

**Adam Mickiewicz University**  
**Faculty of Mathematics and Computer Science**

GEOMETRY AND TOPOLOGY SEMINAR

10 AM, Friday, May 19, 2017  
B1-37, Collegium Mathematicum

**Speaker:** Marithania Silvero (Polish Academy of Sciences)

**Title:** **Studying torsion in Khovanov homology**

**Abstract:**

Khovanov homology of knots and links was introduced by Mikhail Khovanov at the end of last century. This link invariant, which categorifies Jones polynomial, was nicely reinterpreted by Viro in a purely combinatorial way in terms of Kauffman states. While conceptually simple, this definition becomes impractical when increasing the numbers of crossings of a link diagram. In this talk we present a new approach to extreme Khovanov homology introduced in [GMS].

With this point of view, we conjecture in [PS] that extreme Khovanov homology is torsion free and prove it for some particular families of links. We also present some advances on the study of the presence of torsion in Khovanov homology.

**References:**

GMS J. González-Meneses, P. M. G. Manchón and M. Silvero, *A geometric description of the extreme Khovanov homology*, Proceedings of the Royal Society of Edinburgh: Section A.

PS J. H. Przytycki and M. Silvero, *Homotopy type of circle graphs complexes motivated by extreme Khovanov homology*, arXiv:1608.03002.