

## Jordan type stratification of spaces of commuting nilpotent matrices

*mercredi 25 juin 2025 11:00 (50 minutes)*

The Jordan type of a nilpotent matrix in the dense orbit of the nilpotent commutator of a given nilpotent matrix of Jordan type  $P$  is stable, which means that the parts differ by at least two. Fixing a matrix  $J$  of stable Jordan type  $Q$ , there is an affine space of nilpotent matrices commuting with  $J$ .

In recent joint work with A. Iarrobino and L. Khatami, we use some tropical calculations to determine equations defining the loci of each partition  $P$  for which  $Q$  is the generic commuting partition. We also propose a conjecture generalizing this result to arbitrary stable  $Q$ . A key ingredient is the recent proof of the Box Conjecture by J. Irving, T. Kořir and M. Mastnak.

**Orateur:** Prof. BOIJ, Mats (KTH Royal Institute of Technology)