VCU Discrete Mathematics Seminar

Mixing Times of Self-Organizing Lists and Biased Permutations

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Tuesday, Nov. 19
12:30–1:20
4119 Harris Hall

A Self-Organizing list is a list that we would like to keep in mostly decreasing order of call frequency without knowing the frequencies at the outset. The Move-Ahead-One algorithm moves an item ahead one position in the array whenever it is called. This algorithm reduces to a Markov chain over permutations, where neighboring elements i and j are chosen at random and then are put in order i,j with probability $p_{i,j}$ (where these probabilities depend on the underlying call frequencies). We are interested in the question, how quickly does the Markov chain mix; i.e. how quickly does the self-organizing list approach its limit distribution?

For the full schedule of speakers, titles and abstracts for Fall 2013, see:
`http://www.people.vcu.edu/~dcranston/DM-seminar/`