Arkady Berenstein
University of Oregon

Canonical bases in quantum Schubert cells

Abstract:

The goal of my talk (based on a recent joint paper with Jacob Greenstein) is to provide an elementary construction of the canonical basis $B(w)$ in each quantum Schubert cell $U_q(w)$ and to establish its invariance under Lusztig's symmetries. In particular, I will explain how to directly construct the upper global basis $B^{\uparrow}$, will show that $B(w)$ is contained in $B^{\uparrow}$, and that a large part of the latter is preserved by the (modified) Lusztig's symmetries.