

Representation Theory, Geometry & Combinatorics Seminar

Organizer: M. Haiman and K. Reshetikhin

Wednesday, 4:00–6:00pm, 939 Evans

Feb. 4 **David Hill**, UCB

Representation Theory for Affine Sergeev Algebras

The affine Sergeev algebra $S^{\text{aff}}(d)$ is an analogue of the degenerate affine Hecke algebra for spin symmetric groups. It is known that in characteristic 0, its representation theory is controlled by the Kac-Moody algebra \mathfrak{b}_∞ .

In this talk, we give a Zelevinsky-type construction of standard cyclic modules for this algebra. Under certain conditions, these modules have unique simple quotients. Additionally, we construct exact functors from the BGG category \mathcal{O} for the Lie Superalgebra $\mathfrak{q}(n)$ to the category of finite dimensional $S^{\text{aff}}(d)$ -modules which extends a construction of Arakawa and Suzuki.

Using properties of the functors together with the categorification of \mathfrak{b}_∞ , we describe a complete set of pairwise non-isomorphic simple $S^{\text{aff}}(d)$ -modules.