

***On sets avoiding distance 1.***

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*How many colors are needed to color the plane in such a way that two points at Euclidean distance 1 from each other do not receive the same color? What is the highest proportion of space that can be filled by a set that does not contain any pair of points  $\{x,y\}$  such that the distance between  $x$  and  $y$  is 1? The aim of the talk is to present known results about these questions, and about some of their variants, for instance when we consider norms such that the unit ball tiles space by translation.*

*Rather than a research talk, it will be an opportunity to introduce several notions, such as graph coloring, Euclidean lattices and sphere packings, or polytope norms.*