
Discrete Analysis Seminar

Minjae Park
University of Chicago

Random geometry of uniform meandric systems

A meander of size n is a configuration of two simple closed loops intersecting each other transversally at $2n$ points. Despite its fundamental significance across various fields in mathematics, little is known about this object.

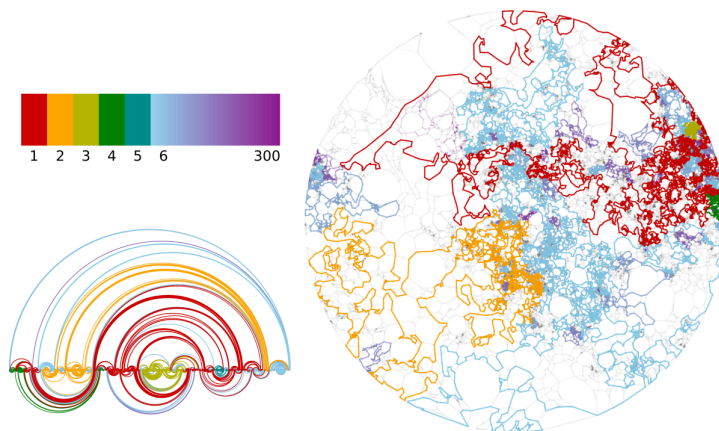
A meandric system of size n , a variant of a meander, is a coupled collection of meanders of total size n . While enumerating them is straightforward compared to meanders, many natural questions remain unanswered. For instance, whether an infinite path exists in a typical meandric system as the size goes to infinity is an open problem.

In this talk, I will explain how our understanding of continuum random geometry of planar maps (Liouville quantum gravity and Schramm-Loewner evolutions) provides new insight into uniform meandric systems, giving rise to several new conjectures. Furthermore, I will discuss why a uniform meandric system admits macroscopic loops, and the half-plane version of the meandric system has no infinite paths. Based on joint work with Jacopo Borge (Stanford) and Ewain Gwynne (Chicago)

Date: 25th January, 2024

Time: 2:00pm – 3:00pm

Location: 262, Science Building



연세대학교 수학기산학부

주최: 4단계 BK21 수리과학 및 계산교육 연구단

