Department of Mathematics, BGU

AGNT

On *Wednesday, July ,17 2024*

At *14:10 – 15:10*

In *101-*

Anton Khoroshkin (University of Hafia)

will talk about

On generating series of cohomology of generalized configuration spaces

Abstract: With each simple connected graph G with n vertices one can associate a generalized configuration space $Conf_{G}(n,X)$ consisting of n points $(p_1,\ldots,p_n)$ on X, with $p_i\neq p_j$ whenever vertices i and j are connected by an edge. For $X=\mathbb{C}$ the generalized configuration space admits a compactfiication that coincides for a complete graph with Deligne-Mumford compactfiication of moduli spaces of rational curves with n marked points. The latter is known under the name *modular compactfiication*. I will explain what kind of natural algebraic structure exists in the union of these spaces and how one can extract information about the Hilbert series of cohomology rings for dffierent collections of graphs. Surprisingly, the same method can be used to obtain the generating series for dffierent combinatorial data assigned with a graph: such as the number of Hamiltonian paths, Hamiltonian cycles, Acyclic orientations and Chromatic polynomials. The talk is based on the joint work with my student D.Lyskov: https://arxiv.org/abs/2406.05909