Department of Mathematics, BGU

Algebraic Geometry and Number Theory

On *Wednesday, October ,25 2017*

At *15:10 – 16:30*

In *Math 101-*

Liran Shaul (Ben Gurion University (

will talk about

Injective modules in higher algebra

Abstract: Injective modules are fundamental in homological algebra over rings. In this talk, we explain how to generalize this notion to higher algebra. The Bass-Papp theorem states that a ring is left noetherian fi and only fi an arbitrary direct sum of left injective modules is injective. We will explain a version of this result in higher algebra, which will lead us to the notion of a left noetherian derived ring. In the final part of the talk, we will specialize to commutative noetherian rings in higher algebra, show that the Matlis structure theorem of injective modules holds in this setting, and explain how to deduce from it a generalization of Grothendieck's local duality theorem over commutative noetherian local DG rings.