



Leibniz  
Universität  
Hannover

# Oberseminar zur Algebra und Algebraischen Kombinatorik

**Dr. Chris Bowman**  
(University of Kent at Canterbury)

## "Gradings, cellularity, and decomposition matrices of quiver Hecke algebras"

There are two remarkably successful approaches to the study of symmetric groups and their Hecke algebras: the first is via geometry and the second is via categorical Lie theory.

The geometric picture can be generalised to Hecke algebras of real reflection groups. In so doing, Lusztig proved the unitriangularity of decomposition matrices of these Hecke algebras with respect to many different partial orderings (the so-called "Lusztig  $a$ -function orderings").

Categorical Lie theory picks up where geometry leaves off: in this talk we discuss how the above picture can be generalised to all Hecke algebras of complex reflection groups. This is achieved by constructing explicit graded cellular bases on these Hecke algebras.

**Donnerstag, 20.06.2019**  
**ab 14:15 Uhr, a410**

Hauptgebäude der Leibniz Universität Hannover

Alle Interessierten sind herzlich eingeladen.

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