Department of Mathematics, BGU

AGNT

On *Wednesday, December ,12 2018*

At *15:10 – 16:25*

In *101-*

Ilya Tyomkin (BGU)

will talk about

Tropicalizations, tropical reductions and lfitings of curves with dffierentials

Abstract: Tropicalizations and tropical reductions provide a convenient tool to control degenerations of algebraic objects. Roughly speaking, a tropicalization is a piecewise linear object, associated to an algebraic object over a non-Archimedean field, that contains essential information about one of its integral models. The tropical reduction is then the reduction of the model over the residue field. For applications, it is often important not only to describe the tropicalization process, but also to be able to decide whether something that looks like the tropicalization and the tropical reduction comes from an algebraic object. Such statements are called lfiting theorems. Tropical techniques have been applied successfully to a number of problems in algebraic geometry, such as enumerative questions, dimension estimates, descriptions of compactfiications etc. In particular, in a recent work of Bainbridge, Chen, Gendron, Grushevsky, and Moeller, a tropical approach was used to describe a new compactfiication of the space of

smooth curves with dffierentials (although the authors don't use this terminology). The proofs of BCGGM rely on transcendental techniques. In my talk, I will present a modfiied version of BCGGM tropicalization, and will indicate an algebraic proof of the main result. The talk is based on a joint work with M.Temkin.