## On Dunkl–Sobolev orthogonal polynomials in the ball involving reflection-invariant weights

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**Time:** Wednesday 24.07., 11:00 - 11:30, Room HS 6

**Abstract:** We investigate properties of spaces of polynomials orthogonal with respect to inner products in the ball involving $\mathbb{Z}_2^d$-invariant weights of the form

$$(1 - \|x\|^2)^{\kappa_{d+1}} \prod_{i=1}^{d} |x_i|^{\kappa_i}$$

and their associated Dunkl differential-difference operators. We deduce orthogonal decompositions of these spaces which then allow for characterizing them as eigenspaces of (weak) Sturm–Liouville-type operators, with approximation-theoretical consequences. This talk is based on joint work with Gonzalo A. Benavides.