Department of Mathematics, BGU

# AGNT

**On** *Wednesday, March ,13 2024*

**At** *14:10 – 15:00*

**In** *101-*

Grigory Papayanov (Northwestern, visiting Weizmann)

will talk about

## Holomorphic Fedosov quantizations and the period map

Abstract: The Gefland-Kazhdan formal geometry is a way of describing geometric structures on a smooth manfiold M in terms of the jet bundle. The works of Fedosov, Nest-Tsygan and Bezrukavnikov-Kaledin put the problem of classifying deformation quantizations of, respectively, smooth, holomorphic and algebraic symplectic manfiolds into the context of formal geometry. They showed that, fi the Hodge filtration on the cohomology of the symplectic manfiold splits, the set of deformation quantizations of M could be identfiied with a certain subset of $H^2(M)[[h]]$ via the so-called period map. In the talk I want to describe an upgrade of the period map from a map between sets to a morphism between suitably defined deformation functors. This upgrade could be used to reprove the Fedosov-Nest-Tsygan-Bezrukavnikov-Kaledin theorems, to help classfiy quantizations without the Hodge filtration splitting condition, and to connect the period map with the so-called Rozansky-Witten invariants.