WESTFÄLISCHE
WILHELMS-UNIVERSITÄT
MÜNSTER

E i n l a d u n g

zum

Kolloquium des Mathematischen Instituts
(unterstützt durch GK Topologie und Metageometrie und
Leibniz-Preis)

am Donnerstag, 20.05.2010 um 16:30 Uhr, im Hörsaal M5, spricht

Professor Dr. Herbert Kurke

(Humboldt Universität Berlin)

über das Thema:

„Commuting linear differential operators and KP-hierarchy, one and several variables "

Abstract:

I will focus on the relation of the subject to algebraic geometry and report on some
new attempts in the multi-variable case. It is well understood in one variable that
one can associate a projective algebraic curve (a compact Riemann surface) to each
commutative ring of (germs of) linear differential operators (they encode spectral data
of the operators). Isospectral deformations of the operators are described by solutions
of a system of nonlinear differential equations, the "KP-Hierarchy" (containing the
classical KP- and KdV equation, originally coming from physics). Deforming the
associated geometric data gives solutions of the KP-hierarchy. There are several
attempts to study multi-variable analogues and to relate them to higher dimensional
varieties. I will report on an approach proposed by Parshin, and recent results (joint
work with D. Osipov and A. Zheglov)

Tee wird ab 16 Uhr im SR0 des Mathematischen Instituts serviert.