THE UNIVERSITY OF CHICAGO

Department of Statistics

DISSERTATION PROPOSAL

MOHAMMAD JAHANGOSHAHI

Department of Statistics
The University of Chicago

Multiple SLE_K Paths in the Annulus

TUESDAY, November 22, 2016, at 10:00 AM
Jones 304, 5747 S. Ellis Avenue

ABSTRACT

Oded Schramm defined the *SchrammLoewner evolution* (SLE_K) in 2000 as a one parameter family of conformally invariant measures on continuous curves in simply connected domains. It was proposed as a candidate for the scaling limits of various planar discrete processes such as the Uniform Spanning Tree and the Loop Erased Random Walk.

In this talk, we introduce *Locally Chordal* SLE_K in growing domains, where the domain itself changes as the curve evolves. This is done by weighting the chordal SLE_K by an appropriate martingale, which implies that locally chordal SLE_K is absolutely continuous with respect to chordal SLE_K. We then define SLE_K in the annulus and describe its partition function by a partial differential equation using the locally chordal SLE_K. Finally, we consider two SLE_K paths in the annulus and describe the problem of finding a partial differential equation for the partition function of this process.

For information about building access for persons with disabilities, please contact Laura Rigazzi at 773.702-0541 or send an email to lrigazzi@galton.uchicago.edu. If you wish to subscribe to our email list, please visit the following web site: https://lists.uchicago.edu/web/arc/statseminars.