

STANFORD UNIVERSITY  
DEPARTMENT OF STATISTICS  
DEPARTMENTAL SEMINAR

4:15 p.m., Tuesday, September 26, 2000  
Sequoia Hall Rm. 200  
(Cookies at 3:45 in 1st Floor Lounge)

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*Microsoft research*

**Mixing times of lozenge tiling and card shuffling Markov chains**

We introduce a simple technique that can be applied to a number of classes of Markov chains to obtain upper and lower bounds on their mixing times. One application is to a class of Markov chains introduced by Luby, Randall, and Sinclair to generate random tilings of regions by lozenges. In another application we resolve a few questions raised by Diaconis and Saloff-Coste, by lower bounding the mixing time of various card shuffling Markov chains. Our bounds are optimal up to a constant factor.