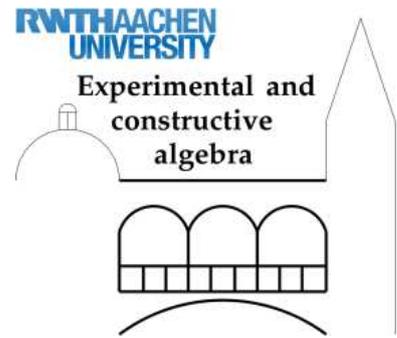


Graduiertenkolleg

Experimentelle und konstruktive Algebra



Kolloquiumsvortrag

Dienstag, 13. Dezember 2016, 14:00 Uhr, SeMath

SERGIO SICCHA (LEHRSTUHL B FÜR MATHEMATIK):
Concurrent Normalizer Algorithms

Computing the normalizer $N_G(U)$ of a group $U \leq G$ is a hard and in general not yet efficiently solvable problem. I will motivate why it is necessary to devise a distinct algorithm for the special case $G = \text{GL}_n(q)$, if one wants to be able to calculate normalizers of matrix groups in their natural representations.

Many interesting and new possibilities arise in the context of group theoretic algorithms when using concurrent computer algebra systems like HPC-GAP. I will discuss some implications with respect to computing with permutation- and matrix-groups and with respect to computing normalizers of groups.

Using knowledge about the maximal proper subgroups and associated structures of groups like S_n , A_n , GL , Sp , etc. we can design recursive algorithms to tackle the normalizer-problem. I will present examples for the case $G = S_n$.

Wir laden alle Interessierten herzlich ein.