

## Geometry, Topology and Dynamics Seminar

### *A matrix model for random nilpotent groups*

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**Abstract:** In Gromov's density model, a random group is either trivial or hyperbolic and in particular never nilpotent. We use the fact that every torsion free nilpotent group can be realized as a subgroup of the group of all upper triangular matrices with integer entries to present a model for random nilpotent groups. Our random nilpotent groups are subgroups of this group of matrices generated by elements given by random walks on a fixed generating set. By varying the size of the matrices and the length of the subgroup generators we prove results on the 'step' (i.e. the length of the lower central series) of a random nilpotent group. This is joint work with K. Delp and A. Schaffer-Cohen.

Monday, September 18 at 3:00 PM in SEO 636