

The point of departure of this talk are statements in metric geometry (like the waist inequality, Heilbronn triangle problem, or the area filling conjecture) that can be approached discretely through combinatorial topology. The main objective of the talk will be to survey results in combinatorial topology with an emphasis on graphs drawn on the sphere and other surfaces. When can we find a large number of intersecting triangles? Of pairwise disjoint triangles? What can we say about the number of crossings between edges?