Department of Mathematics, BGU

Colloquium

On *Tuesday, December ,5 2017*

At *14:30 – 15:30*

In *Math 101-*

Gal Binyamini (Weizmann)

will talk about

Effectivity in tame and diophantine geometry

Abstract: I will describe a link between tame geometry and diophantine geometry that has been unfolding in the past decade following the fundamental theorem of Pila-Wilkie in the theory of o-minimal structures. In particular I will describe how this theorem has been used in proofs of the Manin-Mumford conjecture (by Pila-Zannier), the Andre-Oort conjecture for modular curves (by Pila) and many other questions of "unlikely intersections" in diophantine geometry. I will then discuss questions related to effectivity of the Pila-Wilkie theorem and its implications for the diophantine applications. In particular I will discuss our recent proof (joint with Novikov) of the restricted form of Wilkie's conjecture, and more recent results on effectivity for the larger class of semi-Noetherian sets.