Department of Mathematics, BGU

Operator Algebras and Operator Theory

On *Monday, November ,21 2022*

At *16:00 − 17:00*

In *101- (basement)*

Victor Vinnikov (BGU)

will talk about

Noncommutative Christoffel–Darboux Kernels

Abstract: I will discuss a free noncommutative analogue of the classical Christoffel–Darboux kernels, namely the reproducing kernel of the space of noncommutative polynomials up to a given degree with the scalar product induced by a tracial positive functional on the free *-algebra on $n>1$ generators. Using operator space methods one can show that despite it being matrix valued, the Christoffel–Darboux kernel is — similarly to the classical case — the solution of an extremal problem. If there is time left, I will introduce the analogues of the Siciak extremal function with the eventual goal to study the asymptotic behaviour of the kernel as the degree goes to infinity.

The talk is based on joint work with Serban Belinschi and Victor Magron.