Regularity of complete intersections of lines
Bruno Benedetti, University of Miami

We show that in arithmetically-Gorenstein line arrangements with only planar singularities, each line intersects the same number of other lines. This number has an algebraic interpretation: it is the Castelnuovo-Mumford regularity of the coordinate ring of the arrangement. This can be viewed as a general, algebraic-geometric version of Balinski's theorem for polytopes.

This is joint work with Michela Di Marca and Matteo Varbaro.