



# THE UNIVERSITY OF CHICAGO

## Departments of Statistics and Mathematics BILLINGSLEY LECTURES ON PROBABILITY

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Random Planar Geometry

THURSDAY, October 6, 2016, at 4:30 PM  
5734 South University Ave., Eckhart 133

*Refreshments following the seminar in Eckhart 209*

### ABSTRACT

Much recent work has been devoted to the definition and study of a canonical random geometry in the plane. The basic idea is to study metric properties of large random graphs drawn in the plane or on the sphere, which are also called random planar maps. Starting from a triangulation of the sphere with a given number of faces (triangles), and chosen uniformly at random, one considers the metric space consisting of the vertex set of the triangulation equipped with the graph distance. When the size of the triangulation tends to infinity, this suitably rescaled random metric space converges in distribution, in the Gromov-Hausdorff sense, to a random compact metric space called the Brownian map. We discuss various properties of the Brownian map, and survey recent results showing that this random metric space is indeed a universal model of random geometry in two dimensions.