1063-60-180   **Andrea Montanari***, montanari@stanford.edu, and **Mohsen Bayati**, **David Donoho** and **Arian Maleki**. *Asymptotic behavior of high-dimensional random convex optimization problems.*

The problem of estimating a high-dimensional vector from a set of linear observations arises in a number of engineering disciplines. It becomes particularly challenging when the underlying signal has some non-linear structure that needs to be exploited. A common approach consists in solving a high-dimensional convex optimization problem. I will discuss an approach to study the asymptotic behavior of some families of such random convex problems. I will in particular focus on the mean square error for LASSO estimation in the context of compressed sensing problems. (Received August 15, 2010)