

Institut für Optimierung und Diskrete Mathematik

## Mathematisches Kolloquium

24.10. 2014, 16:00 (Kaffee 15:30)

Hörsaal BE01, Steyrergasse 30, Parterre

# The Riemann zeta function and automorphic forms?

JÜRIG KRAMER

(Institut für Mathematik, HU Berlin)

In our talk we will start from the definition of the Riemann zeta function and recall its basic relationship to the prime numbers. Via the Mellin transform the Riemann zeta function is related to the classical theta function, a holomorphic modular of half-integral weight. The theta inversion formula then provides a tool to meromorphically continue the Riemann zeta function to the whole complex plane. In the second part of the talk we will discuss joint work with J. Jorgenson, in which we establish sup-norm bounds for Maass wave forms, i.e. certain smooth automorphic forms. These bounds turn out to be related to the well-known Lindelöf hypothesis.

Mihyun Kang