

Department of Mathematics, BGU

Colloquium

On Tuesday, December 6, 2022

At 14:30 – 15:30

In Math -101

DMITRY KERNER (BGU)

will talk about

Stable mappings of manifolds (stable mappings of henselian germs of schemes)

ABSTRACT: Whitney studied the embeddings of (\mathbb{C}^∞) manifolds into \mathbb{R}^N . A simple initial idea is: start from a map $M \rightarrow \mathbb{R}^N$, and deform it generically. Hopefully one gets an embedding, at least an immersion. This fails totally because of the “stable maps”. They are non-immersions, but are preserved in small deformations. The theory of stable maps was constructed in 50’s-60’s by Thom, Mather and others. The participating groups are infinite-dimensional, and the engine of the theory was vector fields integration. This chained all the results to the real/complex-analytic case. I will discuss the classical case, then report on the new results, extending the theory to the arbitrary field (of any characteristic).