



UtahState
University

Pure Mathematics Seminar

November 29, 2022

4:30pm-5:30pm in ANSC 314

Speaker: Matthew Harper (University of California at Riverside)

Title: Seifert-Torres Formulas for the Alexander Polynomial of Links from Quantum sl_2

Abstract: In this talk, I will recall how the Alexander polynomial, a classical knot invariant, can be constructed as a quantum invariant from quantum sl_2 at a fourth root of unity. I will then discuss the development of a diagrammatic calculus based on further investigation of quantum sl_2 representations. Applying this calculus in the context of the Alexander polynomial allows us to compute the invariant for certain families of links using quantum algebraic methods, rather than using methods of classical topology.