

Department of Mathematics, BGU

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# BGU Probability and Ergodic Theory (PET) seminar

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*On Thursday, July, 2 2026*

*At 11:10 – 12:00*

*In 101-*

Nachi Avraham (Technion)

will talk about

## **An unexpected asymmetry in the $\ell^2$ -cohomology of amenable groups**

Abstract: A function  $f$  on a countable group  $G$  forms a cocycle for the left regular representation of  $G$  if for every  $g$  in  $G$ , the difference between  $f$  and its left  $g$ -translate belongs to  $\ell^2(G)$ . I will show that although the left and right regular representations are unitarily equivalent in general, their corresponding spaces of cocycles can be genuinely different. Using special asymmetric cocycles, I will explain how to construct Bernoulli schemes over amenable groups whose left dynamics differ substantially from their right dynamics. This is joint work with Zemer Kosloff.