

Algebra and Geometry Seminar

Speaker: Fatemeh Mohammadi (Ghent University)

Title: Toric degenerations of Grassmannians and combinatorial mutations of their associated polytopes

Abstract: Many toric degenerations of the Grassmannians $\text{Gr}(2,n)$ are described by trees, or equivalently subdivisions of polygons. These degenerations can be also seen to arise from the cones of the tropicalization of the Grassmannian. In this talk, I focus on particular combinatorial types of cones in tropical Grassmannians indexed by matching fields, whose corresponding degenerations are toric. Moreover, I will show how their associated polytopes are connected by combinatorial mutations. I will present several combinatorial conjectures and computational challenges around this problem.