2					
	4					8		

The Olivetti Club Presents

Lucien Clavier

Tuesday 4:30 pm
April 2, 2013
406 Malott

Non-Associative Mathematics

Isomorphy versus isotopy for counting loops

Here are two equivalence relations on the class of all finite groups: "There is a bijection α verifying the identity $\alpha(x)\alpha(y) = \alpha(xy)$", and "There are three bijections α, β and γ verifying the identity $\alpha(x)\beta(y) = \gamma(xy)$". The first relation is the worldwide famous isomorphy relation. The second is called isotopy; it seems to yield a coarser and potentially more interesting classification of groups (since isomorphic groups are necessarily isotopic). Yet, have you ever heard of it? ... Your answer was (most likely) no; in fact two isotopic groups are automatically isomorphic, making the latter relation useless for problems about groups. In the non-associative world, this is not true anymore. I will introduce basics of non-associative stuctures, and if time permits, will present two results (one by Petr Vojtěchovský and one by myself) comparing the number of nilpotent loops (or "non-associative groups") of order $2q$, q prime, first up to isomorphy, then up to isotopy.

Refreshments will be served at 4:00 pm in the math lounge.