

**A nonsymmetric version of Okounkov's BC-type interpolation Macdonald polynomials****04.06****Tom Koornwinder***(University of Amsterdam, Netherlands)***Time:** Thursday 25.07., 16:00 - 16:30, Room HS 6

**Abstract:** In 1998 Okounkov introduced BC-type interpolation Macdonald polynomials. These are symmetric Laurent polynomials which are determined, up to a constant factor, by their vanishing on interpolation points which depend on  $q$  and two additional parameters  $s$  and  $t$ . He also showed that Macdonald-Koornwinder polynomials can be explicitly expanded in terms of products of two such interpolation polynomials, one in the variable and one in the dual variable. This so-called binomial formula specializes in the one-variable case to the usual  $q$ -hypergeometric expression for Askey-Wilson polynomials. Furthermore, Okounkov's polynomials allow extra-vanishing, i.e., they vanish not just on the interpolation points, but also on an additional explicit point set.

The talk presents recent work joint with Disveld and Stokman (see arXiv:1808.01221) where we introduce a nonsymmetric version of Okounkov's polynomials. These are Laurent polynomials (no longer symmetric) characterized by their vanishing on interpolation points. The symmetric Okounkov polynomials can be expressed as a sum over the Weyl group for  $BC_n$  of the nonsymmetric polynomials. The existence proof of the nonsymmetric polynomials is by a nested induction process. There are experimental indications for extra-vanishing of the nonsymmetric polynomials.