

APPLIED MATHEMATICS COLLOQUIUM

Date: Friday, October 9, 2015

Time: 2:00 – 3:00 p.m.

Location: Middlesex College Room 260

Proof of the Wilf-Zeilberger Conjecture

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Abstract:

In 1992, Wilf and Zeilberger conjectured that a hypergeometric term in several discrete and continuous variables is holonomic if and only if it is proper. Strictly speaking the conjecture does not hold, but it is true when reformulated properly: Payne proved a piecewise interpretation in 1997, and independently, Abramov and Petkovsek in 2002 proved a conjugate interpretation. Both results address the pure discrete case of the conjecture. In this paper we extend their work to hypergeometric terms in several discrete and continuous variables and prove the conjugate interpretation of the Wilf-Zeilberger conjecture in this mixed setting.

This is a joint work with Christoph Koutschan.