UNIVERSIDADE DE ÉVORA
ESCOLA DE CIÊNCIAS E TECNOLOGIA
DEPARTAMENTO DE MATEMÁTICA

Centro de Investigação em Matemática e Aplicações
Departamento de Matemática
Programa de Doutoramento em Matemática

Seminário/Seminar
30/09/2025, Sala 138 CLAV , 16h00

On certain total orders of the naturals - shuffles

Carlos Correia Ramos
(CIMA, DMat, ECT, Universidade de Évora)

Abstract: We study certain rearrangements of the natural numbers, here called shuffles. Motivated by orderings arising in varied contexts, namely dynamical systems, we focus on decomposable shuffles and provide their classification. We show how shuffles determine total orders on $\mathbb{N}$. Under suitable restrictions, we define a composition operation that endows certain classes of shuffles with group-like properties. This framework connects infinite permutations, ordinal arithmetic, and order theory, and opens perspectives for further applications.

Joint work with João Dias, Bruno Dinis, CIMA, DMat, ECT, Universidade de Évora.