数論セミナー

日時: 2025 年 9 月 5 日 (金) 15:30〜16:30
場所: D814 (+Teams)
講演：Mélodie Andrieu (University of the Littoral Opal Coast)
講演題目:Combinatorics of infinite words generated by a billiard in a cube

アブストラクト:

Combinatorics on Words is a subfield of discrete mathematics that studies the combinatorial properties (for example, pattern avoidance and complexity) of infinite words. In mathematics, infinite words naturally arise when we represent real numbers, but also, and this will be the main focus of the talk, when we seek to encode dynamical systems.

In this talk, we will explore the combinatorial complexity of the words encoding the trajectory of a billiard ball in a cube of arbitrary dimension d. This study is motivated by the particular case d=2 (i.e., when the cube is a square), for which the class of billiard words has been known since 1940 to admit numerous meaningful characterizations, from perspectives as various as combinatorial, arithmetical and geometrical.

日時: 2025 年 9 月 5 日 (金) 16:45〜17:45
場所: D814 (+Teams)
講演：Lucía Rossi (Vienna University of Technology)
講演題目:Number Systems and Fractals

アブストラクト:

A number system is a way of expressing numbers using digits in relation to a base, like in the decimal or binary system. In this talk, we will introduce some type of systems where the base is a rational or a complex number. We will see how they relate to fractal sets, which are shapes that satisfy a form of self affinity where patterns repeat infinitely often at different scales.

世話人: 秋山茂樹 (内: 4395)