

## SEMINARIO SISTEMAS DINÁMICOS DE SANTIAGO.

**EXPOSITOR(A)** Léo Vivion (Université du Littoral Côte d'Opale)

**TÍTULO** *Balancedness Constants of Words Generated By Billiards in The Hypercube*

**IDIOMA** Inglés

**RESUMEN** In this talk, I will consider words generated by coding the trajectory of a ball inside a hypercubic billiard table. Balancedness is a combinatorial notion related to the dynamical concept of discrepancy, which characterizes square billiard words. It is then natural to ask: what is the imbalance (i.e., the optimal balancedness constant) of hypercubic billiard words in higher dimensions?

After reviewing the partial results obtained by Vuillon in 2003, I will present a complete characterization of the imbalances of hypercubic billiard words generated by the trajectory of a ball launched with an initial momentum whose coordinates are rationally independent. In a second part, I will also examine the more intricate case, where the coordinates of the momentum are rationally dependent.

**DÍA / HORA** Lunes 28 de abril, 2025 / 16:30 - 17:30 hrs.

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

