

LOGIC SEMINAR

Guest Speaker: Isabel Müller
American University in Cairo

Date: Tuesday, January 16, 2024

Time: 2:00 PM

Location: 125 Hayes-Healy Bldg

Zoom URL: NA



Lecture Title:

On the amalgamation of Nilpotent Groups and Lie Algebras

Abstract

While the first order theory of abelian groups is very tame in the model theoretic sense, a similar result in this generality cannot be obtained for nilpotent groups, which form the natural generalisation of abelianity. Nevertheless, we can associate to it the class of c -nilpotent Lie algebras, which in the language fixing a predicate for a Lazard series admits free amalgamation and hence allows a model theoretic classification. In particular, the 2-nilpotent limit, which has previously been studied by Baudisch, is 2-dependent and NSOP1, whereas the c -nilpotent limit over F_p for any c larger than 2, is strictly NSOP4 and c -dependent. In this talk, we will give an introduction into the amalgamation problem of Lie algebras, how to infer from it the amalgamation of c -nilpotent groups via the Lazard Correspondence and how the amalgamation serves to place its limit within model theoretic dividing lines, thus providing important new algebraic examples.