

**Symbolic Summation, difference ring algorithms and  $q$ -applications****11.04****Carsten Schneider***(Research Institute for Symbolic Computation, Johannes Kepler University, Linz, Austria)***Time:** Monday 22.07., 12:00 - 12:30, Room HS 4

**Abstract:** In the last years the difference ring approach for symbolic summation has been pushed forward substantially for multiple sums defined over hypergeometric products. Due to its generality, this approach also works for the  $q$ -hypergeometric, multibasic or mixed multibasic case. But so far it has been neglected up to some toy examples. In this talk I will report on new developments in cooperation with Jakob Ablinger and Ali K. Uncu to push forward the difference ring machinery for the  $q$ -world. Examples will be presented in which, e.g.,  $q$ -trinomial coefficients arise.