Theoretical Statistics and Mathematics Unit

Seminar

Date: September 14, 2016 Time: 12:15 PM

Venue: L-Infinity, Stat-Math Unit (5th Floor, A.N. Kolmogorov Bhavan)

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Optimization on Sparse Random Graphs and its Applications

Abstract
Many optimization problems on sparse random (hyper)graphs are currently intractable to analysis by purely combinatorial techniques. Statistical Physicists predict that the analysis often “simplifies” considerably in the “large degree” limit. In this talk, we will see how to make this idea rigorous by analyzing certain graph cut problems and random constraint satisfaction problems. Our techniques lead to connections between combinatorial problems on sparse random graphs and the study of spin glasses and random matrices. Parts of this talk will be based on joint work with Amir Dembo and Andrea Montanari.

All are cordially invited