# The University of Chicago

# Department of Computer Science & Mathematics

# Combinatorics & Theoretical Seminar

PRESENTS:

Erik Waingarten

 Columbia University

https://search.sites.columbia.edu/pages/eaw2197



Title: “On the query complexity of Boolean monotonicity testing”

In this talk, I will discuss recent adaptive lower bounds on the query complexity of testing monotonicity of Boolean functions. The problem asks to minimize the number of queries to an unknown Boolean function a randomized algorithm must make in order to distinguish between the case the function is monotone and then case the function is far from monotone. I will show an Omega(n^{1/3}) lower bound by introducing a new family of random Boolean functions extending Talagrand's random DNFs. This talk is based on joint work with Xi Chen and Jinyu Xie.

Host: Prof. Li-Yang Tan

Tuesday, May 9, 2017

3:00 pm

Ryerson 251

Refreshments will be served prior to the talk at 2:30 in Ry. 255