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THE WEIZMANN INSTITUTE OF SCIENCE  
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE  
Algebraic Geometry and Representation Theory Seminar

Room 290C ,Ziskind Building  
on Wednesday, Nov 15, 2017 at 14:15

**NOTE UNUSUAL DAY AND TIME**  
Liran ShaulBGU

**Injective modules in higher algebra**

Abstract:

The notion of an Injective module is one of the most fundamental notions 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 if and only if 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 generalize to this setting, and explain how to deduce from it a version of Grothendieck's local duality theorem over commutative noetherian local DG rings.