

# Skeins and Characters

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008 Kemeny Hall, 4:00 pm  
(Tea 3:30 pm 300 Kemeny Hall)

## Abstract

The Kauffman bracket skein relation is a linear relation between knot diagrams that differ at a single crossing. It can be used to compute the Jones polynomial effectively. I will explain the relationship between the Kauffman bracket skein relation and the Cayley-Hamilton identity for  $2 \times 2$  matrices of determinant 1. This leads to defining algebras from knot diagrams on surfaces that are deformations of character rings of surface groups. I will then give a geometric explanation of the Jones polynomial in terms of character varieties of surface groups.

The first 30 minutes of the talk should be accessible to advanced undergraduates, the next 20 will require some acquaintance with algebraic and symplectic geometry