Contribution ID: **6** Type: **not specified**

Algebraic structures of Steinberg modules 3: Hopf algebras

Friday 13 June 2025 10:00 (50 minutes)

I will describe how Steinberg modules not only form a ring but in fact form a bi-algebra in a “duoidal”sense. This endows the homology of general linear groups with Steinberg module coefficients with the structure of a Hopf algebra (work joint with Ash and Patzt, independently work of Brown—Chan—Galatius—Payne). I will describe applications to the unstable cohomology of SL_n(Z) and GL_n(Z) due to Brown—Chan—Galatius—Payne and Brown—Hu—Panzer. These results resolve a question of Lee. This duoidal bi-algebra structure also has implications for the cohomology of congruence subgroups, such as work of Ash on injectivity of multiplication maps.

Presenter: MILLER, Jeremy