Brownsville Seminar

UT**RGV**™

School of Mathematical & Statistical Sciences

Yangians and finite W-algebras

Speaker: Dr. Elena Poletaeva

Abstract

For a finite-dimensional semi-simple Lie algebra g, the Yangian of g is an infinite-dimensional Hopf algebra $Y(g)$. It is a deformation of the universal enveloping algebra of the Lie algebra $g[t]$ of polynomial currents of g.

A finite W-algebra is a certain associative algebra attached to a pair (g,e), where e is a nilpotent element in g. It is a generalization of the universal enveloping algebra $U(g)$.

Physicists observed a correspondence between Yangians and finite W-algebras constructed for the general linear Lie algebras. We consider a super analogue of the general linear Lie algebra called the queer Lie superalgebra $Q(n)$ and show that there exists a relationship between the corresponding super-Yangian and finite W-algebra. We use it to classify irreducible finite-dimensional representations of these superalgebras.

This is a joint work with V. Serganova.

!Coffee and Cookies Will Be Provided!

Date: Friday, March 22nd, 2024
Time: 2:00pm - 3:00pm
Room: BLHSB 1.316

Zoom Link: https://utrgv.zoom.us/j/85333215080

For further information or for special accommodations, please contact Dr. Alexey Glazyrin via email alexey.glazyrin@utrgv.edu. More information about the seminar talks is available at the website https://www.utrgv.edu/math/news-events/seminars/brownsville/index.htm.