

Algebra, Combinatorics and Number Theory Seminar

Date. Monday, July 07, 2025 - 11.30am Porto - FC1 007 (and online) ¹

Speaker. Ricardo Campos - CNRS and Université de Toulouse

Title. Is commutativity a property - and what does that have to do with enveloping algebras?

Abstract. How much does the universal enveloping algebra of a Lie algebra remember about the Lie algebra itself? This is the statement of a classical problem in algebra called “the isomorphism problem for enveloping algebras”. In this talk, I’ll explain how modern tools from algebraic homotopy theory and deformation theory allow us to make new progress on this problem. Along the way, we’ll see that this is closely related to the following intriguing question: in the realm of homotopy theory, is being a commutative algebra simply a *property*, or is it an additional *structure*? We will make sense of this second question and see that this turns out to be interesting for algebraic topologists as well.

(Joint with D. Petersen, D. Robert-Nicoud, F. Wierstra.)

¹<https://fc-up-pt.zoom.us/j/85243807260>