

Title: Random and extremal hyperbolic surfaces

Abstract: This talk will be about extremal problems in two-dimensional hyperbolic geometry. I will discuss various easily defined geometric quantities associated to hyperbolic surfaces. The goal will be to explain how little we know about the extrema of these quantities, how random surfaces can help, and to draw analogies with graph theory. If time permits, I will talk about recent joint work with Mingkun Liu on systoles of hyperbolic surfaces. I will not assume any familiarity with hyperbolic geometry.