Hecke algebras of type B and Markov traces

Rosa Orellana
University of California, San Diego

February 1, 1999
102 Bradley Hall, 4:00 pm
(Tea 3:30 pm Math Lounge)

Abstract

The Hecke algebras of type A arise naturally in the study of knot theory, quantum groups, and Von Neumann algebras. Their relation to the symmetric and braid groups allows for their study using combinatorics and low dimensional topology.

In this talk I will define the Hecke algebras of type A and B and show their relation to the symmetric group and the braid group (this groups will be defined in this talk). I will also construct a beautiful homomorphism from a specialization of the Hecke algebra of type B onto a reduced Hecke algebra of type A. I will show how this homomorphism can be used to compute some traces on the Hecke algebra of type B, called Markov traces. If time permits, I will give other applications of this homomorphism.

This talk should be accessible to graduate students.