



universität
wien

Fakultät für Mathematik

Mathematisches Kolloquium

EINLADUNG

Kilian Raschel, PhD

(Université de Tours)

“A Human Proof of Gessel's Lattice Path Conjecture”

“A Human Proof of Gessel's Lattice Path Conjecture”

Abstract:

Around 2000, Ira Gessel conjectured that the number of lattice walks in the quadrant N_2 , starting and ending at the origin $(0,0)$ and consisting of East, West, North-East and South-West steps, had a simple hypergeometric form. In the following decade, this problem became one instance in the systematic study of walks with small steps confined to the quadrant. A complete classification of these walks according to the nature of their generating function (algebraic, D-finite, non-D-finite) is now available, but Gessel's walks remain mysterious because they are the only among the 23 D-finite models that had not been given an elementary solution. Instead, Gessel's conjecture was first proved using computer algebra in 2008. A year later, the associated three-variate generating function was proved to be algebraic by a computer algebra tour de force. In this talk we will present the first human proof of Gessel's conjecture (using complex analysis). This is a joint work with Alin Bostan (Inria Saclay) and Irina Kurkova (University Paris 6).

ACHTUNG:Donnerstag 14. April 2016

15.45 Uhr Kaffeejause,

16.15 Uhr Vortrag

Vinum cum pane im Anschluss

Ort: Fakultät für Mathematik,

Oskar-Morgenstern-Platz 1,

Sky Lounge

Herwig Hauser

Harald Rindler