

## SEMINARIO SISTEMAS DINÁMICOS DE SANTIAGO

**EXPOSITOR(A):** Mathieu Sablik (Université Toulouse III - Paul Sabatier)

**TÍTULO:** *Characterisation of the Set of Ground States of Uniformly Chaotic Finite-Range Lattice Models.*

**IDIOMA:** Español

**RESUMEN:** The study of statistical physics models allows mathematics to offer another perspective on empirically observable phenomena. A point of interest is in particular the behavior of these models when the temperature tends towards 0, analogous to the emergence of complex crystal structures in materials. A way to model that is to consider tiling defined by local rules where some matching rules can be broken proportionally to a parameter which is the inverse of the temperature. This correspond to the Gibbs measure of the system and we are interested to the stability of these measures when the temperature goes to 0.

In 2010, Chazottes and Hochman exhibited a three-dimensional potential with local interactions, for which the induced system is chaotic, i.e. no trajectory of the system converges at zero temperature. In this talk we are going to characterize which set of measures can be obtained with such behavior. To do this, we will notably introduce a family of aperiodic tilings whose combinatorial properties make it possible to control entropy, encode Turing machines and "simulate" probability measures.

**DÍA / HORA:** Lunes 15 de abril, 2024 / 16:30 - 17:30

**LUGAR:** Sala de Seminarios CMM John Von Neumann (7° piso) Torre Norte, Facultad de Ciencias Físicas y Matemáticas (Edificio Beauchef 851), Universidad de Chile

