

SEMINARIO SISTEMAS DINÁMICOS DE SANTIAGO.

EXPOSITOR(A) Sejal Babel (Jagiellonian University)

TÍTULO *Single orbits and Wiener-Wintner theorem*

RESUMEN A single-orbit approach to dynamics links the global properties of a dynamical system with the behaviour of its orbits. During the talk, I shall discuss what can be deduced about the system from the existence of an orbit satisfying the conclusion of the Wiener-Wintner theorem (a Wiener-Wintner generic orbit). I will examine the spectrum of ergodic measures by examining the behaviour of their Wiener-Wintner generic points. Moreover, by investigating the properties of a "regular" subclass of such points, I shall characterise ergodic measures with discrete spectrum.

In joint work with Melih Emin Can, Dominik Kwietniak, and Piotr Oprocha, we introduce a metric ρ -bar on the space of invariant measures that induces a topology stronger than the weak-* topology.

Additionally, I will also show that for any fixed characteristic class on a topological dynamical system, the set of ergodic measures belonging to that class is closed with respect to the topology induced by ρ -bar.

DÍA / HORA Lunes 24 de noviembre, 2025 / 16:30 - 17:30 hrs

LUGAR Sala de Seminarios (7° piso), Facultad de Ciencias Físicas y Matemáticas (Edificio Beauchef 851), Universidad de Chile

IDIOMA Inglés

EXPOSITOR(A) Borys Kuca (Jagiellonian University)

TÍTULO *Recent advances on multiple ergodic averages*

RESUMEN In 1977, Furstenberg gave a dynamical proof of the theorem of Szemerédi on the existence of arithmetic progressions in dense subsets of integers. In doing so, he initiated the use of ergodic methods to solve problems originating from additive combinatorics and number theory. A central object of study in this field are multiple ergodic averages, a class of multilinear operators that generalize classical Birkhoff averages and can be used to count the number of arithmetic patterns in dense sets of integers. In this talk, I will outline the history of multiple ergodic averages, with the emphasis on the most recent developments.

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