

**The Weizmann Institute of Science
Faculty of Mathematics and Computer Science**

Geometric Functional Analysis and Probability Seminar

Room 155, Ziskind Building
on Thursday, Dec 19, 2024
at 13:30

Sasha Fish
Sydney

will speak on

Directional expansivity in ergodic \mathbb{Z}^d systems and its applications

Abstract:

By ergodicity, any set of positive measure is expanded to a set of full measure under all translations in \mathbb{Z}^d . But what happens if we restrict the translations to a specific line in \mathbb{Z}^d ? In this talk, we will explore this question and, using Furstenberg's correspondence principle, demonstrate that the set of volumes of all simplices in \mathbb{Z}^d formed by vertices of a positive-density set always contains an infinite arithmetic progression. This talk is based on joint works with M. Björklund (Chalmers) and S. Skinner (Sydney).