



universität
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Fakultät für Mathematik

Mathematisches Kolloquium

EINLADUNG

Kilian Raschel, PhD

(Université de Tours)

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

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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