

Department of Mathematics, BGU

BGU Probability and Ergodic Theory (PET) seminar

On Thursday, March ,7 2019

At 11:10 – 12:00

In 101-

Omri Sarig (Weizmann Institute)

will talk about

Local limit theorem for inhomogeneous Markov chains (joint with Dolgopyat)

Abstract: An inhomogeneous Markov chain X_n is a Markov chain whose state spaces and transition kernels change in time. A “local limit theorem” is an asymptotic formula for probabilities of the form

$$Prob[S_N - z_N \in (a, b)], S_N = f_1(X_1, X_2) + \dots + f_N(X_N, X_{N+1})$$

in the limit $N \rightarrow \infty$. Here z_N is a “suitable” sequence of numbers. I will describe general sufficient conditions for such results.

If time allows, I will explain why such results are needed for the study of certain problems related to irrational rotations.

This is joint work with Dmitry Dolgopyat.