

ÉCOLE D'ÉTÉ SMS 2012 « COMBINATOIRE PROBABILISTE »  
25 JUIN - 6 JUILLET 2012

SMS 2012 SUMMER SCHOOL "PROBABILISTIC COMBINATORICS"  
JUNE 25 - JULY 6, 2012

## Geometric and Functional Analysis on Discrete Spaces (3 hours)

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The lectures will begin with a review of some classical isoperimetric and functional inequalities in discrete spaces, with applications to concentration of measure and convergence to equilibrium of finite Markov chains. Recent results on generalizations of Cheeger-type inequalities and refinements of Brunn-Minkowski inequalities will then be covered, suggesting new directions for interesting research in geometric and functional analysis on graphs.

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