Geometric and Algebraic Combinatorics

Gil Kalai, Isabella Novik,
Francisco Santos, and Volkmar Welker

Abstract Geometric and Algebraic Combinatorics establishes, explores, and deepens connections and cross-fertilization between geometric structures, combinatorial problems, and algebraic and topological tools. This meeting will be devoted to the survey of the recent progress and current development in this fascinating field with a focus on the following four broad topics:

- Combinatorial diameter of polytopes and simplicial complexes;

- Realization spaces and discrete differential geometry methods;

- Face enumeration in polytopes, spheres, manifolds, and pseudomanifolds;

- Advanced algebraic and algebro-geometric methods.

One of the goals of the meeting is to productively bring together mathematicians from still rather separate communities, and also to provide an exciting stimulus for the many young researchers, including many postdocs and "fresh Ph.D.s" that are so successfully involved in the field.