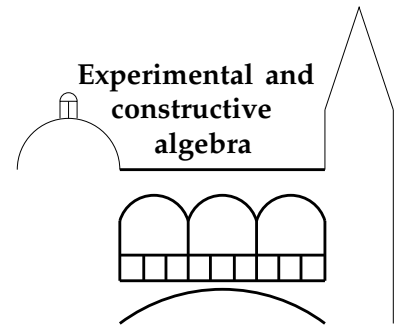


Graduiertenkolleg

# Experimentelle und konstruktive Algebra



## Kolloquiumsvortrag

Dienstag, 17. April 2018, 14:00 Uhr, Hörsaal V

**NILS PAWELZIK (LEHRSTUHL D FÜR MATHEMATIK):**  
***On Involutions of Extremal Lattices***

A non-trivial involution in the automorphism group of a lattice  $L$  defines a sublattice of  $L$  via its fixed points. For extremal 48-dimensional lattices, G. Nebe showed that  $\sqrt{2}\Lambda_{24}$  and  $\sqrt{2}O_{24}$  are the only possible isometry types for those fix-lattices.

In the first part of my talk, I will present computational approaches to construct lattices from their fix-lattices by gluing them together. The second part focuses on 48-dimensional extremal lattices whose automorphism group contains a subgroup isomorphic to  $A_4$ . In particular, the isometry type  $\sqrt{2}\Lambda_{24}$  is ruled out for the fix-lattices of the involutions from such a subgroup.

Wir laden alle Interessierten herzlich ein.