Al@Bicocca seminar

You are all welcome to the next bite of the series

"Al@Bicocca"

which is meant to give you a small taste of the Algebra at Bicocca and beyond

Online only!

3 September 2024
10.30 am (UTC+1)

Collin Bleak

University of St Andrews

Online venue: WebEx
University of Milano-Bicocca
Via R. Cozzi 55
Milano (IT)

Organizers:
Marco Barbieri
Alberto Cassella
Giulia Dal Verme
Nicola Grittini
Francesco Matucci
Matteo Tarocchi

Website

Some free actions for one-sided shift spaces

Abstract: Boyle and Krieger in 1987 provide an invariant of conjugacy for the group $\mathrm{Aut}(\{0,1,...,n-1\}^N,\sigma)$ of automorphisms of the full one-sided shift on alphabet $\{0,1,...,n-1\}$. The invariant arises from the action of the group on finite periodic words and consists of a tuple: the well-known gyration and sign functions, together with bundled-first-return data (bundled data associated to the permutation representation on prime words of length k for each k). If two automorphisms are not conjugate, then in finite time you can detect this using the invariant. However, while these invariants can be constructed from given automorphisms, finding an automorphism with given data is not an easy task.

Boyle has proposed the following question: Consider the full (one-sided) shift on n-letters. Does there exists an automorphism A of order n acting freely on the shift space (every point has an orbit of length n under the action of the automorphism), but where A is not conjugate to a (cyclic) permutation on n letters? In this talk, we show there is an algorithm to reduce any such automorphism, through conjugacy, to a cyclic permutation. Joint with Feyisayo Olukoya.