NYU-ECNU Institute of Mathematical Sciences at NYU Shanghai

WEEKLY SEMINAR

Topic: **Infinite Partitions of [0,1] Undergoing Random Coagulation and Fragmentation**

Speaker: **Prof. Eddy Mayer-Wolf, Technion-Israel Institute of Technology**

Time: 14:30-16:30, 13 November 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

From a finite or countable partition of $[0,1]$, two independently sampled components merge or, if the same one was sampled twice, it splits uniformly. Anatoly Vershik conjectured that the ensuing Markov Process converges in law to the standard Poisson-Dirichlet distribution on the infinite dimensional simplex. In 2002, and jointly with Ofer Zeitouni and Martin Zerner we relaxed the model to allow non-uniform splitting and for the parts to merge and split at different rates.

In this talk I shall describe properties of the invariant laws, such as when they are necessarily finite- or infinite-component supported, but mainly our subsequent 2004 proof of Vershik's conjecture, jointly with Persi Diaconis, using coupling methods and the representation theory of the permutation group S_n.

BIOGRAPHY

Eddy Mayer-Wolf is affiliated with the Technion in Israel, where he also obtained his PhD degree in Applied Mathematics in 1987 under the supervision of Moshe Zakai. His research areas in Probability and Stochastic Processes include stochastic analysis in Gaussian and non-Gaussian spaces, fractional Brownian motion, nonlinear filtering and information theory in abstract Wiener space.