

# **Kazhdan-Lusztig polynomials, geometry and categorification**

*Catharina Stroppel*  
*University of Bonn*

Kazhdan-Lusztig polynomials are well-studied and ubiquitous in mathematics. I will explain what they are, some of their combinatorics and their appearance in representation theory and geometry. Besides the general setup I will give a few explicit connections with resolutions of singularities, the geometry of Grassmannians and representation theory of Lie algebras. The focus will be on the interplay between combinatorics, geometry and representation theory. Finally I will indicate which role they play in the concept of categorification and present some examples. The talk does not assume any special knowledge.