

# BERNOULLIS TAFELRUNDE

GRADUATE STUDENT SEMINAR

**22 November 12:15-13:00**

Hybrid seminar

Seminar room 00.003, Spiegelgasse 1 / Zoom

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## **Curtis homomorphisms in invariant theory**

### ABSTRACT

Recent studies in local Langlands correspondence in families suggest that the endomorphism algebra of Gelfand-Graev representations over integral coefficients should be isomorphic, under suitable hypotheses, to the ring of functions of an affine scheme from invariant theory; for general linear groups, such an isomorphism has been proved in D. Helm's paper [1] by  $p$ -adic techniques. As the above-mentioned isomorphism is indeed a problem of finite groups, an approach to this problem via finite-group techniques is expected. In this talk, based on a recent work [2] in my PhD project, we shall see a possibility of such a finite-group approach through the so-called "Curtis homomorphisms," which are basically restriction maps on the side of Deligne-Lusztig dual groups.

- [1] D. HELM, Curtis homomorphisms and the integral Bernstein center for  $GL_n$ , *Alg. & Num. Th.* 14-10 (2020)
- [2] T.-J. LI, On endomorphism algebras of Gelfand-Graev representations, preprint (<https://arxiv.org/abs/2106.09507>)