



## MANHATTAN ALGEBRA DAY

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*Algorithmic theory of free solvable groups: randomized computations*

Friday, December 7, 2012  
CUNY Graduate Center, Room C204  
5pm

*Abstract:*

We devise new deterministic and randomized algorithms for algorithmic problems in free solvable groups. In particular, we prove that the word problem and the power problem can be solved in quasi-linear time by Monte-Carlo type algorithms. This improves the known  $O(|w|^3)$  deterministic algorithm for the word problem and  $O((|u| + |v|)^6)$  deterministic algorithm for the power problem.