

Department of Mathematics, BGU

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# BGU Probability and Ergodic Theory (PET) seminar

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On *Thursday, May 23 2024*

At *11:10 – 12:00*

In *101-*

Adian Young (BGU)

will talk about

## **Random temporo-spatial differentiations**

Abstract: Temporo-spatial differentiations are ergodic averages on a probabilistic dynamical system  $(X, \mu, T)$  taking the form  $\left( \frac{1}{\mu(C_k)} \int_{C_k} \frac{1}{k} \sum_{j=0}^{k-1} T^j f \, \mathrm{d}\mu \right)_{k=1}^{\infty}$  where  $C_k \subseteq X$  are measurable sets of positive measure, and  $f \in L^{\infty}(X, \mu)$ . These averages combine both the dynamics of the transformation and the structure of the underlying probability space  $(X, \mu)$ . We will discuss the motivations behind studying these averages, results concerning the limiting behavior of these averages and, time permitting, discuss generalizations to non-autonomous dynamical systems. Joint work with Idris Assani.