Optimisation in Polyhedral Norms

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Given a set, X, of points in space, $\mathbb{R}^n$, and a metric, a Voronoi diagram partitions $\mathbb{R}^n$ into regions by identifying all the points closer to a fixed point in the set with respect to the given metric. The region corresponding to that point is called its Voronoi cell. Set of points in the space whose distance to X is optimised by (at least)two different points in X define its medial axis. In this talk I will present results on Voronoi cells of varieties with respect to the polyhedral norms. In particular, I will discuss the stratification of varieties based on the Voronoi cones and the description and computations of the medial axis. This is based on the joint works with Duarte, Lindberg, Torres, and Weinstein.