



THE UNIVERSITY OF  
**CHICAGO**

Department of Statistics

STATISTICS COLLOQUIUM

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New Results at the Crossroads of Convexity, Learning and  
Information Theory

MONDAY, March 28, 2016, at 4:00 PM  
Eckhart 133, 5734 S. University Avenue

ABSTRACT

I will present three new results: (i) how to build a universal self-concordant barrier from the entropy of a canonical exponential family on a convex body; (ii) sampling (in polynomial time) a random variable with concave log-density can be done with projected Langevin Monte Carlo; and (iii) Thompson sampling combined with a multi-scale exploration solves the Bayesian convex bandit problem. The unifying theme in these results is the interplay between concepts from convex geometry, statistics, learning and information theory.

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For further information and about building access for persons with disabilities, please contact Courtney Tillman at 773.702.8333 or send email ([cmtillman@galton.uchicago.edu](mailto:cmtillman@galton.uchicago.edu)). If you wish to subscribe to our email list, please visit the following website: <https://lists.uchicago.edu/web/arc/statseminars>.