



CENTRO DE
MATEMÁTICA
UNIVERSIDADE DO PORTO

Algebra, Combinatorics and Number Theory Seminar

Date. Tuesday, November 16, 2021 - 1pm (UTC+1) ¹

Speaker. Shalom Eliahou - Université du Littoral Côte d'Opale

Title. A graph-theoretic approach to Wilf's conjecture

Abstract.

This talk concerns *numerical semigroups*, i.e. cofinite submonoids S of \mathbb{N} . Wilf's conjecture (1987) on numerical semigroups S states that $e \cdot \ell \geq c$, where e is the embedding dimension of S and ℓ is the number of elements of S which are smaller than its conductor c . We shall present the main ideas of a recently published proof of Wilf's conjecture in the particular case $e \geq m/3$, where m is the smallest nonzero element of S . Asymptotically, most numerical semigroups seem to satisfy $e \geq m/3$ as the genus goes to infinity. The proof to be presented consists in attaching a certain graph G to S and analysing its properties.

¹<https://videoconf-colibri.zoom.us/j/85917155304?pwd=ZU1YUGJRcTJzTOVjSHF5N2hNdTJQZz09>