Department of Mathematics, BGU

BGU Probability and Ergodic Theory (PET) seminar

On *Thursday, December ,8 2022*

At *11:10 – 12:00*

In *101-*

Noy Soffer Aranov (Technion)

will talk about

Minkowski's Conjecture in Function Fields

Abstract: A fascinating question in the geometry of numbers and diophantine approximation pertains to the maximal covering radius of a lattice with respect to a fixed function. An important covering radius is the multiplicative covering radius, since it is invariant under the diagonal group and relates to the Littlewood's conjecture. Minkowski conjectured that the multiplicative covering radius of a unimodular lattice in R^d is bounded by above by $1/2^d$ and that this upper bound is unique to the diagonal orbit of the standard lattice. Minkowski's conjecture is known to be true for $d \leq 10$, yet there isn't a general proof for higher dimensions.

In this talk, I will discuss the function field (positive characteristic) analogue of Minkowski's conjecture, which we stated and proved for every dimension. The proofs and the results are surprisingly dffierent from the real case and have implications in geometry of numbers and dynamics. This talk is based on joint work with Uri Shapira.