Reverse isoperimetric properties of thick λ-sausages in the Hyperbolic plane and Blaschke's Rolling Theorem

Maria Esteban Casadevall

University of Oxford

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In this talk, we will explore the reverse isoperimetric inequality for convex bodies with uniform curvature constraints in the hyperbolic plane $\mathbb{H}^2$. This problem is concerned with finding the body that minimizes the volume for a given surface area. We will begin by stating the research question and highlighting the unique challenges posed by hyperbolic geometry, which makes this problem more challenging than in the Euclidean setting. Next, we will outline the two main theorems of the project and provide an overview of the key ideas used in their proofs.