Speaker: Anton Bernshteyn

Title: The Lovasz Local Lemma and measurable graph colorings

Abstract: A natural direction of inquiry in descriptive combinatorics is studying the extent to which the known techniques and methods developed in finite combinatorics can be adapted for the measurable setting. A particularly useful family of combinatorial tools is collectively referred to as the *probabilistic method*. This includes the so-called *Lovasz Local Lemma* (the *LLL* for short), which is indispensable for working with graph colorings. I will talk about measurable versions of the LLL and some of their consequences in measurable combinatorics, as well as about cases when the LLL fails in the measurable setting.