

Title: Uniform Isoperimetric Constants via Random Forests

Speaker: Russell Lyons

Abstract: A finitely generated group is non-amenable iff any of its Cayley graphs has a positive isoperimetric constant. That constant depends on the generating set chosen. We show that groups whose first ℓ^2 -Betti number is positive have a positive lower bound to their isoperimetric constant over all generating sets. We do this by considering the free uniform spanning forests in the Cayley graphs. This is joint work with Mikael Pichot and Stéphane Vassout.