

**PROBABILITY AND STATISTICS SEMINARS**

2 pm, Tuesday May 11th, 2004  
M345 (Building 28)

Bifurcation and phase-transition on tree structures

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We consider models in which the rate of arrival and departure of molecules on a graph depends on the number of neighbours. This model is equivalent to an Ising type model where occupancy is equivalent to spin up and absence to spin down. When the graph is a “tree”, then a remarkable phase-transition occurs due to the fact that when  $\lambda$  is large enough the recurrence relation

$$l_{n+1} = \lambda / (1 + l_n)^k,$$

has two points of convergence rather than one.

The adsorption of dimer molecules onto the surface will also be considered.

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