

# Algebra/Topology Seminar

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## AFFINE AND CYCLOTOMIC $q$ -SCHUR CATEGORIES VIA WEBS

Thursday, April 3, 2025

3:00 p.m. in SS-256

ABSTRACT. Building on the polynomial web category, we introduce the affine  $q$ -web category, a diagrammatic monoidal category, along with its cyclotomic quotients. Using the affine  $q$ -web category as a foundation, we further develop the affine  $q$ -Schur category. The cyclotomic  $q$ -Schur categories provide the first diagrammatic presentation of the Dipper–James–Mathas cyclotomic  $q$ -Schur algebras. Additionally, we establish basis theorems for all these categories. This is joint work with Linliang Song and Weiqiang Wang.