Department of Mathematics, BGU

PRO (Presenting Results of Others) Seminar

On *Thursday, May ,14 2026*

At *9:30 – 11:00*

In *101-*

Assaf Hasson (BGU)

will talk about

"Topological reconstruction theorems over uncountable algebraically closed fields" by B. Castle and R. O'Gorman (not yet in arXiv)

Abstract: In a seminal series of works, culminating in the monumental "What Determines an Algebraic Variety?" János Kollár, Max Lieblich, Martin Olsson, and Will Sawin prove that a normal projective algebraic variety of dimension at least 2 over an uncountable field of characteristic 0 can be reconstructed, in a precise sense, solely from its underlying topological space. The results of KLOS are specfiic to char. 0 and to normal varieties. Castle and O'Gorman, using the model theoretic machinery of Zilber's Restricted Trichotomy, extend these results to all quasi projective varieties (of dimension at least (2 in all characteristics, in the case where the underlying field is algebraically closed and uncountable.

In the talk, I will present the results and try to sketch the strategy of proof of the new result.

Please Note the Unusual Time!