NYU-ECNU Institute of Mathematical Sciences at NYU Shanghai

WEEKLY SEMINAR

Topic: **Fixation for the Zero-Temperature Ising Spin Dynamics on Different Graphs**

Speaker: **Sinziana Datcu**

Time: 14:30-16:30, 11 December 2013

Venue: Room 153, Geography Building, 3663 Zhongshan Road North, Shanghai (华东师范大学中山北路校区，地理楼 153 室)

ABSTRACT OF THE TALK

Coarsening models are continuous-time Markov processes whose states are the assignments of +1 or -1 to the vertices of some graph like Z^d (with nearest-neighbor edges) or a homogeneous tree. The transition rules are that at rate one each vertex updates by adjusting to agree with a strict majority of its neighbors or in the event of a tie, tosses a fair coin.

We will review results about the final state of a vertex for coarsening on different latices. While for some lattices the spin of each vertex stops flipping as time converges ∞, consensus is not necessarily reached for the whole lattice at $t=\infty$. Consensus is reached on Z^d if the initial configuration is biased enough. We will also discuss results of this type on the homogeneous tree of degree three and in progress results on finite or infinite stacks of homogeneous trees of degree $k, k>3$.

BIOGRAPHY

Sinziana Datcu is a Ph.D. student in mathematics at New York University. Her research interests are Interacting Particle Systems.