Department of Mathematics, BGU

Logic, Set Theory and Topology

On *Tuesday, December ,26 2017*

At *12:15 − 13:30*

In *Math 101-*

Omer Mermelstein (BGU)

will talk about

Searching for template structures in the class of Hrushovski ab initio geometries

Abstract: Zilber's trichotomy conjecture, in modern formulation, distinguishes three flavours of geometries of strongly minimal sets — disintegrated/trivial, modular, and the geometry of an ACF. Each of these three flavours has a classic "template'' — a set with no structure, a projective space over a prime field, and an algebraically closed field, respectively. The class of ab initio constructions with which Hrushovski refuted the conjecture features a new flavour of geometries — non-modular, yet prohibiting any algebraic structure.

In this talk we take a step towards defining "template'' structures for the class of (CM-trivial) ab initio Hrushovski constructions. After presenting intuitively the standard ab initio Hrushovski construction, we generalize Hrushovski's predimension function, showing that the geometries associated to certain Hrushovski constructions are, essentially, ab initio constructions themselves. If time permits, we elaborate on how these \emph{geometric} structures may generate the class of geometries of ab initio constructions under the Hrushovski fusion operation.