THE UNIVERSITY OF CHICAGO | THE COMMITTEE ON COMPUTATIONAL AND APPLIED MATHEMATICS

COLLOQUIUM

CHRIS PETERSON

Math Department
Colorado State University

Intrinsic volumes, random projections, and integration

THURSDAY, April 30th at 4:00 PM
Jones 303, 5747 S. Ellis Ave. Chicago, IL 60637

ABSTRACT

Given a high dimensional ball B in R^n, it is straightforward to describe the shadow of projections of B due to homogeneity. A more difficult problem is to understand properties of the shadows of high dimensional hypercubes or regular simplices in R^n. If very special projections are made, the shadow could be a lower dimensional hypercube (resp. a lower dimensional simplex). But what should one "expect" the shadow of such objects to look like under a random projection? More generally, given a compact, convex subset of R^n, how do expected properties of shadows relate to properties of the original shape? In this talk, we will discuss a set of tools that have proven to be useful in answering these questions.

Organizers:
Guillaume Bal, Department of Statistics (CCAM), guillaumebal@uchicago.edu & Nisha Chandramoorthy, Department of Statistics (CCAM), nishac@uchicago.edu, Daniel Sanz-Alonso, Department of Statistics (CCAM), sanzalonso@uchicago.edu

CAM Colloquium URL: https://cam.uchicago.edu/events/cam-colloquium/