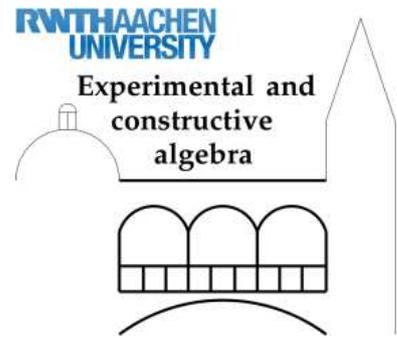


Graduiertenkolleg

# Experimentelle und konstruktive Algebra



## Kolloquiumsvortrag

Dienstag, 8. November 2016, 14:00 Uhr, SeMath

**RENE KOCH (LEHRSTUHL A FÜR MATHEMATIK):**  
*Embeddings of Coorbit Spaces into Sobolev Spaces*

Coorbit space theory is a tool to investigate the approximation theoretic properties of signals represented by functions in certain function spaces. The main components of this theory are a locally compact group  $G$  and a square integrable representation  $\pi$  of  $G$ . These determine many features of the associated (coorbit) spaces.

We will consider specifically groups  $G = \mathbb{R}^3 \rtimes H$ , where  $H \leq GL(\mathbb{R}^3)$  is a shearlet dilation group. These groups currently receive attention in application because they can be used in the encoding of directional sensitive data and are superior to classical approaches (e.g. affine group).

For the two existing classes of shearlet dilation groups in dimension 3 we can completely describe the Sobolev spaces in which the associated shearlet coorbit spaces embed with recourse to recently established embedding results. The dual action  $(\xi, h) \mapsto h^T \xi$  plays a central role in the application of these results.

Wir laden alle Interessierten herzlich ein.