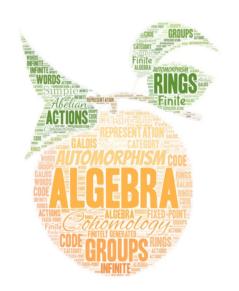# Al@Bicocca seminar

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

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Characters and normal Sylow subgroups

Abstract: Let G be a finite group, let p a prime dividing the order of G and let P by a Sylow p-subgroup of G. The Itô-Michler theorem states that p does not divide the degree of any irreducible character of G if and only if P is abelian and normal in G.

It turns out that the abelian and normal parts of this statement can be separated and characterized in character theoretic terms. Recently, G. Malle, G. Navarro and P. H. Tiep have proposed a new way of determining the normality of P in G in terms of Brauer characters, different in nature from the previously known characterizations. In this talk, we report on the progress on this conjecture.

This is joint work with Zhicheng Feng, Damiano Rossi and Mandi Schaeffer Fry.