Department of Mathematics, BGU

Colloquium

On *Tuesday, November ,21 2017*

At *14:30 − 15:30*

In *Math 101-*

Alex Lubotzky (Hebrew University)

will talk about

First order rigidity of high-rank arithmetic groups

Abstract: The family of high rank arithmetic groups is class of groups which is playing an important role in various areas of mathematics. It includes SL(n,Z), for n>2 , SL(n, Z[1/p] (for n>1, their finite index subgroups and many more. A number of remarkable results about them have been proven including; Mostow rigidity, Margulis Super rigidity and the Quasi-isometric rigidity. We will talk about a new type of rigidity : "first order rigidity". Namely fi D is such a non-unfiorm characteristic zero arithmetic group and E a finitely generated group which is elementary equivalent to it) i.e., the same first order theory in the sense of model theory) then E is isomorphic to D. This stands in contrast with Zlil Sela's remarkable work which implies that the free groups, surface groups and hyperbolic groups) many of which are low-rank arithmetic groups) have many non isomorphic finitely generated groups which are elementary equivalent to them. Joint work with Nir Avni and Chen Meiri.