

Department of Mathematics, BGU

Colloquium

On *Tuesday, May 16, 2017*

At *14:30 – 15:30*

In *Math -101*

JON AARONSON (TEL AVIV UNIVERSITY)

will talk about

Rational ergodicity and distributional limits of infinite ergodic transformations.

ABSTRACT: In infinite ergodic theory, absolutely normalized pointwise convergence of ergodic sums fails. Sometimes, this is replaceable by weaker modes of convergence. Namely distributional limits and/or weak limits (as in e.g. “rational ergodicity”). We’ll review the subject exhibiting “natural examples” and then see the “latest news” that every random variable on the positive reals occurs as the distributional limit of some infinite ergodic transformation. As a corollary, we obtain a complete exhibition of the possible “ A -rational ergodicity properties” ($0 < A \leq \infty$) for infinite ergodic transformations. The main construction follows by “inversion” from a related construction showing that every random variable on the positive reals occurs as the distributional limit of the partial sums some positive, ergodic stationary process normalized by a 1-regularly varying normalizing sequence.

The “latest news” is joint work with Benjamin Weiss. For further info. see [arXiv:1604.03218](https://arxiv.org/abs/1604.03218).