

MATHEMATICS DEPARTMENT
North Carolina State University

ALGEBRA AND COMBINATORICS SEMINAR

Friday, September 12, 2008

Professor Gábor Heteyi
University of North Carolina at Charlotte

Delannoy numbers and the orthogonality of
certain Jacobi polynomials

ABSTRACT: It has been observed more than 50 years ago that the central Delannoy numbers may be obtained by substituting 3 into the Legendre polynomials. We introduce a weighted lattice path enumeration model which explains this connection and extends it to all Delannoy numbers and substitutions of 3 into the appropriate Jacobi polynomials. Inspired by this model we provide a combinatorial, non-inductive proof of the orthogonality of the Jacobi polynomials with fixed natural number parameters.

3:00 - 3:50 pm HA 335

Faculty, students and post-docs are encouraged to attend.