Stanford University  
Departments of Mathematics and Statistics  

PROBABILITY SEMINAR  

4:30pm, Monday, May 2, 2016  
Sequoia Hall Room 200  
Cookies served at 4pm, 1st floor Lounge.

Speaker: Sebastian Bubeck, Microsoft Research

Title: Entropy, geometry, and a CLT for Wishart matrices

Abstract:  
Wishart matrices appear in many areas of (applied) mathematics, e.g., as covariance matrices in statistics, or as a model of a random mixed quantum state in physics. In this talk I will prove a new central limit theorem for high-dimensional Wishart matrices, using a now well-understood information theoretic machinery (which will be reviewed). I will discuss an application of this result to the problem of finding geometry in random networks. Several (new) conjectures will be mentioned too.

This is joint work with Shirshendu Ganguly.