MSRI Mathematical Sciences Research Institute

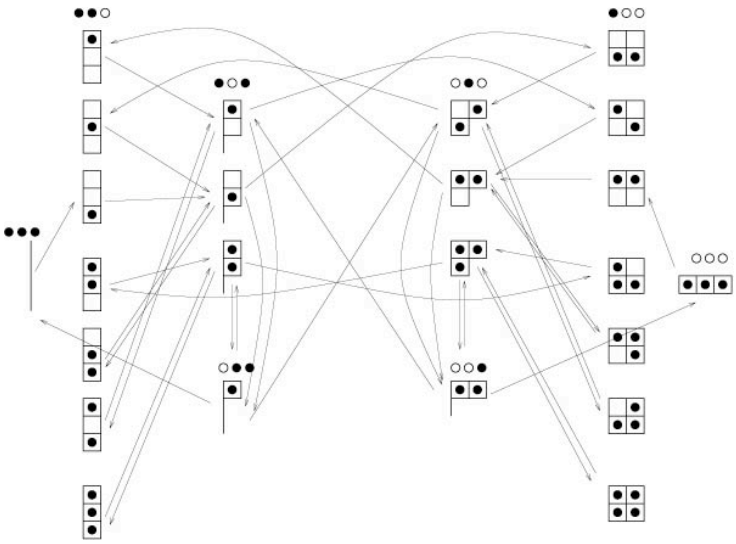
MSRI/Evans Talk

Monday, April 28, 2008
4:10pm
60 Evans Hall
University of California, Berkeley

"Combinatorics and statistical physics: a story of hopping particles"

Lauren Williams

(Harvard University)



The asymmetric exclusion process (ASEP) is a simple but rich model from statistical physics concerning particles hopping on a 1-dimensional lattice: it serves as a primitive model for traffic flow and appears in a sequence alignment problem in computational biology. This talk will provide a gentle introduction to the ASEP followed by connections of the ASEP to combinatorics, including the totally non-negative part of the Grassmannian and combinatorial Hopf algebras.

Refreshments at a nearby establishment immediately following the talk!

The purpose of these lectures is to introduce the present year's research programs at MSRI to the mathematical sciences community in Berkeley. The talks will be ***expository and nontechnical****, providing some of the flavor of ongoing research at MSRI.*
Graduate students and Postdoctoral Fellows are particularly invited to attend these lectures.

Further information and links to the MSRI program and workshop web pages are available at:
http://www.msri.org