

**Cornelia Schneider**

*Universität Erlangen-Nürnberg, Germany*

### **Non-smooth atomic decompositions in function spaces**

The talk is based on a joint work with J. Vybíral. We provide non-smooth atomic decompositions for Besov spaces  $\mathbf{B}_{p,q}^s(\mathbb{R}^n)$ , relaxing the assumptions about the smoothness of the atoms usually used when considering atomic characterizations for these spaces.

In particular, the case when  $p \neq q$  seems to be new. We make use of some sharp homogeneity estimates for function spaces defined via differences. Some applications in terms of pointwise multipliers might be lurking behind the scene.