

**LIB60BER**

## **Variations on the skein relation**

*Luis Paris, Université de Bourgogne*

ABSTRACT

The HOMFLYPT polynomial is an invariant of knots and links discovered simultaneously by many people in the early 80s. Its definition is simple, it is easy to calculate, and it has many applications. So, this polynomial has played an important role in the theory of knots since its discovery. The starting point of the lecture is the following question: what can be the theory of HOMFLYPT polynomials for other knot-type objects such as singular knots and links, or virtual knots and links, or links in 3-manifolds? The approach I propose to develop is through the theory of Markov traces on generalized Hecke algebras. This is the approach of Jones for the Jones polynomials as well as for the HOMFLYPT polynomials.