

FELIX KLEIN SEMINAR

Speaker: Turgay Bayraktar
Sabanci University

Date: Thursday, March 21, 2024

Time: 2:00 PM

Location: 125 Hayes-Healy Bldg

Zoom URL: NA



Lecture Title:

Random real algebraic geometry and random amoebas

Abstract

Classical problems in algebraic geometry concern invariant or extremal properties of algebraic varieties whereas in the probabilistic version we focus on statistical properties of fundamental invariants. For example, a real algebraic projective plane curve of degree d has at most $g+1=(d-1)(d-2)/2+1$ connected components where g denotes the genus, which is an extremal property; whereas a random real algebraic projective degree d plane curve in a suitable precise sense (to be explained in the talk) has an expected number of connected components of order d . In this talk, I will discuss some recent results on the statistical properties of connected components and amoebas of random algebraic varieties. The talk is based on a joint works with Emel Karaca, and another joint work with Özgür Kişisel.