



JACOBS
UNIVERSITY

Mathematics Colloquium at Jacobs University Bremen

ANDREAS STEIN

(Carl-von-Ossietzky-Universität Oldenburg)

will speak on

*Approximating Euler Products,
Class Number Computations
and Heuristics in Algebraic Function Fields*

Date: Monday, March 10, 2008

Time: 17:15

Place: Lecture Hall Research II, Jacobs University

Abstract:

We provide a number of results that can be used to derive approximations for the Euler product representation of the zeta function of an arbitrary algebraic function field. Three such approximations are given here. Our results have two main applications. They lead to a computationally suitable algorithm for computing the class number of an arbitrary function field. The ideas underlying the class number algorithms in turn can be used to analyze the distribution of the zeros of its zeta function. We will present numerical data that offer strong evidence for the effectiveness of the class number algorithm in the case of purely cubic function fields over large prime fields. We also provide interesting data for the distribution of the zeros of the zeta function of those cubic function fields.

Colloquium Tea at ca. 16:45 in the Tea Room of Research II, close to the lecture hall. Everybody is welcome!

M. STOLL