Im Rahmen des Oberseminars

STOCHASTIK

und als Gast der Nachwuchs–Forschungsgruppe

FRAKTALE GEOMETRIE UND STOCHASTIK

spricht am **Freitag**, dem **09. Juli 2010**,

Dr. Steffen Winter
(Uni Karlsruhe)

zu folgendem Thema:

Volumen und Oberflächeninhalt von Parallelmengen

Abstract:

Fractal sets, like (random) self-similar sets or the Brownian path in $\mathbb{R}^d$, cannot be analyzed by standard geometric means. One possibility to overcome this is to approximate the sets by their r-parallel sets and consider the asymptotic behavior of certain geometric characteristics as r tends to 0.
The observation that the r-parallel sets of bounded sets have a rectifiable boundary, allows to improve some known results on volume and boundary surface area of the r-parallel sets and, in particular, on their asymptotic behaviour $r \to 0$. We show that there is a close relation between the Minkowski content and the corresponding rescaled limit of the boundary surface area. These two geometric quantities appear naturally as special cases in the framework of fractal curvatures. Some applications to random sets, in particular the Wiener sausage, and to self-similar fractal sets are discussed.

Der Vortrag findet um **15.00 Uhr** im **Raum D 115, ENC** statt.

Eine Nachsitzung ist vorgesehen. Interessenten sind herzlich eingeladen.

gez. *U.Freiberg*