Department of Mathematics, BGU

BGU Probability and Ergodic Theory (PET) seminar

On *Thursday, January ,19 2023*

At *11:10 – 12:00*

In *101-*

Anurag Rao (Technion)

will talk about

Dynamical questions arising from Dirichlet's theorem on Diophantine approximation

Abstract: We study the notion of Dirichlet improvability in a variety of settings and make a comparison study between Dirichlet-improvable numbers and badly-approximable numbers as initiated by Davenport-Schmidt. The question we try to answer, in each of the settings, is – whether the set of badly-approximable numbers is contained in the set of Dirichlet-improvable numbers. We show how this translates into a question about the possible limit points of bounded orbits in the space of two-dimensional lattices under the diagonal flow. Our main result gives a construction of a full Hausdorff dimension set of lattices with bounded orbit and with a prescribed limit point. Joint work with Dmitry Kleinbock.