

Math Physics Seminar

Speaker: Siwei Xu, Ohio State University

Where/When: Tuesday Nov 4, 1:30-2:30 pm, SC G060

Title: Affine Yangians and quantum toroidal algebras in type A

Abstract: The main objects of my talk are the affine Yangian and the quantum toroidal algebra of type A with two deformation parameters, as introduced in the work of Bershtein and Tsymbaliuk (2019). These algebras first appeared in Maulik and Okounkov's 2012 work, where they were realized in a purely geometric form through the equivariant cohomology of quiver varieties. In this talk, I construct an explicit functor from an appropriate category of representations of the affine Yangian associated with $\mathfrak{sl}(mn)$ to that of the quantum toroidal algebra associated with $\mathfrak{sl}(m)$ for all positive integers m and n , which extends the construction of Gautam and Toledano-Laredo (2016).